

DATED 11th July 2023

(1) WYE VALLEY NHS TRUST

and

(2) CENTRICA BUSINESS SOLUTIONS UK LIMITED

**DEED OF AMENDMENT AND
RESTATEMENT
relating to Energy Performance Contract at
Hereford County Hospital**

THIS DEED OF AMENDMENT AND RESTATEMENT is made on 11th July 2023

BETWEEN:

- (1) **WYE VALLEY NHS TRUST** of Stonebow Road, Hereford HR1 2BN (the “**Authority**”) which term shall include any successors and assignees); and
- (2) **CENTRICA BUSINESS SOLUTIONS UK LIMITED** (registered number 01874716) whose registered office is Millstream, Maidenhead Road, Windsor, Berkshire, England, SL4 5GD (“**Centrica**”) which term shall include any successors and assignees).

(together referred to as “the **Parties**” and individually as a “**Party**”).

WHEREAS:

- A On 3 September 2019, the Authority invited potential providers (including Centrica) to tender for the provision of energy management services at Wye Valley NHS Trust to the Authority. Further to a tender process during 2019 and 2020, Centrica was appointed as preferred bidder in connection with the provision of the energy management services.
- B The Parties entered into a Product Development Agreement on 26 May 2020 under which Centrica delivered the Investment Grade Proposal to the Authority which described the proposed works and services to be delivered in multiple phases with an energy saving guarantee applicable to each such phase.
- C On 3 June 2021, the Parties entered into an agreement for the provision of energy management services (the “**Original Agreement**”) to carry out the Phase 1 Works and Services as set out in Schedule 3 thereunder.
- D On 2nd December 2022, the Parties entered into a Supplementary Agreement in respect of additional energy savings Works at Wye Valley NHS Trust to define the scope of the Works Programme, payment, energy savings guarantee and other details applicable to the Phase 2 Works (the “**Supplementary Agreement**”).
- E The Parties also agreed to proceed with procurement of certain items of equipment which form part of the Phase 2 Works pursuant to and in accordance with the terms of the Supplementary Agreement pending agreement and execution of the Phase 2 Works Variation (as defined in the Supplementary Agreement)
- F Following delivery of the Phase 2 Scope Report (as defined in the Supplementary Agreement) by Centrica and acceptance of the Phase 2 Scope Report by the Authority, the Parties have agreed to enter into this agreement (the “**Deed of Amendment and Restatement**”) to implement the Phase 2 Works Variation by amending and restating the terms of the Original Agreement in particular the scope of the Works Programme, payment, energy savings guarantee and other details applicable to the Phase 2 Works as set out in the Deed of Amendment and Restatement.

IT IS AGREED AS FOLLOWS:

1. DEFINITIONS AND INTERPRETATIONS

- 1.1 Unless the context otherwise requires or unless otherwise defined, the terms and expressions used in this Deed of Amendment and Restatement have the same meanings, interpretations and constructions as set out in the Original Agreement.
- 1.2 The Recitals, Clauses, Schedule and paragraph headings shall not affect the interpretation of this Deed of Amendment and Restatement.
- 1.3 A reference to this Deed of Amendment and Restatement or to any other agreement or document is a reference to this Deed of Amendment and Restatement Aor such other agreement as varied or novated (in each case, other than in breach of the provisions of this Deed of Amendment and Restatement) from time to time and in particular a reference to the “Original Agreement” shall mean the Original Agreement as amended from time to time, including by this Deed of Amendment and Restatement.
- 1.4 The following provisions set out in the Original Agreement shall apply mutatis mutandis to the Parties and to this Deed of Amendment and Restatement as if stated here in full: clause 33 (*Notices*), clause 28 (*Confidentiality*), clause 27 (*Freedom of Information*), clause 32 (*Disputes*), clause 17 (*Variation*), clause 35 (*Waiver*), clause 34 (*Severability*), clause 38 (*No Partnership*) and clause 40 (*Counterparts*).
- 1.5 Unless stated to the contrary, references to Clauses and Schedules are to the Clauses and Schedules of this Deed of Amendment and Restatement and references to paragraphs are to paragraphs of the relevant Schedule.
- 1.6 Any words following the terms including, include, in particular, for example or any other similar expression shall be construed as illustrative and shall not limit the sense of the words, description, definition or phrase following those terms.

2. AMENDMENT AND RESTATEMENT OF THE ORIGINAL AGREEMENT

- 2.1 The Authority and Centrica agree that with effect on and from the date of this Deed of Amendment and Restatement (the “**Effective Date**”) and in consideration of the mutual promises set out in this Deed of Amendment and Restatement, notwithstanding the terms of clause 17 (*Variation*) of the Original Agreement that the Original Agreement shall be amended and restated on the terms set out in the Amended and Restated Agreement as set out in Schedule 1 (*Amended Agreement*) to this Deed of Amendment and Restatement so that the rights and obligations of the parties to the Original Agreement shall, on and from the Effective Date, be governed and construed in accordance with the Original Agreement.

3. CONFIRMATION AND CONTINUITY

- 3.1 The Parties hereby acknowledge and agree that, except as specifically and expressly varied by this Deed of Amendment and Restatement, the Original Agreement shall remain in full force and effect in the form set out in Schedule 1 (*Amended Agreement*). For the avoidance of doubt, nothing in this Deed of Amendment and Restatement shall be construed as a waiver by either party of its respective rights under the Original Agreement
- 3.2 Nothing in this Deed of Amendment and Restatement shall affect the rights and obligations of the parties arising under the Original Agreement in relation to any matter that occurred prior to the Effective Date or was due in terms of the Original Agreement to occur prior to the Effective Date but has not occurred.

4. REPRESENTATIONS AND WARRANTIES

- 4.1 Each of the Parties represents and warrants to the other Party that as at the date of this Deed of Amendment and Restatement it has the power to enter into, perform and deliver, and has taken all necessary action to authorise its entry into, performance and delivery of, this Deed of Amendment and Restatement and the transactions contemplated therein.

5. ENTIRE AGREEMENT

- 5.1. Subject to clause 39 (*Entire Agreement*) of the Original Agreement, save as otherwise expressly provided in the Original Agreement, this Deed of Amendment and Restatement and the Original Agreement set out the entire agreement between the Parties and supersedes and extinguishes all previous agreements, promises, assurances, warranties, representations and understandings between them, whether written or oral, relating to its subject matter.
- 5.2. Each Party agrees that it shall have no remedies in respect of any statement, representation, assurance or warranty (whether made innocently or negligently) that is not set out in this Deed of Amendment and Restatement or the Original Agreement. Each Party agrees that it shall have no claim for innocent or negligent misrepresentation or negligent misstatement based on any statement in this Deed of Amendment and Restatement.

6. THIRD PARTIES

- 6.1 The Parties hereto hereby acknowledge and agree for the purposes of the Contracts (Rights of Third parties) Act 1999 that no rights, powers or benefits are or shall be conferred on any person pursuant to this Deed of Amendment and Restatement except for such rights, powers of benefits as are expressly conferred on the parties hereto in accordance with, and subject to, its terms.

7. GOVERNING LAW AND JURISDICTION

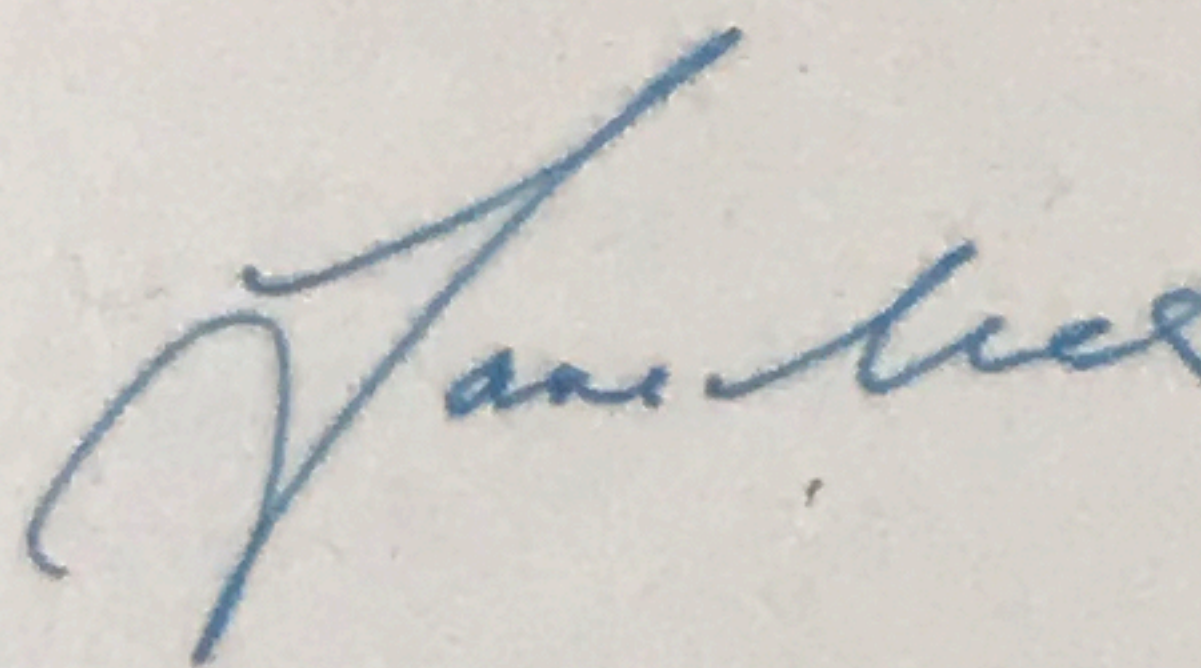
- 7.1 This Deed of Amendment and Restatement and any dispute or claim arising out of or in connection with it or its subject matter or formation (including non-contractual disputes or claims) shall be governed by and construed in accordance with the law of England.
- 7.2 Subject to clause 32 (*Disputes*) of the Original Agreement, each party irrevocably agrees that the courts of England shall have exclusive jurisdiction to settle any dispute or claim arising out of or in connection with this Deed of Amendment and Restatement or its subject matter or formation (including non-contractual disputes or claims).

8. COUNTERPARTS

- 8.1 This Deed of Amendment and Restatement may be executed in any number of counterparts and by the different parties on separate counterparts, each of which when so executed shall be an original but all counterparts shall together constitute one and the same instrument.

This Deed of Amendment and Restatement has been executed as a deed and is delivered and takes effect on the date stated at the beginning of it.

Executed as a deed by **WYE VALLEY NHS TRUST** the common seal of which was hereunto affixed in the presence of:

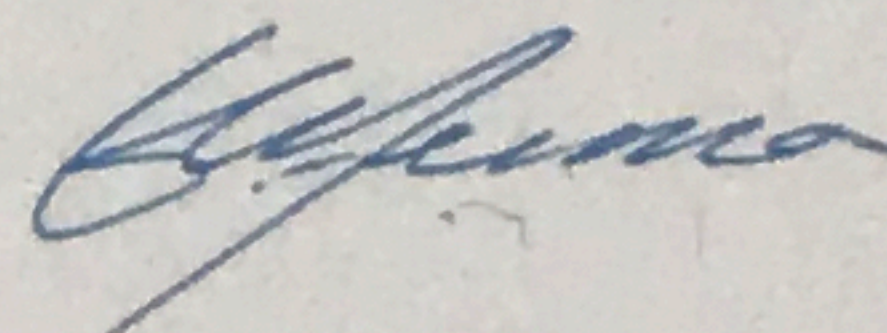


Authorised Signatory

Name of Authorised Signatory e

Jane Ives , Managing Director

Authorised Signatory



Authorised Signatory

Erica Hermon, Associate Director of Corporate Governance

EXECUTED AS A DEED by **CENTRICA BUSINESS SOLUTIONS LIMITED** in the presence of

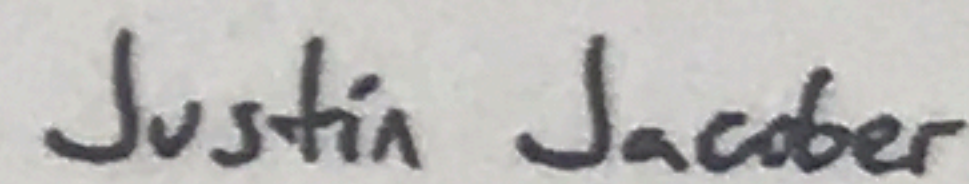
Signature of Director

Name of Director

Signature of Director

Name of Director

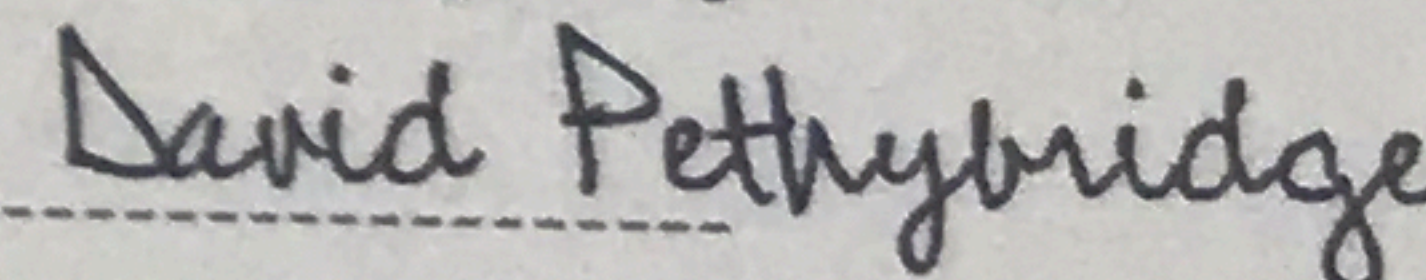
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David Pethybridge

SCHEDULE 1: AMENDED AGREEMENT

DATED 3rd June 2021 as amended and restated on 11th July 23

(1) WYE VALLEY NHS TRUST

(2) CENTRICA BUSINESS SOLUTIONS UK LIMITED

ENERGY PERFORMANCE CONTRACT

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THIS AGREEMENT is made on 3rd June 2021 as amended and restated on 11th July 23

BETWEEN:-

- (1) **WYE VALLEY NHS TRUST** of Stonebow Road, Hereford HR1 2BN (the "**Authority**"); and
- (2) **CENTRICA BUSINESS SOLUTIONS UK LIMITED**, a company incorporated in England and Wales with registered number 01874716 and its registered office at Millstream, Maidenhead Road, Windsor, Berkshire SL4 5GD ("**Centrica**"),

each a "**Party**" and together, the "**Parties**".

WHEREAS:-

- (A) On 3 September 2019, the Authority invited potential providers (including Centrica) to tender for the provision of energy management services to the Authority. Centrica submitted its tender on 6 December 2019 which included a high level appraisal of certain energy saving and carbon reduction measures which could be implemented at the Site.
- (B) On 13 March 2020, the Authority appointed Centrica as preferred bidder in connection with the provision of the energy management services.
- (C) On 26 May 2020, the Authority and Centrica entered into a Project Development Agreement pursuant to which the Authority appointed Centrica to undertake an Investment Grade Audit to confirm the energy saving and carbon reduction measures which could be implemented at the Site.
- (D) Centrica delivered the Investment Grade Proposal to the Authority on 14 December 2020 which was accepted by the Authority on 5 February 2021. The Investment Grade Proposal described proposed works and services to be delivered in multiple phases. Centrica delivered the Addendum to the Authority on 15 January 2021 which was accepted by the Authority on 5 February 2021. The Addendum describes the proposed works and services to be delivered under the first phase contemplated by the Investment Grade Proposal, such works and services being the Works and Services.
- (E) The Parties now agree that Centrica will carry out the Phase 1 Works and Services and provide the Energy Savings Guarantee pursuant to the provisions of this Agreement.
- (F) The Parties intend that the Works will be carried out in two phases with an energy saving guarantee applicable to each such phase. The Parties have agreed the scope of the Phase 1 Works which is set out in Schedule 3 (*Works*)
- (G) On 2nd December 2022, the Authority and Centrica entered into a Supplementary Agreement in respect of additional energy savings Works at Wye Valley NHS Trust to define the scope of the Works Programme, payment, energy savings guarantee and other details applicable to the Phase 2 Works.
- (H) The Parties also agreed to proceed with procurement of certain items of equipment which form part of the Phase 2 Works pursuant to and in accordance with the terms of the Supplementary Agreement pending agreement and execution of the Phase 2 Works Variation (as defined in the Supplementary Agreement).
- (I) Following delivery of the Phase 2 scope proposal by Centrica and acceptance of the Phase 2 scope proposal by the Authority the Parties now agree a variation to this Agreement to design, build, install, operate and maintain those energy savings and carbon reduction measures agreed as part of the Phase 2 Scope under the terms of this Agreement by means of the amendment and restatement taking effect as of the date hereof.

IT IS AGREED as follows:-

1. INTERPRETATION

In this Agreement unless the context otherwise requires the following words and expressions shall have the following meanings:-

"Actual Electricity Consumption Saving"	means, in respect of a Contract Year, the savings or reductions generated by the Technologies in the level of Imported Electricity consumed in relation to the Site as referenced in Schedule 7 (<i>Reliance Data</i>):- (a) measured in:- (i) kilowatt hours in any given Contract Year and (ii) calculated in accordance with Schedule 5 (<i>Energy Savings Guarantee</i>) (b) excluding any Savings Audit Adjustments and Early Savings
"Actual Gas Consumption Saving"	means, in respect of a Contract Year, savings or reductions generated by the Technologies in the level of Imported Gas consumed in relation to the Site as referenced in Schedule 7 (<i>Reliance Data</i>):- (a) measured in:- (i) kilowatt hours in any given Contract Year and (ii) calculated in accordance with Schedule 5 (<i>Energy Savings Guarantee</i>) (b) excluding any Savings Audit Adjustments and Early Savings
"Actual Tariffs"	means the applicable utility tariffs for gas, electricity payable by the Authority for each Contract Year, including all variable and fixed charges
"Addendum"	means as set out in Appendix 2 of Schedule 15
"ALHN"	means ambient loop heat network
"Asbestos"	has the meaning given to it in the Control of Asbestos at Work Regulations 2002
"Asbestos Survey"	means the asbestos survey as at the date of this Agreement, a copy of which is contained on a CD Rom initialled by each Party
"Authority Notice of Change"	has the meaning set out in paragraph 1.2 of Schedule 1 (<i>Change Control Procedure</i>)
"Authority Obligations"	means the obligations and the duties of the Authority and/or its Staff set out in Clause 5

"Authority Policies"	means those policies set out in Schedule 13 (<i>Authority Policies</i>), as may be amended, replaced or added to in accordance with this Agreement
"Authority Representative"	has the meaning given to that term in Clause 3.1
"Authority Serviced Technology"	means those Technologies to be operated and maintained by the Authority with effect from issue of a Completion Certificate or Taking Over Certificate (as applicable) with respect to such Technology, as further described in Schedule 4 (<i>Services</i>)
"Authority Termination Sum"	has the meaning given to it in Clause 23.4
"Background IP"	means any intellectual property rights other than Foreground IP which either the Authority or Centrica owns or is licensed to use before, on or after the date of this Agreement
"Baseline Electricity Consumption"	means the annual electricity consumption of 7,912,926 kWh for the Site (Phase 1 Works) and 8,419,790 kWh for the Site (Phase 2 Works)
"Baseline Electricity Consumption Reduction"	means electricity savings to be delivered through the Technologies used to determine the Guaranteed Level, and detailed below for the Site: 660,582 kWh (Phase 1 Works) and -7,130,761 kWh (Phase 2 Works)
"Baseline Electricity Financial Saving"	means the Baseline Electricity Consumption Reduction multiplied by the applicable Baseline Tariffs included in Schedule 8 (<i>Financial Model</i>)
"Baseline Emissions"	4,804 tCO ₂ e (Phase 1 Works) and 5,110 tCO ₂ e (Phase 2 Works) calculated using the Baseline Electricity Consumption and Baseline Gas Consumption (kWh) multiplied by the carbon factors set out in Part 2 of Schedule 5 (Energy Savings Guarantee & Measurement & Verification))
"Baseline Emissions Reduction"	means, in respect of a Contract Year, the number of tonnes of carbon dioxide equivalent emissions reductions generated by the Technologies relative to the Baseline Emissions, measured in accordance with Part 2 of Schedule 5 (<i>Energy Savings Guarantee & Measurement & Verification</i>)
"Baseline Energy Financial Savings"	means the sum of Baseline Electricity Financial Saving and Baseline Gas Financial Saving
"Baseline Gas Consumption"	means the annual gas consumption of 15,231,651 kWh at the Site (Phase 1 Works) and 19,076,212 kWh for the Site (Phase 2 Works)
"Baseline Gas Consumption Reduction"	means gas savings at the Site of 2,204,674 kWh (Phase 1 Works) and 16,857,212 kWh (Phase 2 Works) to be delivered through the Technologies used to determine the Guaranteed Level
"Baseline Gas Financial Saving"	means the Baseline Gas Consumption Reduction multiplied by the applicable Baseline Tariffs included in Schedule 8 (<i>Financial Model</i>)
"Baseline Tariffs"	means the relevant tariffs (Index Linked) set out in Schedule 8 (<i>Financial Model</i>)

"Business Day"	means any day other than a Saturday, Sunday or public holiday in England and Wales
"CDM Regulations"	means the Construction (Design and Management) Regulations 2015
"Cease Works Notice"	has the meaning given to it in Clause 7.11.2
"Centrica Arranged Funding"	means funding obtained or intended to be obtained by Centrica from a Third Party Funder on behalf of the Authority to cover all or part of the cost of carrying out the Works
"Centrica Arranged Funding Charges"	means the element of the costs and charges payable by the Authority which relates to the Centrica Arranged Funding as specified in Schedule 6 (<i>Payment</i>)
"Centrica Insurances"	has the meaning given to it in Schedule 12 (<i>Insurance</i>) (and " Centrica Insurance " shall be construed accordingly)
"Centrica Notice of Change"	has the meaning given to that term in paragraph 2.2 of Schedule 1
"Centrica Representative"	has the meaning given to it in Clause 3.1
"Centrica Serviced Technology"	means those Technologies to be operated and maintained by Centrica with effect from issue of a Completion Certificate or Taking Over Certificate (as applicable) with respect to such Technology, as further described in Schedule 4 (<i>Services</i>)
"Centrica Termination Sum"	has the meaning given to it in Clause 23.2
"Challenge Period"	means:- <ul style="list-style-type: none"> (a) the period during which a third party may issue a challenge which could result in the quashing or modification of the Phase 1 Works Planning Permission or Phase 2 Works Planning Permission as the case may be; and (b) where such a challenge is initiated within the period in (a) above, the period up to and including the final determination or withdrawal of that challenge plus five (5) Business Days
"Change"	means any change to this Agreement (which to avoid doubt shall include changes to the Works, Services or the Guaranteed Level)
"Change Control Procedure"	means the procedure set out in Schedule 1 (<i>Change Control Procedure</i>)
"Change Estimate"	means an estimate prepared in accordance with paragraph 1.4 of Schedule 1 (<i>Change Control Procedure</i>)
"Change Implementation Plan"	has the meaning given to that term in paragraph 1.3.2 of Schedule 1 (<i>Change Control Procedure</i>)
"Change in Law"	means the coming into effect or repeal (without re-enactment or consolidation) in England of any Law, or any amendment or variation to any Law, or any judgment of a relevant court of law

which changes binding precedent in England in each case after the date of this Agreement and, for the avoidance of doubt, includes a change in Law which is caused by or in connection with the United Kingdom ceasing to be a member of the European Union

"Change Response"	means Centrica's response to an Authority Notice of Change
"Clinical Services"	means management, administration and carrying out of the clinical and medical services provided at the Site by the Authority from time to time and which are not services to be provided by Centrica to the Authority under this Agreement
"Completion"	means, in respect of a Section, when the Completion Criteria for that Section has been satisfied and "Completed" shall be construed accordingly
"Completion Certificate"	means the certificate to be issued by the Authority's Representative in respect of each Section in accordance with Clause 7.7 in the form set out in Appendix 2 to Schedule 3 (<i>Works</i>)
"Completion Criteria"	means, for each Section, the completion of all activities relating to the installation, commissioning and performance testing of the relevant Technology (including completion of the Tests on Completion) as set out in Part 2 (<i>Detailed Scope of Works</i>) of Schedule 3 (<i>Works</i>) and the relevant table in Part 3 (<i>Completion Tests</i>) of Schedule 3 (<i>Works</i>)
"Compensation Event"	<p>save to the extent any of the following are attributable to a breach by Centrica of its obligations under this Agreement or an event of Force Majeure (save only in respect of limb (i)) or addressed through a Change instructed through the Change Control Procedure, means:</p> <ul style="list-style-type: none">(a) a breach by the Authority of any of its obligations under this Agreement;(b) except for the Welsh Water Easements, any interests, rights, covenants, restrictions, stipulations, easements, customary or public rights, local land charges, mining or mineral rights, franchise, manorial rights and any other rights or interests in or over the Site (in each case whether or not registered) that would, if exercised by a third party:<ul style="list-style-type: none">(i) prevent or disrupt the carrying out of the Works and/or the performance of the Services and/or the performance by Centrica of any of its obligations under this Agreement; and/or(ii) lead to an increase in the cost of working of Centrica or any Subcontractor;(c) the execution of works on the Site not forming part of this Agreement by the Authority or any contractors employed by the Authority;(d) any inaccuracy in any part of the Reliance Data. The Parties acknowledge and agree that Centrica is not entitled to claim relief under this limb (d) where and to the extent Centrica interprets the Reliance Data in a way

which it is unreasonable to do so if it acted in accordance with Good Industry Practice;

- (e) the issue of a Cease Works Notice pursuant to Clause 7.11.2;
- (f) the discovery of Unanticipated Site Conditions;
- (g) any delay caused in the circumstances referred to in Clause 7.7.6(c) (*Right to open up*);
- (h) after the issue of a Taking-Over Certificate for an Authority Serviced Technology at the Site, any defect in or malfunction to any such Technology which occurs (i) after the expiry of the relevant Defects Liability Period or (ii) during the Defects Liability Period but in circumstances not due to a Defect. Save that it shall not be a Compensation Event where in either (i) or (ii) such defect in or malfunction to such Technology either: (A) is a direct result of Centrica's breach of its obligations under this Agreement; or (B) arose during the Defects Liability Period but was not remedied by Centrica during the Defects Liability Period;
- (i) after the issue of a Completion Certificate in respect of a Centrica Serviced Technology at the Site, any defect in or malfunction to a Technology which occurs (i) after the expiry of the relevant Defects Liability Period or (ii) during the Defects Liability Period in circumstances where not due to a Defect. Save that it shall only be a Compensation Event in either (i) or (ii) above if and to the extent that the occurrence of such defect or malfunction is as a direct result of (A) Force Majeure and Centrica has complied with its obligations under Clause 26 (*Force Majeure*), (B) damage caused to such Technology by third parties under the Authority's control and/or by the occurrence of weather conditions which such Technology could not reasonably be expected to withstand; or (C) damage caused as a direct result of the occurrence of any risk in respect of which (and to the extent that) the Authority is required to maintain insurance under the terms of this Agreement including theft, vandalism, storm damage or similar;
- (j) any design changes or other changes required as a result of a Consent and / or any delays in completion of works by relevant third parties (including the DNO) in relation to a Consent and any delay in obtaining a Consent from the date indicated in the relevant Works Programme;
- (k) any failure by any statutory undertaker, utility company (including the DNO and the gas network operator), local authority or other similar body to carry out works or provide services;
- (l) failure or shortage of power and/or utilities (including gas, electricity, water or sewerage) or transport;

	(m)	disruption in the importing of goods and materials required for the Works and / or the Services;
	(n)	if Centrica is instructed by the Authority to carry out any works which are excluded as set out in Schedule 3 (Works); or
	(o)	a COVID-19 Impact Event;
"Contamination"		means all or any pollutants or contaminants, including any chemical or industrial, radioactive, dangerous, toxic or hazardous substance, waste or residue (whether in solid, semi-solid or liquid form or a gas or vapour);
"Consents"		means:
	(a)	all permissions, consents, approvals, certificates, permits, licences, statutory agreements and authorisations required by Law; and
	(b)	all necessary consents and agreements from any third parties,
		needed to carry out the Works and/or the Services in accordance with this Agreement, including those permissions, approvals and consents set out in Schedule 2 (<i>Consents and Surveys</i>);
"Construction Milestone"		means a milestone set out in the tables in Appendix 1 and 2 of Schedule 6 (<i>Payment</i>) and the expression "Construction Milestones" shall be construed accordingly;
"Contract Year"		means the period of one year from the Phase 1 Guarantee Commencement Date or Phase 2 Guarantee Commencement Date as the case may be, and each subsequent period of one year;
"Corrective Maintenance Fee"		means the fee payable by the Authority to Centrica for corrective maintenance as determined in accordance with Schedule 4 (<i>Services</i>);
"COVID-19"		means the virus strain known as severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) and the disease known as coronavirus disease 2019 (COVID-19) including, in both instances, any mutations thereof;
"COVID-19 Impact Event"		means any of the following events to the extent arising from or in connection with the effects of the global outbreak of COVID-19 and any other or related disease, epidemic or pandemic:
	(a)	Staff Shortage: a shortage of sufficient Centrica Staff members or subcontractor staff members (of any tier) with the relevant training, experience and/or qualifications necessary for the performance of Centrica's obligations under this Agreement due to such Staff members being unable to work whether through illness or as a result of following health protection policies or guidance issued by Centrica or any of its Group Companies or the relevant Subcontractor (each to the extent reasonably imposed), by a relevant Governmental

Authority (including a relevant public health authority or the World Health Organisation) or as a result of the unavailability of essential facilities such as accommodation or restaurants in the vicinity of the Site at which such Staff members can stay and/or eat (as applicable) during the performance of Centrica's obligations under this Agreement;

- (b) **Supply Chain Delay:** any delay in sourcing, obtaining or transporting any raw materials, fuel or components required by Centrica or any Subcontractors (of any tier) in connection with the carrying out of Centrica's obligations under this Agreement;
- (c) **Access Restriction:** the imposition of any restriction or lockdown on access to any relevant location that impacts Centrica's ability to perform its obligations under this Agreement;
- (d) **Change in HSES Requirements:** a change in any health, safety, environmental or security requirements relevant to the carrying out of Centrica's obligations under this Agreement; or
- (e) **Change in Law:** a change in Law, whether in the United Kingdom or in any other jurisdiction, linked to COVID-19 that impacts Centrica's ability to perform its obligations under this Agreement;

"Data Protection Legislation"

means all legislation and regulatory requirements in force from time to time relating to the protection and handling of personal data and the privacy of electronic communications, including, without limitation (i) any data protection legislation from time to time in force in the UK including the Data Protection Act 2018 or any successor legislation, as well as (ii) the General Data Protection Regulation ((EU) 2016/679) and any other directly applicable European Union regulation relating to data protection and privacy (for so long as and to the extent that the law of the European Union has legal effect in the UK);

"Default Interest Rate"

means 4% above the Bank of England base rate from time to time in force;

"Defect"

means any defect in the design, materials, workmanship or manufacture of any part of the Works or the Technologies save where expressed not to be the responsibility of Centrica;

"Defects Liability Period"

means for each of the Authority Serviced Technologies, the period commencing on the date of Taking-Over of the relevant Technology as stated in the relevant Taking-Over Certificate and for each of the Centrica Serviced Technologies, the date of Completion of the relevant Technology as stated in the relevant Completion Certificate (such date in either case being the "defects liability period start date") and ending twelve (12) months after the Defects Liability Period Start Date;

"Design Data"

means all drawings, reports, specifications, documents, plans, software, formulae, calculations and other data relating to the

design or construction of any Works which were submitted as part of the Investment Grade Proposal;

"Design Review Procedure" means the review procedure set out in Schedule 11 (*Design Review Procedure*);

"Direct Loss" means all reasonably incurred damages, losses, liabilities, claims, actions, costs, expenses (including the cost of legal or professional services, legal costs being on an indemnity basis), proceedings, demands and charges whether arising under statute, contract or at common law but excluding Indirect Losses (and **"Direct Losses"** shall be construed accordingly);

"Discriminatory Change in Law" means any Change in Law, the effect of which is to discriminate specifically against:

- (a) energy performance contracts; or
- (b) the Authority in relation to other hospitals; or
- (c) Centrica in relation to other companies, or
- (d) any of the Technologies,

save that:

- (i) such action shall not be a Discriminatory Change in Law where it is in response to any act or omission on the part of Centrica which is illegal (other than an act or omission rendered illegal by virtue of the Discriminatory Change in Law itself);
- (ii) such action shall not be deemed to be discriminatory solely on the basis that its effect on Centrica is greater than its effect on other companies; and
- (iii) a change in taxes or the introduction of a tax affecting companies generally (save for any change in taxes applicable to the import of goods into the UK from the European Union after the date of this Agreement) or a change in VAT shall be deemed not to be discriminatory in any circumstances;

"Dispute" has the meaning given to it in Clause 32.1;

"Dispute Resolution Procedure" means the procedure set out in Clause 32;

"DNO Consent" means the witnessing by the DNO of any G99 test in respect of any of the Works and/or the Technologies;

"DNO Longstop Date" Means 27th September 2025;

"DNO Notice" has the meaning given to it in Clause 7.12.1;

"EIR"	means the Environmental Information Regulations 2004 together with any guidance and/or codes of practice in relation to such regulations including any relevant rulings;
"Electricity Connection Agreement"	means any connection agreement with the DNO required for connection of any Technology to the electricity local distribution network connected to the Site;
"Electricity Consumption Reduction"	means, in respect of a Contract Year, the Actual Electricity Consumption Saving, subject to any Savings Audit Adjustments
"Electricity Meters"	means the settlement meters measuring electricity imported onto the Site;
"Electricity Saving"	means the Electricity Consumption Reduction multiplied by the applicable Baseline Tariffs included in Schedule 8 (<i>Financial Model</i>)
"Emergency"	means any event felt to be life-threatening or serious enough to cause significant damage or disruption or an action that is required to avoid a life threatening event;
"Employment Regulations"	means the Transfer of Undertakings (Protection of Employment) Regulations 2006;
"Energy Consumption Reduction"	means, in respect of any Contract Year, the total of the Electricity Consumption Reduction and the Gas Consumption Reduction;
"Energy Saving"	means the total Electricity Saving and Gas Saving;
"Energy Savings Shortfall"	means, in respect of a Contract Year, where the Energy Savings are less than the sum of the Baseline Energy Savings, the difference between the Energy Savings and the Baseline Energy Savings;
"Energy Savings Cap"	has the meaning given to it in Clause 10.3.3;
"Energy Savings Guarantee"	means the guarantee set out in Clause 10 (<i>Energy Savings Guarantee</i>);
"Excess Energy Savings"	means, in respect of a Contract Year where Energy Savings are greater than the Baseline Energy Savings, the difference between Energy Savings and Baseline Energy Savings;
"Execution Date"	means the date of this Agreement;
"Existing Equipment"	means all plant and equipment owned by the Authority as at the date of this Agreement and used by the Centrica during the Term in order to provide the Works and/or the Services (as applicable);
"Expert"	has the meaning given to it in Clause 32.2;
"Expiry Date"	means date at the end of the Initial Term or where this Agreement is extended in accordance with Clause 2, the Extended Term;
"Extended Term"	means a period of five (5) years from the end of the Initial Term;
"FOIA"	means the Freedom of Information Act 2000 including all secondary legislation together with any guidance and/or codes of

	practice in relation to such regulations including any relevant rulings;
"Foreground IP"	means any intellectual property rights created by the Authority or Centrica in the performance of its obligations under this Agreement;
"Gas Consumption Reduction"	means the Actual Gas Consumption Saving, subject to any Savings Audit Adjustments
"Gas Saving"	means the Gas Consumption Reduction multiplied by the applicable Baseline Tariffs included in Schedule 8 (<i>Financial Model</i>);
"Good Industry Practice"	means using standards, practices, methods and procedures conforming to all Law and exercising that degree of skill and care, diligence, prudence and foresight which would reasonably and ordinarily be expected from a skilled and experienced person engaged in a similar type of undertaking under the same or similar circumstances (such circumstances to include the fact that the Authority Premises are used as healthcare facilities where the Authority is providing the Clinical Services, including acute healthcare services to members of the public) provided always that this shall not alter any assumptions or exclusions (such as out of hours working) in respect of the Works or Services as set out in Schedule 3 (<i>Works</i>);
"Group Company"	means any holding company and any parent company of Centrica and any subsidiary and any subsidiary undertaking of Centrica;
"Guarantee Commencement Date"	means either: <ul style="list-style-type: none"> a) in relation to Phase 1 Works, the earlier of: (i) 00:00 at the start of the Target Phase 1 Works Completion Date; and (ii) 00:00 at the start of the Phase 1 Service Commencement Date; or b) in relation to Phase 2 Works, the earlier of: (i) 00:00 at the start of the Target Phase 2 Works Completion Date; and (ii) 00:00 at the start of the Phase 2 Service Commencement Date; <p style="margin-left: 40px;">as the case may be.</p>
"Guaranteed Level"	has the meaning given to it in paragraph 1 of Part 1 of Schedule 5 (<i>Energy Savings Guarantee & Measurement & Verification</i>);
"Guaranteed Savings Shortfall"	has the meaning given to it in Clause 11.1.6;
"HTM"	means the health technical memoranda;
"Imported Electricity"	means electricity imported onto and consumed on the Site through the Electricity Meter(s);
"Imported Gas"	means gas imported onto and consumed on the Site through the Gas Meter(s);
"Index Linked"	means increased (and for the avoidance of doubt no decrease shall be made) on each anniversary of the Phase 1 Commencement

Date by the higher of RPI and 3.5% and means increased (and for the avoidance of doubt no decrease shall be made) on each anniversary of the Phase 2 Commencement Date by the higher of RPI and 3.5%;

"Indirect Losses"	has the meaning given to it in Clause 24.5;
"Initial Notice"	has the meaning given to it in Clause 7.11.1;
"Initial Term"	means a period of ten (10) years from the Phase 1 Service Commencement Date;
"Insolvent"	means, in relation to Centrica, any of the following: <ul style="list-style-type: none">(a) any arrangement or composition with or for the benefit of creditors (including any voluntary arrangement as defined in the Insolvency Act 1986) being entered into by or in relation to Centrica;(b) a receiver, administrator, administrative receiver or other encumbrancer taking possession of or being appointed over, or any distress, execution or other process being levied or enforced (and not being discharged within 20 Business Days) upon, the whole or any material part of the assets of Centrica;(c) Centrica ceasing to carry on business;(d) a petition being presented (and not being discharged within twenty (20) Business Days), or a resolution being passed or an order being made for the administration or the winding up, bankruptcy or dissolution of Centrica; or(e) if Centrica shall suffer any event analogous to the events set out in (a) to (d) above in any jurisdiction in which it is incorporated or resident;
"Intellectual Property Rights"	means patents, trade marks, designs, trade names, service marks, copyright, database rights, know-how or any other intellectual property rights of any nature (whether or not registered) and including all applications for (or rights to apply for) and renewals and extensions of, such rights and all similar or equivalent rights of forms of protection which may now or in the future subsist in any part of the world;
"Interim Services"	means any Services instructed by the Authority pursuant to Clause 9.2 in relation to either the Phase 1 Interim Services or the Phase 2 Interim Services, or both as the context requires and as the case may be (<i>Interim Services</i>);

"Interim Services Commencement Date"	means, either the Phase 1 Interim Services Commencement Date or the Phase 2 Interim Services Commencement Date as the case may be.
"Interim Service Payment"	either the Phase 1 Interim Service Payment or the Phase 2 Interim Service Payment as the case may be
"Investment Grade Audit"	means the investment grade audit undertaken by Centrica pursuant to the Project Development Agreement in order for Centrica to prepare the Investment Grade Proposal;
"Investment Grade Proposal"	means the proposal made by Centrica pursuant to the Project Development Agreement dated 14th December 2020 and accepted by the Authority on 5th February 2021 and as set out in Appendix 1 of Schedule 15;
"Judicial Review Proceedings"	means: <ul style="list-style-type: none"> (a) the grant of permission for an application and any subsequent application for judicial review or related process under Part 54 of the Civil Procedure Rules by any third party in respect of the grant of the Planning Approval relating to the Site made within three (3) months of the grant of the Planning Approval or such later date as the court may allow; and/or (b) an application or order made pursuant to Section 288 of the Town and Country Planning Act 1990 in respect of the Planning Approval relating to the Site;
"Law"	means: <ul style="list-style-type: none"> (a) any law applicable in England and shall include common law, statute, statutory instrument, proclamation, by law, directive, decision, regulation, rule, order, notice, rule of court, instrument, or delegated or subordinate legislation; (b) any applicable guidance, direction or determination with which Centrica is bound to comply (including by virtue of any obligation to comply with Good Industry Practice) to the extent that the same are published and publicly available or the existence or contents of them have been notified to Centrica ; and (c) any applicable judgement of a relevant court of law which is binding in England and Wales; and (d) any other document, guidance or requirement that Centrica is legally obliged to comply with (including the HTM), <p>in each case in force, from time to time, in England and Wales;</p>

"Measurement and Verification Plan or M&V Plan"	means the plan developed by Centrica consistent with the methodology specified in Part 2 of Schedule 5 (<i>Energy Savings Guarantee & Measurement & Verification</i>) for measuring and verifying Centrica's performance in relation to the Energy Savings Guarantee
"Milestone Payment"	means the capital value of each Construction Milestone as set out in Schedule 6 (<i>Payment</i>), as may be adjusted in accordance with the terms of this Agreement;
"Milestone Payment Schedule"	means the schedule showing the capital value for each Construction Milestone, as set out in Appendices 1 and 2 of Schedule 6 (<i>Payment</i>);
"New Technologies"	means new and evolving relevant technologies and processes which, if used by Centrica in the performance of this Agreement, could improve the Services and/ or lead to or contribute to a decrease in the energy consumption and/or energy costs and/or a reduction of CO ₂ e emissions at the Site;
"Notice of Change"	has the meaning as set out in paragraph 1.2 of Schedule 1 (<i>Change Control Procedure</i>);
"Notional Account"	means the notional account in which the value of Excess Energy Savings allocated to the Centrica are credited or debited in accordance with Clause 11;
"Offset Amount"	has the meaning given to it in Clause 11.1.6(a);
"PFI Contract"	means the agreement entered into between (1) the Authority and (2) Mercia Healthcare Limited dated 16 April 1999 in relation to the design, construction, redevelopment and management of Hereford County Hospital;
"PFI Contractor"	has the meaning given to it in paragraph 5.1.7 of Part 1 of Schedule 4 (<i>Services</i>);
"Phase 1 Commencement Date"	Means 3 June 2021
"Phase 2 Commencement Date"	Means 7 th July 2023
"Phase 1 Contract Year"	means the period of one year from the Phase 1 Guarantee Commencement Date, and each subsequent period of one year;
"Phase 2 Contract Year"	means the period of one year from the Phase 2 Guarantee Commencement Date, and each subsequent period of one year;
"Phase 1 Contract Price"	has the meaning given to it in Schedule 6 (<i>Payment</i>);
"Phase 2 Contract Price"	has the meaning given to it in Schedule 6 (<i>Payment</i>);
"Phase 1 Guarantee Commencement Date"	means the earlier of: (i) 00:00 at the start of the Target Phase 1 Works Completion Date; and (ii) 00:00 at the start of the Phase 1 Service Commencement Date;

"Phase 2 Guarantee Commencement Date"	means the earlier of: (i) 00:00 at the start of the Target Phase 2 Works Completion Date; and (ii) 00:00 at the start of the Phase 2 Service Commencement Date;
"Phase 1 Interim Services Commencement Date"	means, in respect of Phase 1 each of the Technologies at the Site, either: <p>(a) the date of Completion of the relevant Technologies stated in the applicable Completion Certificate for the relevant Section when the Authority requests the operation of the Technology from the date of Completion of the relevant Technology at the relevant Site; or</p> <p>the date agreed between the Authority and Centrica when the Authority requests the operation of the Technology at the Site after the date of Completion of that Technology;</p>
"Phase 2 Interim Services Commencement Date"	means, in respect of Phase 2 each of the Technologies at the Site, either: <p>(b) the date of Completion of the relevant Technologies stated in the applicable Completion Certificate for the relevant Section when the Authority requests the operation of the Technology from the date of Completion of the relevant Technology at the relevant Site; or</p> <p>the date agreed between the Authority and Centrica when the Authority requests the operation of the Technology at the Site after the date of Completion of that Technology;</p>
"Phase 1 Interim Service Payment"	means an amount equal to that proportion of the Phase 1 Service Payment applicable to the Phase 1 Interim Services performed by Centrica from the Phase 1 Interim Services Commencement Date for a Technology at the Site until the Phase 1 Services Commencement Date as determined in accordance with Clause 9.2.2 and Part 1 of Schedule 6 (<i>Payment</i>) as the same may be adjusted in accordance with the terms of this Agreement;
"Phase 2 Interim Service Payment"	means an amount equal to that proportion of the Phase 2 Service Payment applicable to the Phase 2 Interim Services performed by Centrica from the Phase 2 Interim Services Commencement Date for a Technology at the Site until the Phase 2 Services Commencement Date as determined in accordance with Clause 9.2.2 and Part 1 of Schedule 6 (<i>Payment</i>) as the same may be adjusted in accordance with the terms of this Agreement;
"Phase 1 Interim Services"	means any Services in relation to Phase 1 Works instructed by the Authority pursuant to Clause 9.2 (Interim Services);
"Phase 2 Interim Services"	means any Services in relation to Phase 2 Works instructed by the Authority pursuant to Clause 9.2 (Interim Services);
"Phase 1 Service Commencement Date"	means the day immediately following the Phase 1 Works Completion Date;
"Phase 2 Service Commencement Date"	means the day immediately following the Phase 2 Works Completion Date;

"Phase 1 Service Payment"	has the meaning given in Schedule 6 (<i>Payment</i>) as adjusted in accordance with the terms of this Agreement;
"Phase 2 Service Payment"	has the meaning given in Schedule 6 (<i>Payment</i>) as adjusted in accordance with the terms of this Agreement;
"Phase 1 Works"	means those works (including any design) carried out by Centrica in accordance with this Agreement, as more fully described in Part 2 of Schedule 3 (<i>Works</i>);
"Phase 2 Works"	means those works (including any design) for further energy savings measures at the Site carried out by Centrica in accordance with this Agreement, as more fully described in Part 2 of Schedule 3 (<i>Works</i>);
"Phase 1 Works Completion Date"	means 23:59 on the day on which the final Completion Certificate is issued in respect of the final Section of the Phase 1 Works;
"Phase 2 Works Completion Date"	means 23:59 on the day on which the final Completion Certificate is issued in respect of the final Section of the Phase 2 Works;
"Phase 1 Works Planning Application"	means any planning application submitted by Centrica on behalf of the Authority to the Planning Authority in respect of all or any part of the Phase 1 Works (including any amendment to the application) pursuant to the Town and Country Planning Act 1990;
"Phase 2 Works Planning Application"	means any planning application submitted by Centrica on behalf of the Authority to the Planning Authority in respect of all or any part of the Phase 2 Works (including any amendment to the application) pursuant to the Town and Country Planning Act 1990;
"Phase 1 Works Planning Approval"	means the Phase 1 Works Planning Permission together with (where relevant) any associated Planning Agreement(s) required for the carrying out of the relevant Phase 1 Works;
"Phase 2 Works Planning Approval"	means the Phase 2 Works Planning Permission together with (where relevant) any associated Planning Agreement(s) required for the carrying out of the relevant Phase 2 Works;
"Phase 1 Works Planning Permission"	means any planning permission which may be granted in relation to, and required for, all or any part of the Phase 1 Works (including, but not limited to, the installation of the ALHN or Solar PV System), being: <ul style="list-style-type: none"> (a) detailed planning permission; or (b) outline planning permission together with such approvals of reserved matters as are required to enable Centrica to commence the relevant Phase 1 Works, <p>in every case granted by the Planning Authority, the Secretary of State or an inspector appointed by him for that purpose;</p>

"Phase 2 Works Planning Permission"	<p>means any planning permission which may be granted in relation to, and required for, all or any part of the Phase 2 Works (including but not limited to Energy Centre works, and works at Pathology) being:</p> <ul style="list-style-type: none"> (c) detailed planning permission; or (d) outline planning permission together with such approvals of reserved matters as are required to enable Centrica to commence the relevant Phase 2 Works, <p>in every case granted by the Planning Authority, the Secretary of State or an inspector appointed by him for that purpose;</p>
"Phase 1 Works Programme"	<p>means the programme for the carrying out of the Phase 1 Works detailed in Schedule 9 (<i>Works Programme</i>), as amended in accordance with this Agreement;</p>
"Phase 2 Works Programme"	<p>means the programme for the carrying out of the Phase 2 Works detailed in Schedule 9 (<i>Works Programme</i>), as amended in accordance with this Agreement;</p>
"Planning Agreement"	<p>means an agreement under:</p> <ul style="list-style-type: none"> (a) section 106 of the Town and Country Planning Act 1990; (b) section 38 or 278 Highways Act 1980; or (c) section 104 of the Water Industry Act 1991 or any other provision of a similar intent within the meaning of the Water Act 1989, with an appropriate authority for the supply of water or the drainage of foul water from the Site;
"Planning Approval"	<p>means a planning approval for the relevant Works which is acceptable to both Parties, acting reasonably;</p>
"Planning Authority"	<p>means the relevant local planning authority for the purposes of the Town and Country Planning Act 1990;</p>
"Phase 1 Planning Proceedings"	<p>means any of the following:</p> <ul style="list-style-type: none"> (a) a calling in or determination by the secretary of state or any inspector appointed by him of the Phase 1 Works Planning Application under section 77 of the Town and County Planning Act 1990; (b) an application seeking to remove or modify any conditions imposed by any Phase 1 Works Planning Permission; (c) an appeal against refusal including Deemed Refusal of any application to remove or modify any conditions imposed by any Phase 1 Works Planning Permission; and (d) an application to the court pursuant to section 288 of the Planning Act;

"Phase 2 Planning Proceedings"

means any of the following:

- (e) a calling in or determination by the secretary of state or any inspector appointed by him of the Phase 2 Works Planning Application under section 77 of the Town and County Planning Act 1990;
- (f) an application seeking to remove or modify any conditions imposed by any Phase 2 Works Planning Permission;
- (g) an appeal against refusal including Deemed Refusal of any application to remove or modify any conditions imposed by any Phase 2 Works Planning Permission; and

an application to the court pursuant to section 288 of the Planning Act;

"Relevant Change in Law"

has the meaning given to that term in Clause 19.3;

"Reliance Data"

means, save as expressly stated in Schedule 7 (*Reliance Data*), any or all of the data, information, facts or assumptions set out in Schedule 7 (*Reliance Data*) and upon which Centrica has based its estimate for Works and the designs for the Works, operational costs for the Interim Services (where provided) and the Services, and the Guaranteed Level;

"Resumption Notice"

has the meaning given to it in Clause 7.11.4;

"RPI"

means the UK General Index of Retail Prices (All Items) published by the Office of National Statistics (January 1987-100) or, if such index shall cease to be published, such other retail prices index or other index which may replace it for the purpose of calculating the amount payable on repayment of UK Index-Linked Gilts;

"Salix"

means Salix Finance Ltd which provides interest-free Government funding to the public sector to improve their energy efficiency, reduce carbon emissions and lower energy costs;

"Satisfactory Phase 1 Works Planning Approval"

means a Phase 1 Works Planning Permission with the Challenge Period expired (and with any Phase 1 Planning Proceedings having finally been determined such that the Phase 1 Works Planning Permission has been upheld and may be implemented), together with (where relevant), any associated Planning Agreement required for the carrying out of the Phase 1 Works, which in each case is satisfactory to the Authority in its absolute discretion and does not impose by way of condition or other obligation any requirement which:

- (a) increases the costs to Centrica of performing all or any of the Phase 1 Works or the Services or otherwise under this Agreement; or
- (b) renders Centrica unable to deliver or perform all or any of the Phase 1 Works or the Services in accordance with this Agreement,

and all planning conditions required to be discharged in order for the Phase 1 Works Planning Permission to be implemented have been discharged and confirmed as such by the Planning Authority, and an **"Unsatisfactory Phase 1 Works Planning Approval"** is a Phase 1 Works Planning Permission which is not a Satisfactory Phase 1 Works Planning Approval;

"Satisfactory Phase 2 Works Planning Approval"

means a Phase 2 Works Planning Permission with the Challenge Period expired (and with any Phase 2 Planning Proceedings having finally been determined such that the Phase 2 Works Planning Permission has been upheld and may be implemented), together with (where relevant), any associated Planning Agreement required for the carrying out of the Phase 2 Works, which in each case is satisfactory to the Authority in its absolute discretion and does not impose by way of condition or other obligation any requirement which:

- (c) increases the costs to Centrica of performing all or any of the Phase 2 Works or the Services or otherwise under this Agreement; or
- (d) renders Centrica unable to deliver or perform all or any of the Phase 2 Works or the Services in accordance with this Agreement,

and all planning conditions required to be discharged in order for the Phase 2 Works Planning Permission to be implemented have been discharged and confirmed as such by the Planning Authority, and an **"Unsatisfactory Phase 2 Works Planning Approval"** is a Phase 2 Works Planning Permission which is not a Satisfactory Phase 2 Works Planning Approval;

"Savings Audit Adjustments"

means: (i) any adjustments set out in Schedule 5 (*Energy Savings Guarantee & Measurement & Verification*); and/or (ii) any adjustments agreed or determined pursuant to Clauses 8 (*Extension of Time and Compensation Events*) and/or 26 (*Force Majeure*);

"Savings Audit Report"

has the meaning given to it in Clause 11.1 (*Determination of Guarantee Deficit and Surplus*);

"Section"	means those parts of the Works relevant to a specific Technology at the Site, as set out in Schedule 3 (<i>Works</i>) being one of Construction Milestones as specified in Schedule 6 (<i>Payment</i>);
"Services"	means those services which are more particularly described in Schedule 4 (<i>Services</i>) as may be varied pursuant to Clause 8 (<i>Extension of Time and Compensation Events</i>) or the Change Control Procedure but subject always to any exclusions stated in Schedule 4 (<i>Services</i>) save to the extent the Authority requests and Centrica agrees to provide any services so excluded pursuant Clause 8 (<i>Extension of Time and Compensation Events</i>) or the Change Control Procedure;
Service Commencement Date	means Phase 1 Service Commencement Date or Phase 2 Service Commencement Date as the case may be.
"Site"	means the land or buildings or other structures, facilities and amenities and all supporting infrastructure occupied by or owned by the Authority at Hereford County Hospital;
"Snagging Matters"	means minor items of outstanding work (including in relation to landscaping) which would not materially impair the Authority's use of the Site or the carrying out by the Authority of the Clinical Services or the performance of the Services by Centrica;
"Snagging Notice"	means the notice to be issued by the Authority's Representative in accordance Clause 7.7.2(e);
"Solar PV System"	means the roof-mounted solar photovoltaic system to be installed by Centrica at the Site pursuant to this Agreement;
"Specific Change in Law"	means any Change in Law which principally affects or principally relates only to the provision or operation of healthcare premises and/or to the NHS;
"Staff"	means the employees, agents and contractors and (where applicable) Subcontractors of Centrica or the Authority (as applicable);
"Subcontract"	means a contract entered into by Centrica with a Subcontractor in accordance with Clause 18 (<i>Subcontractors</i>);
"Subcontractor"	means any third party which enters into a contract with Centrica in connection with the discharge of Centrica's obligations under this Agreement (as the same may be amended from time to time);
"Successor Contractor"	means a contractor appointed by the Authority to provide the Works and/or the Services or any works or services equivalent or similar to the Works, Services and other obligations of Centrica;
"Taking-Over"	means when a Technology or part of a Technology has been handed over to the Authority in accordance with Clause 7.7 and the Taking-Over Certificate in relation to that Technology or part of that Technology has been issued;

"Taking-Over Certificate"	means the certificate, to be issued by Centrica and signed by the Authority's Representative in accordance with Clause 7.7, in the form set out in Appendix 1 to Schedule 3 (<i>Works</i>);
"Taking-Over Requirements"	has the meaning given to it in Clause 7.7.2(b);
"Target Phase 1 Works Completion Date"	means 30th September 2021 or such alternative date as may be substituted in accordance with Clause 8 (<i>Extension of Time and Compensation Events</i>), the Change Control Procedure, Clause 19 (<i>Change in Law</i>), Clause 26 (<i>Force Majeure</i>) or as may otherwise be agreed between the Parties;
"Target Phase 2 Works Completion Date"	means 9 th September 2025 or such alternative date as may be substituted in accordance with Clause 8 (<i>Extension of Time and Compensation Events</i>), the Change Control Procedure, Clause 19 (<i>Change in Law</i>), Clause 26 (<i>Force Majeure</i>) or as may otherwise be agreed between the Parties;
"Technologies"	means the technologies and/or equipment and/or energy conservation measures listed in Schedule 3 (<i>Works</i>), as amended from time to time as permitted by this Agreement (and "Technology" means any one of them);
"Term"	means the period between, and including, the Phase 1 Commencement Date and the earlier of the Expiry Date and the date on which this Agreement is terminated;
"Tests on Completion"	means for each of the Technologies the relevant Tests on Completion set out in Part 3 of Schedule 3 (<i>Works</i>);
"Third Party Funder"	means any third party funder which provides or intends to provide finance facilities to Centrica to finance all or part of the cost of carrying out the Works;
"Unanticipated Site Conditions"	means: (a) the discovery of any Contamination by Centrica; (b) any Asbestos; (c) the discovery of ancient burial grounds at the Site; and (d) any other condition existing at the Site which has not been allowed for by Centrica following Good Industry Practice and which could not have been foreseen by a contractor experienced in the provision of the works and services of a similar size, scope, nature, value and complexity to the Works and/or Services (as applicable);
"Welsh Water Easements"	means any easement, wayleave or other statutory rights held by Dwr Cymru Cyfyngedig for the operation, maintenance, repair and replacement of (i) a sewer (and ancillary plant and equipment) in respect of the routes shown marked with red broken lines on the sewer plan at paragraph 3.1 of Schedule 7 (Reliance Data) (and which for the avoidance of doubt, forms part of the Reliance Data); and (ii) a water pipeline system (and ancillary plant and equipment) in respect of the routes shown marked in blue on the water plan at paragraph 3.2 of Schedule 7 (Reliance Data) (which, for the avoidance of doubt forms part of the Reliance Data), including rights pursuant to the Deed of Grant of Easement granted by Hereford Hospitals National Health Service Trust and Mercia Healthcare Limited in favour of Dwr Cymru Cyfyngedig dated 26 November 2009;

"Works"	means either the Phase 1 Works or the Phase 2 Works or both as the context requires.;
"Works Completion Date"	means the Phase 1 Works Completion Date or the Phase 2 Works Completion Date as the case may be
"Works Programme"	means the Phase 1 Works Programme or Phase 2 Works Programme as the case may be.

1.1 The interpretation and construction of this Agreement shall all be subject to the following provisions:

- 1.1.1 words importing the singular meaning include where the context so admits the plural meaning and vice versa;
- 1.1.2 words importing the masculine include the feminine and the neuter;
- 1.1.3 the words "include", "includes" and "including" are to be construed as if they were immediately followed by the words "without limitation";
- 1.1.4 references to a document include any revision made to it in accordance with this Agreement;
- 1.1.5 references to a standard include any current relevant standard that replaces it;
- 1.1.6 references to any person shall include natural persons and partnerships, firms and other incorporated bodies and all other legal persons of whatever kind and however constituted and their successors and permitted assigns or transferees;
- 1.1.7 references to any statute, enactment, order, regulation or other similar instrument shall be construed as a reference to the statute, enactment, order, regulation or instrument as amended by any subsequent enactment, modification, order, regulation or instrument as subsequently amended or re-enacted;
- 1.1.8 headings are included in this Agreement for ease of reference only and shall not affect the interpretation or construction of this Agreement;
- 1.1.9 references in this Agreement to any Clause or Sub-Clause or Schedule without further designation shall be construed as a reference to the Clause or Sub-Clause or Schedule to this Agreement so numbered;
- 1.1.10 references in this Agreement to any paragraph or sub-paragraph without further designation shall be construed as a reference to the paragraph or sub-paragraph of the relevant Schedule to this Agreement so numbered;
- 1.1.11 reference to a Clause is a reference to the whole of that Clause unless stated otherwise; and
- 1.1.12 in the event and to the extent only of any conflict between the Clauses and the remainder of the Schedules, the Clauses shall prevail over the remainder of the Schedules.

2. **TERM**

This Agreement comes into effect on the date of this Agreement and shall automatically expire, unless terminated earlier in accordance with its terms, on the Expiry Date. Not less than one (1) year prior to the end of the Initial Term, the Authority may by notice in writing request the extension of this Agreement (on the same terms and conditions) by the Extended Term. Such extension shall be subject to the agreement of Centrica (not to be unreasonably withheld or delayed).

3. REPRESENTATIVES

- 3.1 Centrica appoints Brian Santry, Project Manager and the Authority appoints Martin Jones, Estates and Engineering Manager, Estates & Facilities as its representative with authority to act on its behalf on the matters set out in, or in connection with, this Agreement (each, a "**Representative**" and together, the "**Representatives**").
- 3.2 Each Party may, by written notice to the other Party, revoke or amend the authority of its Representative or appoint a new Representative.
- 3.3 The respective Representatives shall be sufficiently senior within the organisation of the appointing Party, and granted sufficient authority by that Party to ensure full cooperation in relation to the operation and management of this Agreement.
- 3.4 Any notices issued under this Agreement shall be issued to the Authority's Representative or Centrica's Representative (as applicable) at the same time they are issued to the Authority or Centrica.

4. ACCESS TO THE SITE AND STAFF

- 4.1 During the Term, the Authority shall permit, and shall procure that the Authority's Staff give permission (at the Authority's cost) for, Centrica and its Subcontractors:
 - 4.1.1 to enter and remain upon those parts of the Site reasonably required by Centrica for the purpose of carrying out the Works, Interim Services and Services save that this shall not entitle Centrica to exclusive occupancy or exclusive possession of any part of a Site (other than as may be required by a licensee, on a temporary basis, in order to comply with relevant health and safety legislation);
 - 4.1.2 rights of free and uninterrupted use of existing equipment at a Site (which interfaces or connects with, or is joined to, any element of the Works and/or the Technologies) to the extent reasonably necessary for the due and proper performance of the Works, Interim Services and Services;
 - 4.1.3 where reasonably necessary, to connect into such services media (including pipe, wires, cables and other conduits for electricity, gas, water, telecommunications and drainage) as may from time to time be reasonably necessary to carry out the Works, Interim Services and Services and/or to install the Technologies.
- 4.2 Centrica shall procure that:
 - 4.2.1 subject to complying with (i) the Authority Policies in relation to all relevant safety procedures, which shall include any relevant health and safety plans for the installation of the Technologies and the site rules from time to time, and (ii) any reasonable directions with regard to site safety that may be issued by or on behalf of Centrica's Representative, the Authority's Representative shall have unrestricted access at all reasonable times during normal working hours to:
 - (a) view the Works at the Site on reasonable prior notice appropriate to the circumstances; and
 - (b) subject to obtaining the consent of the relevant manufacturer, packager or supplier (which Centrica agrees to use reasonable endeavours to obtain), visit (at the Authority's cost) any site or workshop where materials, plant or equipment are being manufactured, prepared or stored for use in the Works for the purposes of witnessing any test being carried out in respect of the Works;
 - 4.2.2 the Authority's Representative shall have such rights of access to the areas of the Site where Centrica is carrying out Works, Interim Services or Services where he believes there

is an Emergency and as he (acting reasonably) considers suitable in the circumstances;
and

- 4.2.3 monthly progress meetings and site meetings are held during the Works and quarterly meetings are held during the performance of the Services and that the Authority's Representative shall have the right to attend such monthly progress meetings and site meetings and to attend such other meetings as the Authority's Representative may reasonably request.

5. **AUTHORITY'S OBLIGATIONS**

5.1 Subject to any other express term of this Agreement, the Authority shall carry out or procure the carrying out of the following duties and obligations of the Authority and/or its Staff during the Term and with reasonable skill and care and in accordance with Good Industry Practice at all times:

- 5.1.1 ensure co-operation (at the Authority's cost) between (i) Centrica and its Subcontractors and (ii) the Authority and its Staff and the Authority shall use reasonable endeavours to procure that its Staff shall not interfere with, hinder or delay Centrica in carrying out the Works, Interim Services or Services or in fulfilling any of its obligations under this Agreement;
- 5.1.2 provide to Centrica, within ten (10) Business Days of a request, all relevant information and data in its possession requested by Centrica and that is reasonably necessary for Centrica to effectively carry out the Works and Services, including the full details of the time, dates and location of activities at the Site which may impact a Works Programme (provided that this obligation shall only apply to the extent that no restriction exists which would prevent the Authority from releasing such information and/or data);
- 5.1.3 subject to the obligations of Centrica pursuant to Schedule 2 (*Consents and Surveys*), obtain and maintain and perform all obligations necessary to obtain and maintain all necessary Consents in connection with the Works and/or the Services and, to the extent first received by the Authority, provide Centrica with copies of such Consents as soon as practicable;
- 5.1.4 comply with its obligations under Schedule 11 (*Design Review Procedure*);
- 5.1.5 to the extent the Works impact on any existing warranties relating to equipment at the Site, the Authority shall be responsible for maintaining where possible such warranties through the Works;
- 5.1.6 monitor the Site for Asbestos including undertaking any required surveys to identify the presence of any Asbestos in the areas of the Site in which Centrica shall be undertaking Works, remove or treat any Asbestos diligently and with reasonable skill and care and shall procure that any third parties it engages to carry out such monitoring, removal or treatment do so in accordance with Good Industry Practice at all times;
- 5.1.7 to the extent relevant to the Works or the Services or any Interim Services, undertake preventative and reactive maintenance to ensure that those parts of the Site (including the foundations, structural frame, floor, ceiling, mechanical and electrical services and roof slabs) where the Works, Services or any Interim Services will be performed and the Existing Equipment is maintained in good repair and condition and is (where applicable) operable;
- 5.1.8 maintain its own electrical distribution system at the Site to enable Centrica to perform the Services to meet the Guaranteed Level and provide suitable capacity within the existing board(s) to connect to the new equipment and, for the avoidance of doubt, the new transformer including its ring Main Unit will be the Authority's responsibility to maintain with the Centrica demarcation point being the low voltage automatic circuit breaker (LV- ACB);

- 5.1.9 in the case of the Authority Serviced Technologies, operate the Technologies in accordance with any reasonable instructions provided by Centrica as detailed in the Operation and Maintenance Manuals; and
- 5.1.10 permit remote monitoring of the Technologies by Centrica.

5.2 Enabling Works

Subject to any other express term of this Agreement, the Authority agrees to undertake and/or carry out or perform the following free of charge or at the Authority's cost:

- 5.2.1 prior to the commencement of Works and throughout the duration of Works in that Site, remove all equipment, materials and/or debris (other than those connected with or created by Centrica or the Works) to ensure a level of cleanliness and tidiness to allow for Centrica to carry out the Works;
- 5.2.2 provide sufficient supplies of electricity, gas, and telecommunications to Centrica as may be reasonably required by Centrica at the relevant termination and delivery points as set out in Schedule 10 (*Drawings*) at the Site;
- 5.2.3 accept all heat supplied to it by Centrica at the relevant termination and delivery points as set out in Schedule 10 (*Drawings*) at the Site;
- 5.2.4 provide water, drainage and sewerage services to Centrica at the Site;
- 5.2.5 provide a broadband ethernet connection to Centrica at the Site and either: (i) provide a direct, real time two-way communications line to enable continuous twenty-four hour monitoring of the Technologies by Centrica; or (ii) if the Authority is unable to provide (i) to the reasonable satisfaction of Centrica, promptly action any request from Centrica with respect to settings to ensure continued visibility of the Technologies to Centrica's remote monitoring systems;
- 5.2.6 maintain the security of the Site (provided that: (i) Centrica shall be responsible for security of any area in respect of which Centrica has sole possession pursuant to Clause 4.1.1; and (ii) the Authority shall not be responsible for the theft of any of Centrica's property, including tools or equipment, by third parties);
- 5.2.7 undertake isolation of switchboards or a shutdown of the system, in accordance with the relevant Works Programme, with the exception of isolation of lighting, to allow Centrica to install equipment provided that:
 - (a) where possible, Centrica shall give ten (10) Business Days notice of each and every requirement for isolation and the Authority reserves the right to end the notice period if (acting reasonably) if it believes the extent of isolation will have a significant impact on operations; and
 - (b) Centrica shall comply with Authority's permit when working on any part of existing engineering systems;
- 5.2.8 as and when required, and at the request of Centrica (and in relation to such request, Centrica shall use reasonable endeavours to give the Authority with reasonable notice):
 - (a) provide an area of hard standing for the use of Centrica for temporary cabins and work area, which is appropriate and suitable given the Works to be carried out and which is in a suitable and appropriate location which is acceptable to Centrica (such acceptance not to be unreasonably withheld or delayed);
 - (b) reset alarms under the remote supervision of Centrica or its Subcontractors;

- (c) accept delivery of and store service parts and consumables at a location agreed with Centrica;
 - (d) be responsible for all on-going lighting maintenance (re-lamping, ballast replacement, lamp disposal etc.) within the perimeter of the Works and Services;
 - (e) provide fire management services to Centrica at the Site as may be reasonably requested by Centrica, including testing all gas and fire alarms periodically as an extension to its existing fire alarm test regime;
- 5.2.9 provide suitable parking facilities at the Site for Centrica's Maintenance Staff carrying out operation and maintenance services at the Site; and
- 5.2.10 make reasonable endeavours to ensure that any of its Staff making use of Centrica's help desk facility (save in an Emergency) are suitably qualified and act with reasonable care and skill.

5.3 **PFI Costs**

The Parties acknowledge and agree that:

5.3.1 the Site is subject to the PFI Contract pursuant to which the PFI Contractor may be entitled to levy charges or otherwise recover costs or other amounts (for the purpose of this Clause 5.3, the "**PFI Costs**") from the Authority in connection with Centrica's performance of its obligations or exercise of its rights under this Agreement;

5.3.2 Centrica has made no allowance for any PFI Costs in the Financial Model or otherwise,

and accordingly the Authority shall be responsible for any PFI Costs and shall indemnify and hold harmless Centrica against any liability for such costs.

6. **CENTRICA'S GENERAL OBLIGATIONS**

6.1 Centrica shall carry out the Works and the Services and discharge its obligations under this Agreement (so far as the same are applicable to the Works or Services performed or the obligations discharged):

6.1.1 in a proper and workmanlike manner, with all due skill, care and diligence;

6.1.2 using good and sound materials which are of satisfactory quality and not specifying, selecting or using or causing to be used any material, substance or building practice or technique which is not in accordance with British or European Union standards or codes of practice or which is otherwise generally known to be deleterious or hazardous to health or safety or the durability of the Site;

6.1.3 in respect of the Works only, in accordance with the relevant Works Programme;

6.1.4 in respect of the Services only, in accordance with the Services specifications set out in Schedule 4 (*Services*);

6.1.5 in a manner that is not likely to be injurious to health or to cause damage to property (making good without any delay all damage (including decorative damage) arising out of or incidental to the performance of the Services or the Works, including replacement if reasonably required by the Authority) and to otherwise leave any Site in the same condition as it was prior to the performance of the Services or the Works;

6.1.6 in compliance with all Law and Consents and so as not to prejudice the renewal of any such Consents;

- 6.1.7 in accordance with the Authority Policies, provided that:
- (a) the Authority shall notify Centrica of any change or replacement or addition to the Authority Policies which is proposed by the Authority as soon as practicable (and, in any event, prior to such change taking effect) and if such change, replacement or addition has a material impact on the performance of or the cost of performance of the Services, the Works and/or the relevant Works Programme, such change, replacement or addition shall take effect as a Change in accordance with Schedule 1 (*Change Control Procedure*); and
 - (b) the Authority may, at its sole option, notify Centrica that Centrica shall not be obliged to comply with any change, replacement or addition to any Authority Policy and that Centrica should continue to comply with the relevant Authority Policy prior to any change, replacement or addition, in which case such change shall not take effect as a Change in accordance with Schedule 1 (*Change Control Procedure*);
- 6.1.8 in accordance with Good Industry Practice;
- 6.1.9 in accordance with any applicable manufacturers' specifications and recommendations and in relation to any equipment supplied by Centrica so as not to invalidate any relevant warranties;
- 6.1.10 without causing or permitting to be caused any nuisance, damage, danger, injury, unplanned disturbance or unplanned disruption to the Authority or any other person, taking all reasonable care to ensure that it does not unduly interfere with the operations of the Authority or obstruct any of the Site and liaising with and co-ordinating all third parties which are involved in or connected with the performance of the Works or the Services, including any Subcontractors;
- 6.1.11 taking proper and sufficient precautions so as not at any time to render unsafe the structure of the Site or any plant, equipment or machinery in the Site;
- 6.1.12 making good as soon as reasonably practicable all damage (including decorative damage) caused by it;
- 6.1.13 so as not to cause any areas outside the Site to be obstructed (other than when deliveries and/or works are scheduled to take place in accordance with the relevant Works Programme, the construction phase plan and/or method statements), damaged or made dirty or untidy; and
- 6.1.14 subject to the terms of this Agreement and Centrica's right to redact confidential or commercially sensitive information, to produce and to supply to the Authority on demand copies of any documentation relating to the Works or Services and any information or evidence reasonably required by the Authority in order to satisfy itself that the obligations of Centrica in respect of the Works or Services have been complied with.

7. WORKS

7.1 Centrica shall undertake the Works specified in Schedule 3 (*Works*) in accordance with the provisions of this Clause 7.

7.2 The Design Review Procedure shall apply.

7.3 Centrica Obligations

7.3.1 Centrica covenants with the Authority as follows:

- (a) to comply with its obligations under Schedule 11 (*Design Review Procedure*); and

- (b) to carry out the Works in accordance with:
 - (i) Schedule 3 (*Works*); and
 - (ii) this Agreement.

7.4 Defects

7.4.1 If either Party becomes aware of any Defect in any Section during the relevant Defects Liability Period:

- (a) then, acting in good faith, that Party shall, as soon as reasonably practicable and not longer than two (2) Business Days after becoming aware of the same (and in any event prior to the expiry of the relevant Defects Liability Period) notify the other in writing of such Defect(s);
- (b) Centrica shall as soon as reasonably practicable and not later than ten (10) Business Days notify the Authority of its proposals for rectifying such Defect(s) along with completion dates;
- (c) Centrica shall (at Centrica's cost) make good such Defect advised in sub clause (b) following the notice referred to in sub-Clause (a) above, keeping the Authority informed of the progress of the remedy, including updated expected timescale for completion with regular progress reviews not exceeding five (5) Business Days; and
- (d) if Centrica fails to rectify a Defect in accordance with sub-Clause (c) above, the Authority may procure the making good of such Defect itself and recover the cost of the same from Centrica.

7.4.2 In respect of the Authority Serviced Technologies only, Centrica shall (to the extent that there is any unexpired duration of the term of the same) assign the benefit of the manufacturers' warranties relating to each such Technology to the Authority with effect from the end of the Defects Liability Period (or, if earlier, the termination of this Agreement) to the extent that the Authority is not already a beneficiary of such warranties.

7.5 Site conditions and asbestos

7.5.1 The Parties acknowledge and agree that the discovery of any Unanticipated Site Conditions during the Term which have not been allowed for by Centrica and which prevent or impede or make more expensive Centrica's performance of the Works, the Services or, where relevant, the Interim Services shall be a Compensation Event.

7.6 The Works Programme

7.6.1 Any Works Programme submitted in accordance with the provisions set out below shall be prepared in accordance with Good Industry Practice and shall be in sufficient detail so as to enable the Authority's Representative to monitor the progress including all commissioning activities and likely future progress of the Works.

7.6.2 The initial Phase 1 Works Programme and the initial Phase 2 Works Programme are set out in Schedule 9 Parts 1A and 1B respectively (*Works Programme*) and (other than in respect of the Target Phase 1 Completion Date and the Target Phase 2 Completion Date) are indicative programmes of key dates which the Parties agree to discuss and agree to amend (through the Design Review Procedure) to include further details of activities which each Party must carry out by specific dates. Any changes to key dates to the Works Programme or inclusion of any requirement on the Authority to undertake any action or procure that a third party undertakes an action shall only be made in accordance with this Clause 7.6 and Schedule 11 (*Design Review Procedure*). Centrica shall promptly submit

to the Authority's Representative a copy of any version of any Works Programme varied in accordance with this Clause 7.6 and Schedule 11 (*Design Review Procedure*).

- 7.6.3 The Parties agree to procure that Centrica's Representative and the Authority's Representative meet to discuss the Works Programmes and access requirements in order that Centrica can provide the Works and the Authority can give such required access. A Party seeking to convene such a meeting shall, so far as practicable, give reasonable notice to the other Party of the requirement for such a meeting.
- 7.6.4 Centrica's Representative and the Authority's Representative shall monitor the Works Programmes and any access requirements Centrica may have and shall seek (acting reasonably) to agree any amendments to a Works Programme and access requirements in order that Centrica can provide the Works and the Authority can give such required access.
- 7.6.5 If it appears to the Authority's Representative at any time that the actual progress of the Works has significantly fallen behind the relevant Works Programme, then the Authority's Representative shall be entitled to require Centrica to submit to the Authority's Representative a report within ten (10) Business Days identifying the reasons for the delay and require Centrica (at the Authority's option):
- (a) to produce and submit to the Authority's Representative within ten (10) Business Days of submitting the initial report in accordance with Schedule 11 (*Design Review Procedure*) a revised Phase 1 Works Programme or Phase 2 Works Programme (as applicable) showing the manner and the periods in which the Works will be carried out to achieve completion including showing the steps which are to be taken to eliminate or reduce the delay; and/or
 - (b) where it is not possible to predict with any certainty when the delay might come to an end, provide the Authority with updates in respect of the delay and cause of the delay.
- 7.6.6 Subject to the provisions of this Clause 7.6, where a Works Programme or Schedule 11 (*Design Review Procedure*) sets a date by when, or a time period within which, the Authority is required to undertake any action or procure that a third party undertakes an action, the Authority shall or shall procure that such action is completed by such date. For the avoidance of doubt, the Authority shall not be liable to Centrica for a breach of this Clause 7.6 where and to the extent such breach has been caused by a breach by Centrica of its obligations under this Agreement.

7.7 Completion process

7.7.1 Hand over to the Authority

- (a) The Authority Serviced Technologies shall be handed over to the Authority for operation and use on completion of the installation of the relevant Technology and issue of the Taking Over Certificate.
- (b) The Centrica Serviced Technologies will be maintained by Centrica in accordance with this Agreement and as such, but without prejudice to Clauses 7.7.7 and 13, will not be handed over to the Authority for operation and use. The Centrica Serviced Technologies will be put to use only after the issue of the relevant Completion Certificate, unless otherwise agreed between the Authority and Centrica.

7.7.2 Taking Over

- (a) The Authority Serviced Technologies will be subject to a two stage Taking-Over and Completion process with the first stage being Taking-Over which represents the handing over of the relevant Technology (or parts of it) to the Authority and

the second stage being Completion of the Technology at the Site. The Centrica Serviced Technologies will be subject to a single Completion process with no intermediate stage of Taking-Over for these Technologies. The remainder of this Clause 7.7.2 applies to the Authority Serviced Technologies.

- (b) The requirements for Taking-Over of each of the relevant Technologies are set out in the relevant table contained in Part 3 (*Completion Tests*) of Schedule 3 (*Works*) (the "**Taking-Over Requirements**").
- (c) In relation to the Authority Serviced Technology, during the period in which Centrica is undertaking the installation of these Technologies at the Site, no later than five (5) Business Days before the end of each month, Centrica shall issue a Taking-Over Certificate to the Authority for each relevant Technology. For all other Authority Serviced Technologies, Centrica shall issue a Taking-Over Certificate for the relevant Technology once the Taking-Over Requirements for that Technology have been satisfied. Each Taking-Over Certificate shall set out those individual measures relating to that Technology which have (A) been installed by Centrica in the relevant month (B) been handed back by Centrica to the Authority as required by Clause 7.7.1(a) and (C) satisfied the relevant Taking Over Requirements.
- (d) The Authority shall review the Taking-Over Certificate and, if it is satisfied that each of the measures listed in the Taking-Over Certificate have been installed by Centrica and have satisfied the Taking-Over Requirements, the Authority shall procure that the Authority's Representative countersigns the Taking-Over Certificate and Taking-Over of the measures listed in the Taking-Over Certificate will be deemed to have taken place on the date of countersignature by the Authority's Representative. If the Authority's Representative disagrees with the content of a Taking-Over Certificate it shall notify Centrica as soon as reasonably practicable and in any event within five (5) Business Days of receiving the Taking-Over Certificate from Centrica. The Authority may (on a single occasion only) request an extension of time from Centrica, consent to which shall be in writing and shall not be unreasonably withheld. Centrica and the Authority shall then seek to resolve such disagreement and if they are unable to do so, either party shall be entitled to refer the matter to dispute resolution in accordance with Clause 32 (*Disputes*). If the Authority does not respond within such five (five) Business Day period, the Authority will be deemed to accept the content of the Taking-Over Certificate and Taking-Over of the measures set out in that Taking-Over Certificate shall be deemed to have taken place 3 (three) Business Days following the date of issue of the Taking-Over Certificate. The Authority may (on a single occasion only) request an extension of time to respond from Centrica, consent to which shall be in writing and shall not be unreasonably withheld. Following Taking-Over, the provisions of Clause 13 shall take effect in respect of all Authority Serviced Technology.
- (e) The Authority shall procure that the Authority's Representative shall countersign the Taking-Over Certificate notwithstanding that there are Snagging Matters. Where there are Snagging Matters, the Authority shall procure that the Authority's Representative shall, within five (5) Business Days of the date of issue of the relevant Taking-Over Certificate, issue a Snagging Notice which shall specify the Snagging Matters. The Authority may (on a single occasion only) request an extension of time from Centrica, consent to which shall be in writing and shall not be unreasonably withheld.
- (f) Following the issue of a Snagging Notice, Centrica shall, in consultation with the Authority's Representative and in such manner as to cause as little disruption as reasonably practicable to the Authority's use of the Technologies, rectify all Snagging Matters as soon as reasonably practicable and in any event within 15 (fifteen) Business Days or such other period as may be agreed in writing by the Authority.

- (g) If, by the Target Phase 1 Works Completion Date, Centrica has failed to rectify the Snagging Matters specified in the Snagging Notice, the Authority may by itself (or engage others to) carry out the works necessary to rectify the Snagging Matters, at the cost of Centrica.
- (h) If, by the Target Phase 2 Works Completion Date, Centrica has failed to rectify the Snagging Matters specified in the Snagging Notice, the Authority may by itself (or engage others to) carry out the works necessary to rectify the Snagging Matters, at the cost of Centrica.
- (i) The issue of a Taking-Over Certificate shall in no way affect the obligations of the Centrica under this Agreement including in respect of any defects.

7.7.3 Notification of Completion

Centrica shall notify the Authority's Representative of the date when Centrica (acting reasonably) considers that each Section will be complete in accordance with the Completion Criteria for the relevant Section and this Agreement not less than 10 (ten) Business Days prior to such anticipated completion or such other timescales agreed by the Parties in writing acting reasonably and in good faith.

7.7.4 Pre-completion inspection

Centrica shall give the Authority's Representative reasonable notice of the date upon which Centrica considers that each Section will be complete and the Tests on Completion forming the Completion Criteria for the relevant Section, to be performed in accordance with the relevant Works Programme, will be carried out. Following receipt of the notice specified in this Clause 7.7.4, the Authority's Representative and such other persons as the Authority may reasonably nominate shall be entitled to inspect the Works on the date or dates reasonably specified by Centrica in accordance with this Clause 7.7.4, and to attend any of the Tests on Completion. Centrica shall, if so requested, accompany the Authority's Representative and such other persons as the Authority may reasonably nominate on any such inspection.

7.7.5 Pre-completion matters

The Authority's Representative shall, within ten (10) Business Days of any inspection made pursuant to Clause 7.7.4, notify Centrica of any outstanding matters (including the repetition of any of the Tests on Completion which are required to be carried out and passed in accordance with the relevant Works Programme) which are required to be attended to before the relevant Section can be considered to be Complete in accordance with the Completion Criteria and this Agreement. Centrica shall attend to such matters and shall, if necessary, give the Authority's Representative further notices in accordance with Clause 7.7.4 (but dealing only with matters raised in the notification under this Clause 7.7.5) so that the procedures in Clauses 7.7.4 and this Clause 7.7.5 are repeated as often as may be necessary so that all outstanding matters in relation to the relevant Section are attended to.

7.7.6 Right to open up

- (a) Subject to Clause 7.7.6(b), the Authority's Representative shall have the right at any time prior to the Phase 1 Works Completion Date or Phase 2 Works Completion Date (as applicable) to request Centrica to open up and inspect any part or parts of the Works where the Authority's Representative reasonably believes that such part or parts of the Works is or are defective and the Centrica shall comply with such request.
- (b) Prior to exercising its right pursuant to Clause 7.7.6(a), the Authority's Representative shall notify the Centrica (giving not less than ten (10) Business Days notice) of his intention to exercise such right, setting out detailed reasons.

- (c) If, following the exercise by the Authority's Representative of his right pursuant to Clause 7.7.6(a), the inspection shows that the relevant part or parts of the Works are not defective this shall subject to (and in accordance with) the provisions of Clause 8 (*Extension of Time and Compensation Events*) and be treated as a Compensation Event.
- (d) If, following the exercise by the Authority's Representative of his right pursuant to Clause 7.7.6(a), the inspection shows that the relevant part or parts of the Works is or are defective, Centrica shall rectify and make good such defect(s) and any consequence of such rectification and/or making good defect(s) shall be carried out by Centrica at no cost to the Authority and Centrica shall not be entitled to any extension of time in relation to such rectification and making good of the Works.
- (e) If, following the exercise by the Authority's Representative of his right pursuant to Clause 7.7.6(a), the Authority's Representative is of the opinion that the inspection shows that the relevant part or parts of the Works is or are defective and Centrica does not agree with such opinion, the matter shall be determined in accordance with the Dispute Resolution Procedure.
- (f) Without prejudice to the rights of the Authority's Representative pursuant to this Clause 7.7.6, the Parties acknowledge and agree that the exercise of such rights shall not in any way affect the obligations of Centrica under this Agreement save as expressly set out in this Clause 7.7.6.

7.7.7 **Completion Certificates**

- (a) Centrica shall notify the Authority when the Completion Criteria for a Section have been satisfied. Following receipt of such notification, the Authority shall procure that the Authority's Representative shall, when satisfied that such works for the Section have been completed in accordance with this Agreement, issue a Completion Certificate to that effect and the provisions of Clause 13 shall, in respect of the Centrica Serviced Technology only, take effect.
- (b) Neither the counter-signature of a Taking-Over Certificate nor the issue of a Completion Certificate shall in any way affect the obligations of Centrica under this Agreement including in respect of any defects.

7.8 **Delays**

7.8.1 Centrica shall complete the Phase 1 Works by the Target Phase 1 Works Completion Date and shall complete the Phase 2 Works by the Target Phase 2 Works Completion Date.

7.8.2 The Parties acknowledge and agree that:

- (a) the Energy Savings Guarantee relating to the Phase 1 Works applies from the Guarantee Commencement Date irrespective of whether or not the Phase 1 Works are completed by the Target Phase 1 Works Completion Date; and
- (b) the Energy Savings Guarantee relating to the Phase 2 works applies from the Phase 2 Guarantee Commencement Date irrespective of whether or not the Phase 2 Works are completed by the Target Phase 2 Works Completion Date; and
- (c) the Authority shall not be entitled to claim liquidated or general damages in respect of any breach of Clause 7.8.1 by Centrica and any resultant delay which elapses between the Target Phase 1 Works Completion Date and the Phase 1 Works Completion Date; and

- (d) the Authority shall not be entitled to claim liquidated or general damages in respect of any breach of Clause 7.8.1 by Centrica and any resultant delay which elapses between the Target Phase 2 Works Completion Date and the Phase 2 Works Completion Date.

7.9 Post completion activities

On Completion of each Section, Centrica shall (or shall procure that its Subcontractors shall):

- 7.9.1 remove all debris and equipment not used in the performance of the Services from the Site and other affected areas and ensure that the Site and those areas affected by the Works relating to the relevant Section are left in the same condition as they were prior to performance of the Services;
- 7.9.2 supply to the Authority two (2) copies of drawings of the Completed Section (reflecting the Section, as built) and operation and maintenance instructions necessary for the safe and efficient operation and maintenance of any plant, equipment or machinery comprised in the Section and, in respect of such drawings and operation and maintenance manuals which are produced by Centrica, ensure and, in respect of such drawings and operation and maintenance manuals which are provided by third parties, use reasonable endeavours to procure that the Authority is able to copy and use all such documents on a royalty-free basis with the right to grant sub-licences to third parties; and
- 7.9.3 obtain and produce to the Authority any records of fire risk assessments and fire safety arrangements for the Site and leave a certified copy of them with the Authority.

7.10 Planning Approval

- 7.10.1 In the event that a Planning Approval has not been obtained within 3 months of the date of this Agreement then the Technologies which cannot be installed without a Planning Approval shall be omitted from the scope of Works and Clause 7.10.1 shall apply.
- 7.10.2 If Clause 7.10.1 applies;
 - (a) either the Authority or Centrica shall be entitled to seek a Change pursuant to the Change Control Procedure to amend the design, the Technologies, the Energy Savings Guarantee and/or this Agreement (including any changes which result in a Planning Approval no longer being required and/or in Centrica being relieved from any liability under this Agreement pending receipt of a Planning Approval beyond the date set out in Clause 7.10.1). A notice of a Change given by one Party to another under the Change Control Procedure as contemplated by this Clause 7.10.2(a) shall, for the purposes of such procedure, be deemed to be an Authority Notice of Change and the arrangements specified in paragraph 0 of Schedule 2 shall apply; and
 - (b) the Authority shall pay Centrica all of its reasonable, evidenced costs as agreed or determined in accordance with the Change Control Procedure which have been incurred in relation to the relevant Technology up to the date on which the relevant Technology or Technologies are omitted from the scope of Works. For the avoidance of doubt, such costs shall include any costs for plant and equipment in respect of Technologies omitted from the scope of Works pursuant to 7.10.1 which were ordered or committed to by Centrica (acting in accordance with Good Industry Practice) prior to the date on which such technologies were omitted from the scope of Works ("**Long Lead Item Costs**").
- 7.10.3 Centrica shall continue to progress the Works for which Planning Approval is not required pending receipt of a Planning Approval.

7.11 Judicial Review of a planning approval

- 7.11.1 Each Party shall notify the other forthwith upon becoming aware of any Judicial Review Proceedings. Centrica may at any stage of such Judicial Review Proceedings at any time after receipt of notification or becoming aware of the same, serve notice (an "**Initial Notice**") on the Authority requiring confirmation from the Authority as to whether Centrica should:
- (a) continue the Works; or
 - (b) cease the Works.
- 7.11.2 The Authority shall confirm by serving written notice, as soon as reasonably practicable, but in any event within twenty (20) Business Days or an otherwise agreed time period of receiving the Initial Notice, whether it wants Centrica to:
- (a) continue the Works at the Site; or
 - (b) cease the Works at the Site (a "**Cease Works Notice**").
- 7.11.3 If the Authority fails to respond within the twenty (20) Business Days it shall be deemed to have notified Centrica to continue the Works at the Site.
- 7.11.4 Upon receipt of a Cease Works Notice, Centrica shall cease the Works at the Site until such time as the Authority serves written notice on Centrica (a "**Resumption Notice**") requiring it to resume the Works at the Site.
- 7.11.5 If any person shall succeed, pursuant to any Judicial Review Proceedings, in obtaining an order quashing the Planning Approval which has not been appealed, withdrawn or disposed of, either the Authority or Centrica shall be entitled to seek a Change pursuant to the Change Control Procedure to amend the design, the Technologies, the Energy Savings Guarantee and/or this Agreement (including any changes which result in a Planning Approval no longer being required).

7.12 DNO delays

- 7.12.1 If either Party becomes aware of any likely delay in the Authority entering into the Electricity Connection Agreement and/or obtaining the DNO Consent beyond the date required by the relevant Works Programme, it shall notify the other Party accordingly (a "**DNO Notice**").
- 7.12.2 Upon receipt of a DNO Notice, the Parties shall meet to discuss the impact on the relevant Works Programme, the likely delay beyond the Guarantee Commencement Date and ways for the Parties to co-operate and act in good faith in order to minimise and mitigate the relevant delay.
- 7.12.3 If the Authority has been unable to enter into the Electricity Connection Agreement and/or DNO Consent has not been obtained by the DNO Longstop Date, then either the Authority or Centrica shall be entitled to seek a Change pursuant to the Change Control Procedure to amend the design, the Technologies, the Energy Savings Guarantee and/or this Agreement.

7.13 CDM Regulations

- 7.13.1 The Authority:
- (a) shall be the only Client in respect of the Works and undertakes to discharge the duties and obligations required of such person by the CDM Regulations; and
 - (b) hereby appoints Centrica as Principal Contractor in respect of the Works; and

- (c) shall appoint a Principal Designer
- 7.13.2 Centrica shall act as the Principal Contractor in respect of the Works and undertakes to discharge the duties and obligations required of such persons by the CDM Regulations.
- 7.13.3 Centrica warrants to the Authority that in relation to the roles of Principal Contractor:
 - (a) it has the competence and capacity to perform the obligations imposed on it by Clause 7.13.1(b) and to conduct its undertaking without contravening any prohibition contained in the CDM Regulations;
 - (b) it has allocated and shall allocate adequate resources to enable it to comply with this Clause 7.13;
 - (c) it has the competence, resources and capacity to, and shall, observe, perform and discharge and shall procure the observance, performance and discharge of any code of practice for the time being approved by the Health and Safety Commission pursuant to the Health and Safety at Work Act 1974 in connection with the CDM Regulations; and
 - (d) it has taken and shall take all reasonable steps to provide with its design sufficient information in relation to the design of the Works or its construction or maintenance as shall adequately assist the Authority, other designers and other contractors to comply with their duties under the CDM Regulations.
- 7.13.4 Centrica shall procure compliance by its Subcontractors with the CDM Regulations and ensure that the Construction Phase Plan (as defined in the CDM Regulations) is in place prior to commencement of the Works.
- 7.13.5 For the purposes of this Clause 7.13, "Client", "Health and Safety File", "Principal Contractor" and "Principal Designer" shall have the meanings set out in the CDM Regulations.
- 7.13.6 Centrica shall ensure that the Health and Safety File is revised as often as may be appropriate to incorporate any relevant new information in relation to the Works until the Works Completion Date.
- 7.13.7 On the Works Completion Date, Centrica shall deliver to the Authority all records, licences, permission or other documents relating to the Works as are required to be maintained by the CDM Regulations in relation to the Works.
- 7.13.8 Centrica shall:
 - (a) take due care in relation to the safety of all persons entitled to be on the Site;
 - (b) use reasonable efforts to keep the Site and Works clear of unnecessary obstruction so as to avoid danger to these persons; and
 - (c) be responsible for all aspects of health and safety at the Site in accordance with the CDM Regulations and Laws.

7.14 Phase 2 Works

- 7.14.1 The Parties confirm and agree that this Agreement (as amended and restated) sets out the obligations to design, install, construct, operate and maintain additional energy savings measures at the Site in relation to the Phase 2 Works.

8. EXTENSIONS OF TIME AND COMPENSATION EVENTS

8.1 Notice of delay in the Works

If at any time Centrica becomes aware that there will be or is likely to be a delay in the Works such that the Phase 1 Works will not be completed before the Target Phase 1 Works Completion Date or the Phase 2 Works will not be completed before the Target Phase 2 Works Completion Date, Centrica shall give prompt and written notice to the Authority to that effect specifying:

8.1.1 the reason for the delay or likely delay; and

8.1.2 an estimate of the likely effect of the delay on the Works including the anticipated Works Completion Date (taking into account any measures that Centrica proposes to adopt to mitigate the consequences of the delay).

8.2 Supply of Information

Following service of a notice by Centrica pursuant to Clause 8.1, Centrica shall promptly supply to the Authority any further information relating to the delay which:

8.2.1 is received by Centrica; or

8.2.2 is reasonably requested by the Authority.

8.3 Duty to Mitigate

The Parties shall take reasonable steps to mitigate any delay and the consequences of any delay and any costs and/or relief which are the subject of a notice pursuant to Clause 8.1 and/or Clause 8.5 which may (if appropriate) include Centrica using reasonable endeavours to mitigate delay through the re-scheduling of the Works.

8.4 Claim in respect of a Compensation Event

If, as a direct result of the occurrence of a Compensation Event, Centrica will:

8.4.1 be delayed in completing the Phase 1 Works by the Target Phase 1 Works Completion Date or be delayed in completing the Phase 2 Works by the Target Phase 2 Works Completion Date ; and/or

8.4.2 be unable to comply with its obligations under this Agreement (including the Phase 1 Energy Savings Guarantee or the Phase 2 Energy Savings Guarantee as the case may be); and/or

8.4.3 incur additional costs or lose payment of any Service Payment or Interim Service Payment (or part thereof),

then, subject to Clauses 8.5 to 8.7, Centrica shall be entitled to apply, as relevant: (i) for an extension of time to the Target Phase 1 Works Completion Date or the Target Phase 2 Works Completion Date as the case may be; and/or (ii) for relief from its relevant obligations under this Agreement (including the Phase 1 Energy Savings Guarantee or Phase 2 Energy Savings Guarantee as the case may be); and/or (iii) to claim compensation under this Agreement.

8.5 Procedure for Relief and Compensation

To obtain relief, an extension and/or claim compensation pursuant to Clause 8.6, Centrica must:

8.5.1 as soon as reasonably practicable after it became aware that the relevant Compensation Event would cause such delay, cause it to be unable to comply with its obligations under this Agreement or cause it to incur additional costs, give to the Authority a notice within two (2) Business Days of its claim, as applicable, for: (i) an extension of time to the Target

Phase 1 Works Completion Date or Target Phase 2 Works Completion Date as the case may be; (ii) payment of compensation; and/or (iii) relief from its obligations under this Agreement (including the Energy Savings Guarantee);

- 8.5.2 within ten (10) Business Days of receipt by the Authority of the notice referred to in Clause 8.5.1, give (i) full details of the Compensation Event and the extension of time and/or relief from its obligations under this Agreement and/or any compensation claimed, as applicable and (ii) reasonable supporting evidence of the same; and
- 8.5.3 during the period (i) commencing on the date of Centrica's notice pursuant to Clause 8.5.1 and (ii) ending on the date immediately prior to the date on which Centrica provides the Authority with full details of the Compensation Event pursuant to Clause 8.5.2, Centrica shall provide the Authority with updates from time to time where Centrica becomes aware of further details of the Compensation Event together with reasonable supporting evidence of the same.

8.6 Giving of Relief and Compensation

Where, pursuant to Clauses 8.4 and 8.5, Centrica is entitled to an extension of time, relief or compensation, then, subject to Clause 8.3:

- 8.6.1 in the case of a delay, the Target Phase 1 Works Completion Date or the Target Phase 2 Works Completion Date as the case may be, shall be postponed by such time as shall be reasonable for such a Compensation Event, taking into account the likely effect of the delay;
- 8.6.2 in the case of an additional cost being incurred or payment of the Services Payment and / or Interim Service Payment (or any part thereof) being lost by Centrica, the Authority shall compensate Centrica (without double counting) for the actual costs reasonably incurred and/or for the amount of the Services Payment and / or Interim Services Payment actually lost as a result of the Compensation Event within twenty (20) Business Days of its receipt of a written demand by Centrica supported by all relevant information as the Authority may reasonably require ; and/or
- 8.6.3 the Authority shall give Centrica such relief from its obligations under this Agreement (including relief from the Energy Savings Guarantee) as is reasonable for such a Compensation Event and Centrica shall provide the Authority with such supporting evidence that the Authority may reasonably require in relation to the same.

8.7 Failure to Agree

If the Parties cannot agree the extent of any compensation, delay incurred, relief from Centrica's obligations under this Agreement, or the Authority disagrees that a Compensation Event has occurred (or as to its consequences), or that Centrica is entitled to compensation or relief or an extension of time under this Clause 8, the Parties shall resolve the matter in accordance with the Dispute Resolution Procedure.

9. SERVICES

- 9.1 On and from the Service Commencement Date, Centrica shall provide the Services for the Centrica Serviced Technologies throughout the Term in accordance with the terms of this Agreement.
- 9.2 The Authority may request that a Technology is put into operation prior to the Phase 1 Service Commencement Date or Phase 2 Service Commencement Date as the case may be and, in such case, Centrica will be required to provide Services in relation to the Centrica Serviced Technologies from the Phase 1 Interim Services Commencement Date or Phase 2 Interim Services Commencement Date as the case may be, until the Phase 1 Service Commencement Date or Phase 2 Service Commencement Date as applicable. If the Authority makes such a request, Centrica shall submit a proposal to the Authority setting out:

9.2.1 what Services will be required between the Interim Services Commencement Date and the Service Commencement Date ("**Interim Services**"); and

9.2.2 the proposed Interim Service Payment for such Services,

and the Authority and Centrica agree that the Interim Service Payment shall be calculated on a proportionate basis taking into account the nature of the Interim Services performed when compared to the Services and the period of time between the Interim Services Commencement Date and the Service Commencement Date.

9.3 Except as provided in Clause 9.7, changes to the scope of the Services may only be made in accordance with the Change Control Procedure.

9.4 Centrica shall perform the Services so as to co-ordinate with the Authority's operations on the Site and shall take all reasonable care to ensure that it does not unduly interfere with the operations of the Authority or obstruct any of the Site.

9.5 Centrica shall be responsible for engaging, liaising with and co-ordinating all third parties which are involved in or connected with the provision of the Services, including any Subcontractors.

9.6 Without prejudice to Clause 18 (*Subcontractors*), Centrica shall not be responsible for any breach of this Clause 9 to the extent that such breach arises due to any act or omission outside of its control (including any wilful act or omission of the Authority).

9.7 Following the Phase 1 Service Commencement Date, the Authority has the right to require Centrica to cease providing the measurement and verification services (which form part of the Services). The Authority's right may be exercisable on a single occasion and may not be subsequently withdrawn. To exercise its right, the Authority shall give notice in writing to Centrica with at least six (6) month's notice prior to the commencement of a Contract Year (Contract Year Y). Where the Authority gives such notice, with effect from 0:00 hours on the first day of Contract Year Y:

9.7.1 Centrica shall cease providing the measurement and verification services for Phase 1 Works and all references to "Services" will be deemed to exclude measurement and verification services;

9.7.2 The Phase 1 Service Payment payable shall be adjusted in accordance with paragraph 2.4 of Part 2 of Schedule 6 (Payment);

9.7.3 Centrica's obligations in connection with the provision of the Energy Savings Guarantee (including Clause 10, 11 and Schedule 5 (Energy Savings Guarantee & Measurement & Verification)) shall cease to apply to Phase 1 Works,

but without prejudice to any accrued rights or liabilities of the Parties in relation to the provision of the measurement and verification services or the Energy Savings Guarantee prior to 0:00 hours on the first day of Contract Year Y. For the avoidance of doubt, where the Authority has exercised its right under this Clause and Centrica has ceased to provide the measurement and verification services, the Authority shall not be entitled to subsequently request that Centrica to re-commence the provision of the measurement and verification services.

10. **ENERGY SAVINGS GUARANTEE**

10.1 Centrica shall provide energy and carbon savings to the Authority, primarily through energy savings through the introduction of the Technologies.

10.2 Subject to:

10.2.1 Schedule 5 (*Energy Savings Guarantee & Measurement & Verification*); and

10.2.2 any Savings Audit Adjustments;

the Guaranteed Level (which represents the Energy Savings Guarantee), comprises Centrica's guarantee that the Authority will benefit from energy savings in each Contract Year which are equal to or greater than the Baseline Energy Savings.

10.3 In the event that a Guaranteed Savings Shortfall is agreed (or determined) pursuant to Clause 11 (*Determination of Guarantee Deficit and Surplus*):

10.3.1 the Authority shall issue an invoice to Centrica for the amount of such Guaranteed Savings Shortfall;

10.3.2 Centrica shall pay the Authority the full amount within thirty (30) Business Days of receipt of the invoice;

10.3.3 the Guaranteed Savings Shortfall in any Contract Year shall not exceed £175,000 (Index Linked) for phase 1 and £16,419 (Index Linked) for phase 2, being the "Energy Savings Cap"; and

10.3.4 without prejudice to the rights of the Authority pursuant to Clauses 7.4 (*Defects Liability*) and/or 21.1 (*Authority's Right to terminate Centrica*) and Clause 23 (*Consequences of Termination*), the Authority's rights set out in this Clause 10.3 shall be the Authority's sole remedy for any breach of Clause 10.2 by Centrica and shall be Centrica's sole liability for any Guaranteed Savings Shortfall.

10.4 In the context of Emissions:

10.4.1 Centrica acknowledges that generating a Baseline Emissions Reduction is a fundamental reason for the Authority entering into this Agreement with Centrica and that the installation and operation of the Technologies shall result in a reduction in Baseline Emissions.

10.4.2 The Parties acknowledge and agree that:

(a) the financial consequences of any failure of the Technologies to generate Emission Reductions are taken into account in Clause 10.2 and Centrica's liability to the Authority in respect of achieving the Energy Savings Guarantee;

(b) Centrica shall have no additional financial liability to the Authority under the terms of this Agreement for Emission Reductions, other than as set out in Clause 10.2; and

(c) the Authority's sole and exclusive remedy in respect of the financial consequences of any failure to generate the Emission Reductions shall be the rights provided for in this Agreement in relation to any breach of Clause 10.2 by Centrica.

10.4.3 The Energy Savings Guarantee associated with the Technologies in the Phase 1 Works will take effect from the Phase 1 Guarantee Commencement Date and the Energy Savings Guarantee associated with the Technologies in the Phase 2 Works will take effect from the Phase 2 Guarantee Commencement Date, where necessary resulting in a staggered approach to the Energy Savings Guarantee reflected in the Savings Audit Report for that Contract Year.

11. DETERMINATION OF GUARANTEE DEFICIT AND SURPLUS

11.1 Within twenty (20) Business Days of the expiry of each Contract Year, Centrica shall issue to the Authority a savings audit report ("**Savings Audit Report**") prepared in accordance with Part A of Schedule 5 (*Energy Savings Guarantee & Measurement & Verification*) setting out its determination (acting always in good faith) of:

- 11.1.1 any Savings Audit Adjustments in respect of that Contract Year;
 - 11.1.2 the Energy Saving achieved in that Contract Year;
 - 11.1.3 the Baseline Emissions Reduction achieved in that Contract Year;
 - 11.1.4 any Energy Savings Shortfall in respect of that Contract Year;
 - 11.1.5 in respect of any Excess Energy Savings:
 - (a) the balance of the Notional Account at the start of the relevant Contract Year; and
 - (b) any Excess Energy Savings arising in that Contract Year that may be credited to the Notional Account in accordance with Clause 11.2,
 - 11.1.6 in respect of any Energy Savings Shortfall:
 - (a) where applicable, the amount of any balance standing to the credit of the Notional Account which Centrica intends to offset against the Energy Savings Shortfall pursuant to Clause 11.2.2 (*Offset Amount*); and
 - (b) any net Energy Savings Shortfall arising in that Contract Year after deduction of any Offset Amount ("**Guaranteed Savings Shortfall**").
- 11.2 The Parties agree that the following shall apply in respect of any Excess Energy Savings:
- 11.2.1 any Excess Energy Savings arising in any Contract Year shall be credited to the Notional Account;
 - 11.2.2 Centrica shall be entitled to offset the balance standing to the credit of the Notional Account (or any part thereof) against any Energy Savings Shortfall; and
 - 11.2.3 the Notional Account shall not have a balance in excess of £25,000 (Index Linked) at any point during the Term.
- 11.3 The Authority shall submit any data as specified in the M&V Plan to carry out its determination in accordance with Clause 11.1 to Centrica in such format as Centrica reasonably requires within ten (10) Business Days of Centrica's written request for such data. In the event that the Authority does not submit such data within ten (10) Business Days, the time limit referred to in Clause 11.1 above shall be extended to reflect each full day's delay in submission of the requested data under this Clause 11.3.
- 11.4 In providing the data referred to in Clause 11.3, the Authority warrants and represents that such data has not been processed, manipulated or modified in any way such that it is misleading prior to Centrica receiving such data.
- 11.5 In the event that the Authority does not agree with any determination made by Centrica pursuant to Clause 11.1, the Authority shall be entitled to initiate the Dispute Resolution Procedure.
- 11.6 In the event that Centrica fails to determine and notify the information required in accordance with Clause 11.1, the Authority shall notify Centrica requesting such determination and notification within ten (10) Business Days, and if Centrica fails to provide such information within such ten (10) Business Days the Authority shall provide its reasonable estimate of the same. The Authority's estimate shall be used for the purposes of determining any payment due from Centrica pursuant to Clause 10.3, provided that such payment may be subject to subsequent adjustment in respect of any over or underpayment following provision of relevant data by Centrica pursuant to Clause 11.1 and its written acceptance by the Authority or determination through the Dispute Resolution Procedure.

12. **NEW TECHNOLOGIES**

- 12.1 It is the Parties' intention that in its performance of this Agreement, Centrica shall take advantage of any New Technologies which come onto the market after the Commencement Date and throughout the Term in order to ensure that the Authority continues to achieve the greatest levels of Energy Saving and Baseline Emissions Reduction possible.
- 12.2 Throughout the Term, Centrica shall at reasonable intervals as determined by the Authority and notified to Centrica, review the Technologies and produce and submit to the Authority a report identifying any New Technologies. Such report shall be submitted in sufficient detail so that the Authority is able to properly review and evaluate the benefits of the New Technologies identified.
- 12.3 If the Authority wishes to incorporate any New Technologies identified by Centrica pursuant to Clause 12.2, the Authority shall send Centrica a Notice of Change and the Parties shall discuss the implementation of the associated Change in accordance with the Change Control Procedure.
- 12.4 In the event that Centrica wishes to introduce New Technologies other than pursuant to the procedure set out in Clauses 12.2 and 12.3 above, Centrica shall only be entitled to do so with the written consent of the Authority.

13. **RISK AND TITLE**

- 13.1 Subject to Clause 13.2, the risk of any loss or damage to or caused by each Technology or any part thereof shall pass to the Authority upon issue of (i) the Completion Certificate, in the case of the Centrica Serviced Technologies; and (ii) the Taking Over Certificate, in the case of the Authority Serviced Technologies.
- 13.2 In the case of the Authority Serviced Technologies, the Authority shall be responsible for the operation and maintenance of the Authority Serviced Technologies with effect from the date of Taking Over of the relevant Authority Serviced Technology and Centrica shall:
- 13.2.1 use reasonable endeavours to procure that the benefit of all manufacturers' and/or suppliers' warranties and/or guarantees in respect of such Authority Serviced Technology shall be assigned or otherwise transferred to the Authority with full title guarantee; and
- 13.2.2 until the date of such transfer or assignment has effect or where the benefit of such warranties and/or guarantees are not assigned or transferred to the Authority as contemplated by Clause 13.2.1, Centrica shall, upon request by the Authority in writing, make and use reasonable endeavours to pursue a claim under such warranties and/or guarantees on behalf of the Authority where and to the extent the Authority would have been entitled to bring such a claim under the terms of such warranties and/or guarantees, had their benefit been assigned or otherwise transferred to it.
- 13.3 Title to each Technology shall vest in the Authority:
- 13.3.1 upon receipt of full payment by Centrica in relation to that Technology; or
- 13.3.2 where Clause 16 applies, upon full repayment by the Authority of the Centrica Arranged Funding Charges.

14. **PAYMENT**

- 14.1 14.1.1 Centrica shall be entitled to be paid for the Phase 1 Works and Phase 2 Works in accordance with Schedule 6 (*Payment*).
- 14.1.2 Subject always to Clause 14.2, In respect of Phase 1 Works Centrica shall not be entitled to receive any Phase 1 Service Payment until the Phase 1 Service Commencement Date and in respect of Phase 2 Works Centrica shall not be entitled to receive any Phase 2 Service Payment until the Phase 2 Service Commencement Date. Subject to the provisions of this Agreement, the Authority shall pay Centrica the Phase 1 Service Payment following

the Phase 1 Guarantee Commencement Date and the Authority shall pay Centrica the Phase 2 Service Payment following Phase 2 Guarantee Commencement Date in accordance with the provisions of Schedule 6 (*Payment*).

- 14.2 If any Interim Service Payments are agreed between the Authority and Centrica pursuant to Clause 9.2.2, the Authority shall, in addition to the Service Payments, be liable to pay Centrica such Interim Service Payments.
- 14.3 All payments under this Agreement shall be made in pounds sterling by electronic transfer of funds for value on the day in question to the bank account of the recipient (located in the United Kingdom) specified in the relevant invoice, quoting the invoice number against which payment is made.
- 14.4 Each Party shall be entitled, without prejudice to any other right or remedy, to receive interest on any payment not duly made pursuant to the terms of this Agreement on the due date calculated from day to day at a rate per annum equal to the Default Interest Rate from the day after the date on which payment was due up to and including the date of payment.
- 14.5 Whenever any sum of money shall be agreed, or determined, as due and payable by Centrica to the Authority, such sum may at the Authority's discretion be deducted from or applied to reduce the amount of any sum then due, or which at any time afterwards may become due, to Centrica from the Authority under this Agreement provided that the Authority has given Centrica not less than ten (10) Business Days' notice of its intention to deduct or apply such sum.
- 14.6 Whenever any sum of money shall be agreed, or determined, as due and payable by the Authority to Centrica, such sum may at Centrica's discretion be deducted from or applied to reduce the amount of any sum then due, or which at any time afterwards may become due, from Centrica to the Authority under this Agreement provided that Centrica has given the Authority not less than ten (10) Business Days' notice of its intention to deduct or apply such sum.
15. **VAT**
- 15.1 All amounts due under this Agreement are exclusive of VAT.
- 15.2 If any supply made or referred to in this Agreement is or becomes chargeable to VAT then the Party receiving the supply (the "**Recipient**") shall in addition pay the Party making the supply (the "**Supplier**") the amount of that VAT against receipt by the Recipient from the Supplier of a proper VAT invoice in respect of that supply.
- 15.3 Where under this Agreement any amount is calculated by reference to any sum which has or may be incurred by any person, the amount shall include any VAT in respect of that amount only to the extent that such VAT is not recoverable as input tax by that person (or a member of the same VAT group), whether by set off or repayment.
- 15.4 The Supplier shall provide the Recipient with any information reasonably requested by the Recipient in relation to the amount of VAT chargeable in accordance with this Agreement and payable by the Recipient to the Supplier.
16. **NOT USED**
17. **VARIATION**
- 17.1 Unless the Parties agree otherwise in writing, any variation to any provision of this Agreement may only take place in accordance with the provisions of Schedule 1 (*Change Control Procedure*).
- 17.2 Without prejudice to Clause 17.1, no Change shall be valid unless made in writing expressly purporting to amend the Agreement and executed on behalf of both Parties by the Authority Representative and Centrica Representative respectively.
- 17.3 Both Parties shall maintain a complete and accurate master copy of this Agreement during the Term containing all amendments thereto.

18. **SUBCONTRACTORS**

18.1 Centrica shall be entitled to subcontract its obligations under this Agreement in accordance with this Clause 18.

18.2 Centrica shall be entitled to subcontract the whole of the Works or the Services provided that:

18.2.1 Centrica shall provide a list of Subcontractors that Centrica proposes to appoint in relation to the Works and/or Services (together with the works or services packages relating to each Subcontractor) to the Authority for information purposes only not less than ten (10) Business Days before it proposes to enter into such appointment. In deciding whether to appoint a Subcontractor in relation to the Works and/or Services, Centrica shall take into account any preference of the Authority (acting reasonably and in good faith) that such Subcontractor should not be appointed by Centrica on the basis of the previous poor performance by such Subcontractor in providing of works and/or services to the Authority (or the Authority's contractor) similar to the Works and/or Services which Centrica proposes to subcontract to such Subcontractor; and

18.2.2 Centrica shall ensure that all Staff and Subcontractors which carry out any of the Works or Services hereunder shall have a level of qualifications, training and experience which is commensurate with their role in providing the relevant Works or Services.

18.3 The terms of any Subcontract must be on standard market terms and must not contain any provisions for the grant of relief or compensation, including compensation on termination, which are unduly favourable to the Subcontractor.

18.4 Notwithstanding any other provision of this Agreement, Centrica shall be responsible for all acts and defaults of its Staff and Subcontractors as if they were the acts and defaults of Centrica.

19. **CHANGE IN LAW**

19.1 Centrica shall take all steps necessary to ensure that its obligations under this Agreement are performed in accordance with the terms of this Agreement following any Change in Law.

19.2 On the occurrence of any Relevant Change in Law, the Parties shall be entitled to seek adjustments to the Service Payments to compensate for any increase or decrease (as the case may be) in the net cost to Centrica of performing its obligations under this Agreement. Such adjustments (if any) will be calculated in accordance with (and subject to) Clauses 19.5 to 19.7 (inclusive).

19.3 "**Relevant Change in Law**" means any of the following:

19.3.1 the occurrence of any Discriminatory Change in Law either having an impact on the cost of performance of Centrica's obligations under this Agreement or in the case of limb (d) of the definition of Discriminatory Change in Law only having an impact on the ability of Centrica to operate and / or run the Technologies;

19.3.2 the occurrence of any Specific Change in Law having an impact on the cost of performance of Centrica's obligations under this Agreement;

provided that:

19.3.3 in the case of a Change in Law referred to in Clauses 19.3.1 and 19.3.2 above:

(a) the impact of such Relevant Change in Law (either singly or in aggregate with any other such Relevant Change in Law in any Contract Year) on the cost of performance of Centrica's obligations exceeds £1000 (Index Linked). To avoid doubt, any amount £1000 (Index Linked) or lower shall always be borne by Centrica; and / or

- (b) where such Change in Law falls within limb (d) of the definition of Discriminatory Change in Law, the impact of such Relevant Change in Law limits, restricts or prevents the operation or running of any of the Technologies provided that where this applies in circumstances where there is a financial impact only to Centrica of such limitation, restriction or prevention, the financial impact exceeds £1000 (Index Linked); and
- 19.3.4 such Change in Law was not reasonably foreseeable at the date of this Agreement by an experienced contractor performing obligations similar to Centrica's obligations under this Agreement.
- 19.4 On the occurrence of a Relevant Change in Law:
 - 19.4.1 either Party may give notice to the other of the occurrence of the Relevant Change in Law;
 - 19.4.2 the Parties shall meet within twenty (20) Business Days of the notice referred to in Clause 19.4.1 to consult and seek to agree the effect of the Relevant Change in Law. If the Parties, within twenty (20) Business Days of this meeting, have not agreed the occurrence or the effect of the Relevant Change in Law, either Party may refer the question of whether a Relevant Change in Law has occurred or the effect of any Relevant Change in Law for resolution in accordance with the Dispute Resolution Procedure; and
 - 19.4.3 within twenty (20) Business Days of the agreement or determination referred to in Clause 19.4.2 above, the Authority shall issue an Authority Notice of Change and the relevant provisions of Schedule 1 (*Change Control Procedure*) shall apply except that:
 - (a) Centrica may give notice to the Authority that it objects to such an Authority Notice of Change only on the grounds that the implementation of the Change would not give effect to or comply with the Relevant Change in Law;
 - (b) the Authority shall issue confirmation of the Change Response in respect of the Change in accordance with the relevant provisions of Schedule 1, (*Change Control Procedure*); and
 - (c) the Authority shall not be entitled to withdraw any Authority Notice of Change issued in accordance with this Clause.
- 19.5 Centrica shall, without prejudice to its general obligation to comply with the terms of this Agreement:
 - 19.5.1 use all reasonable endeavours to mitigate any adverse effects of any Relevant Change in Law and take all reasonable steps to minimise any increase in costs arising from such Relevant Change in Law; and
 - 19.5.2 use all reasonable endeavours to take advantage of any positive or beneficial effects of any Relevant Change of Law and take all reasonable steps to maximise any reduction in costs arising from such Relevant Change in Law.
- 19.6 Any compensation payable, or reduction to the Service Payments, shall be calculated in accordance with Clause 19.6 or Clause 19.7 (as appropriate) provided that:
 - (a) the amount of any compensation payable; or
 - (b) the amount by which the Service Payment is to be reduced,

shall not take into account any amounts incurred or to be incurred as a result of Centrica's failure to comply with any term of this Agreement.
- 19.7 In relation to a Relevant Change in Law any compensation payable, or reduction to the Service Payments, pursuant to this Clause shall be calculated on the basis that Centrica shall be placed in no better or worse position than it would have been in had the Relevant Change in Law not occurred.

- 19.8 Centrica shall not be entitled to any other payment or compensation or, save as expressly provided otherwise in this Agreement, relief in respect of such Relevant Change in Law or associated Change (or the consequences of either).
- 19.9 Either Party may give notice to the other of the need for a Change, which is necessary in order to enable Centrica to comply with any Change in Law which is not a Relevant Change in Law, in which event:
- 19.9.1 the Parties shall meet within twenty (20) Business Days to consult in respect of the effect of the Change in Law and any Change required as a consequence; and
- 19.9.2 within twenty (20) Business Days of the meeting referred to in Clause 19.9.1 above the Authority shall, if a Change is required in order to comply with the Change in Law, issue an Authority Notice of Change and the relevant provisions of Schedule 1 (*Change Control Procedure*) shall apply, except that:
- (a) Centrica may give notice to the Authority that it objects to such an Authority Notice of Change only on the grounds that the implementation of the Change would not implement the Change in Law;
 - (b) the Authority shall issue a confirmation of the Change Response in respect of the Change in accordance with the relevant provisions of Schedule 1 (*Change Control Procedure*);
 - (c) the Authority shall not be entitled to withdraw any Authority Notice of Change or confirmation of a Change Response issued in accordance with this Clause; and
 - (d) Centrica shall not be entitled to any payment or other compensation or relief from any performance of its obligations under this Agreement in respect of such Change in Law or associated Change (or the consequences of either).

20. INTELLECTUAL PROPERTY

- 20.1 Title and ownership to all Background IP will at all times remain vested in the respective party owning or being licensed to use such Background IP (the "**Owning Party**") and, subject to Clause 20.3, the other party shall not acquire any ownership, right, title or interest in such Background IP and may not use such Background IP without the permission of the Owning Party.
- 20.2 Title and ownership to all Foreground IP shall vest in and shall at all times remain vested in Centrica. Centrica grants (or, if such a grant cannot legally take place until a later date, agrees to grant) to the Authority, with effect from the Commencement Date or, in the case of any Foreground IP not yet in existence, with effect from the date of creation of such Foreground IP, an irrevocable, royalty-free, non-exclusive licence to use the Foreground IP for any purpose connected with the Works or the Services.
- 20.3 The Authority grants to Centrica, with effect from the Commencement Date, an irrevocable, royalty-free, non-exclusive licence to use the Background IP for any purpose connected with the provision of the Works or the Services. The Authority warrants that it owns all necessary rights to grant such licence and that use of its Background IP pursuant to such licences does not infringe the intellectual property rights of any third party. Should any claim, proceedings, demands or action be commenced against Centrica by a third party, arising in any way from the usage of the Authority's Background IP, the Authority shall indemnify Centrica for all fines, costs, expenses, losses, damages or liability suffered or incurred by Centrica as a result of such claim, proceedings, demands or action.
- 20.4 Centrica shall not be liable for any use the Authority may make of the Foreground IP for any purpose, other than that for which it was prepared.

21. **TERMINATION**

- 21.1 The Authority may terminate this Agreement by serving written notice on Centrica with immediate effect if:
- 21.1.1 Centrica materially breaches any provision of this Agreement and, if capable of remedy, Centrica has not remedied such breach to the satisfaction of the Authority within 50 (fifty) days, or such longer period as may be specified by the Authority, after issue of a written notice specifying such breach and requesting it to be remedied. From time to time during the foregoing fifty (50) day period, Centrica shall provide the Authority with updates as to Centrica's progress in remedying any such breach; or
 - 21.1.2 Centrica becomes Insolvent;
- 21.2 Centrica may terminate this Agreement by serving written notice on the Authority with immediate effect if:
- 21.2.1 the Authority materially breaches any provision of this Agreement and, if capable of remedy, the Authority has not remedied such breach to the satisfaction of Centrica within fifty (50) days, or such longer period as may be specified by Centrica, after issue of a written notice specifying such breach and requesting it to be remedied;
 - 21.2.2 the Authority fails to make any payment of any sum due to Centrica under this Agreement within thirty (30) days of the final date for payment of such sum and remains in default for a further period of ten (10) Business Days following receipt of written notice referring expressly to this Clause 21.2.2 and demanding payment of such sum and such amount in aggregate with any other amounts which have not been paid by the Authority by the final date for payment of the relevant amount and remain unpaid at the date of such notice exceeds fifty thousand pounds (£50,000) pounds (Index Linked); or
 - 21.2.3 the Client becomes Insolvent.
- 21.3 Either Party may terminate this Agreement if an event of Force Majeure continues for a continuous period of not less than 120 days.

22. **CONSEQUENCES OF TERMINATION/EXPIRY**

- 22.1 The termination or expiry of this Agreement shall have the following consequences:
- 22.1.1 compensation shall be payable by one Party to the other in accordance with Clause 23;
 - 22.1.2 Centrica shall as soon as reasonably practicable remove from the Site all property belonging to Centrica and all waste created by Centrica and vacate the Site and leave it in a safe, clean and orderly condition, making good any damage caused by it; and
 - 22.1.3 Centrica shall provide such co-operation as is reasonably requested by the Authority to facilitate a hand-over to a replacement service provider provided always that the reasonable costs Centrica incurs in doing so shall be considered to be part of Centrica's costs pursuant to Clause 23.2.4 where this Agreement is terminated pursuant to Clause 21.2 or Clause 21.3 and as such shall be payable by the Authority to Centrica as part of the Centrica Termination Sum.
- 22.2 Termination or expiry of this Agreement shall be without prejudice to any rights, remedies or obligations of either party accrued under this Agreement prior to termination or expiry.
- 22.3 The provisions of Clauses 1, 10.3.3, 14, 15, 22, 23, 24, 27, 28, 32, 33, and 36 shall survive the termination or expiry of this Agreement, together with any other provision which is either expressed to or by implication is intended to survive termination.

23. **COMPENSATION ON TERMINATION**

23.1 If this Agreement is terminated prior to the expiry of the Term, the Authority shall pay to Centrica the relevant Centrica Termination Sum within thirty (30) Business Days of receipt of Centrica's invoice for such Centrica Termination Sum. For the avoidance of doubt, no Centrica Termination Sum shall be payable by the Authority on expiry of this Agreement provided that any amounts properly due from one Party to the other on the date of expiry but not yet paid shall continue to be payable.

23.2 Where the Authority terminates this Agreement under Clause 21.1, the Centrica Termination Sum shall be an amount equal to the aggregate of:

23.2.1 any costs reasonably incurred by Centrica in connection with this Agreement including any costs reasonably incurred by Centrica under any of its Subcontracts and all expenditure reasonably committed together with reasonable supporting evidence by Centrica under any of its Subcontracts provided that such costs shall be limited to those costs relating to orders placed for goods or materials needed to be committed to in advance in order to provide the Works or the Services and provided further that on payment in full for such goods or materials Centrica shall deliver or cause to be delivered such goods or materials to the Authority and title to such goods and materials shall pass to the Authority on payment;

23.2.2 all amounts properly due in respect of Works which have been properly carried out and not paid for at the date of termination in accordance with Schedule 3 (*Works*) and Schedule 6 (*Payment*);

23.2.3 all Service Payments due in respect of Services which have been properly carried out and not paid for at the date of termination in accordance with Schedule 3 (*Works*) and Schedule 6 (*Payment*); and

23.2.4 any other sums due to Centrica, but not paid at the date of termination,

less the Authority Termination Sum, provided that if the Authority Termination Sum exceeds the Centrica Termination Sum the difference (subject always to Clause 24 (*Liability and Indemnities*)) shall be paid by Centrica to the Authority.

23.3 Where Centrica terminates this Agreement under Clause 21.2 or either Party terminates this Agreement under Clause 21.3, the Centrica Termination Sum shall be an amount equal to the aggregate of:

23.3.1 any costs reasonably incurred with reasonable supporting evidence by Centrica in connection with this Agreement including any costs reasonably incurred by with reasonable supporting evidence Centrica under any of its Subcontracts and all expenditure reasonably committed to by Centrica under any of its Subcontracts;

23.3.2 the aggregate of the amounts set out in Clause 23.2.2, 23.2.3, and 23.2.4;

23.3.3 any reasonable demobilisation costs incurred subject to Centrica providing supporting evidence as may reasonably be required by the Authority,

less the aggregate of the amounts set out in Clause 23.4.1, 23.4.2, 23.4.3 and 23.4.5 provided that the costs recoverable in respect of 23.4.5 shall be limited to an amount equal to the amount of cost that Centrica would have incurred had Centrica remedied the relevant Defect(s) itself.

23.4 The Authority Termination Sum shall be an amount equal to the aggregate of:

23.4.1 if any Guaranteed Savings Shortfall is payable to the Authority following the agreement or determination of the Savings Audit Report for a previous Contract Year and such amount has not been paid at the date of termination, the amount of such Guaranteed Savings Shortfall which has not been paid at the date of termination;

- 23.4.2 any amounts paid to Centrica in advance by way of Interim Service Payments or Service Payments, on a pro-rata basis;
- 23.4.3 any other sums due to the Authority but not paid at the date of termination;
- 23.4.4 if as at the date of termination the Works for any Section are incomplete, the costs incurred by the Authority in completing the Works for that Section to the extent that such costs exceed the amount that the Authority would have paid Centrica in respect of such Works; and
- 23.4.5 to the extent that there are any unremedied Defects in the Works, the reasonable costs incurred by the Authority in procuring a third party to remedy such Defects.

24. LIABILITY AND INDEMNITIES

24.1 The aggregate liability of Centrica in respect of all Direct Losses suffered or incurred by the Authority arising under or in connection with this Agreement whether such losses arise in contract, tort (including negligence), breach of statutory duty, or otherwise, shall not in any circumstances exceed:

24.1.1 in respect of any liabilities covered by the Centrica Insurances, the amount recovered by Centrica under such Centrica Insurances in respect of such Direct Losses provided always that Centrica's liability shall be capped at an amount equal to the minimum required amount of such insurance policy as set out in Schedule 12 (*Insurance*);

24.1.2 subject to Clause 24.2 in respect of any liabilities:

- (a) not covered by the Centrica Insurances; or
- (b) which would have been covered by the Centrica Insurances but in respect of which Centrica was unable to recover under the Centrica Insurances due to a failure or refusal of the insurer to pay the relevant claim,

an amount equal to £1M.

24.2 Subject to Clause 24.1, Centrica shall indemnify and keep indemnified the Authority in full from and against all Direct Losses incurred or paid by the Authority arising out of, in respect of or in connection with any death or personal injury or loss of or damage to property (excluding the Technologies).

24.3 The aggregate total liability of the Authority in respect of all Direct Losses arising under or in connection with this Agreement, whether such losses arise in contract, tort (including negligence), breach of statutory duty, or otherwise, shall not in any circumstances exceed:

24.3.1 in respect of any liabilities covered by the Authority's Insurances, the amount recovered by the Authority under the Authority Insurances in respect of such Direct Losses provided always that the Authority's liability shall be capped at an amount equal to the minimum required amount of such insurance policy as set out in Schedule 12 (*Insurance*); and

24.3.2 in respect of any liabilities:

- (a) not covered by the Authority Insurances; or
- (b) which would have been covered by the Authority Insurances but in respect of which the Authority was unable to recover under the Authority Insurances due to a failure or refusal of the insurer to pay the relevant claim,

until the Phase 1 Works Completion Date or Phase 2 Works Completion Date as the case may be and in respect of any claims or proceedings notified to or commenced against the Authority prior to the Phase 1 Works Completion Date or the Phase 2 Works Completion Date as the case may be, an amount equal to £1M and after such date and/or in respect

of claims or proceedings notified to the Authority after such date an amount equal to £1M (Index Linked); and

provided that nothing in this Clause 24.3 shall limit the liability of the Authority in respect of its obligations to Centrica for any Milestone Payments, Interim Services Payments, Services Payments and/or any Corrective Maintenance Service Fees in accordance with the terms of this Agreement.

24.4 Notwithstanding any other provision of this Agreement, neither Party limits or excludes its liability for:

24.4.1 fraud or fraudulent misrepresentation

24.4.2 death or personal injury caused by its negligence or wilful misconduct;

24.4.3 breach of any obligation as to title implied by statute; or

24.4.4 any other act or omission, liability for which may not be limited under any applicable law.

24.5 Subject to Clause 24.6, the indemnities under this Agreement shall not apply and there shall be no right to claim damages for breach of this Agreement, in tort or on any other basis whatsoever, to the extent that any loss claimed by either Party is for loss of profits, loss of use, loss of production, loss of business, loss of goodwill or loss of business opportunity or is a claim for consequential loss or for any indirect loss of any nature ("**Indirect Losses**") suffered or allegedly suffered by either Party.

24.6 The Parties acknowledge that the following are not Indirect Losses:

24.6.1 any compensation payments payable on termination of this Agreement in accordance with Clause 23 (*Compensation on Termination*);

24.6.2 the Service Payments and any Interim Service Payments; or

24.6.3 payments to the Authority in respect of any Guaranteed Saving Shortfall,

and any compensation as a result of a Compensation Event and any Direct Losses of Centrica arising under any Subcontract which are not of themselves Indirect Losses, shall not be excluded from such a claim solely by reason of Clause 24.5.

24.7 Where:

24.7.1 a Subcontractor is entitled to claim any compensation and/or relief from Centrica under a Subcontract; and

24.7.2 Centrica subsequently makes a claim against the Authority under this Agreement in relation to such compensation and/or relief,

the Authority waives any right to defend Centrica's claim on the ground that Centrica is only required to pay compensation or grant relief to the Subcontractor under the Subcontracts to the extent that the same is recoverable from the Authority.

25. **INSURANCE**

The Parties shall comply with their respective obligations set out in Schedule 12 (*Insurance*).

26. **FORCE MAJEURE**

26.1 For the purposes of this Agreement, "Force Majeure" means any of the following events or circumstances:

26.1.1 war, civil war, armed conflict or terrorism, riot or civil commotion;

- 26.1.2 nuclear contamination of the Site;
- 26.1.3 chemical or biological contamination of the Site;
- 26.1.4 fire, explosion, lightning, storm, tempest, flood or earthquakes;
- 26.1.5 epidemic or pandemic (whether or not declared as such by the World Health Organisation or other public health authority) (excluding COVID-19);
- 26.1.6 bursting or overflowing of water tanks, apparatus or pipes;
- 26.1.7 pressure waves caused by devices travelling at supersonic speeds;
- 26.1.8 blockade, embargo, official or unofficial strike, lockout, go slow or other dispute in each case generally affecting the construction, building maintenance or facilities management industry or healthcare sector (or a significant sector of that industry or sector); or
- 26.1.9 disruption in the importing of goods and / or materials required for the Works or the Services;

which:

- (a) are beyond a Party's control;
- (b) such Party could not reasonably have provided against before entering into the Agreement;
- (c) having arisen, such Party could not reasonably have avoided or overcome; and
- (d) are not substantially attributable to the other Party.

26.2 Subject to Clauses 26.3 and 26.4, the Party claiming relief shall be relieved from liability under this Agreement to the extent that by reason of an event of Force Majeure it is not able to perform its obligations under this Agreement.

26.3 Where a Party is (or claims to be) affected by an event of Force Majeure:

26.3.1 it shall take all reasonable steps to mitigate the consequences of such an event upon the performance of its obligations under this Agreement, resume performance of its obligations affected by the event of Force Majeure as soon as practicable and use all reasonable endeavours to remedy its failure to perform; and

26.3.2 it shall not be relieved from liability under this Agreement to the extent that it is not able to perform, or has not in fact performed, its obligations under this Agreement due to its failure (if any) to comply with its obligations under Clause 26.3.1.

26.4 The Party claiming relief shall serve written notice on the other party as soon as reasonably practicable following it becoming aware of the relevant event of Force Majeure, such notice to contain such relevant information relating to the failure to perform (or delay in performing) as is available, including the effect of the event of Force Majeure on the ability of the party to perform, the action being taken in accordance with Clause 26.3, the date of the occurrence of the event of Force Majeure and an estimate of the period of time required to overcome it (and/or its effects).

26.5 The Party claiming relief shall notify the other as soon as the consequences of the event of Force Majeure have ceased and of when performance of its affected obligations can be resumed.

26.6 If, following the issue of any notice referred to in Clause 26.4, the Party claiming relief receives or becomes aware of any further information relating to the event of Force Majeure (and/or any failure to perform), it shall submit such further information to the other party as soon as reasonably possible.

26.7 The Authority shall not be obliged to pay Centrica for any Services or Works not performed due to an event of Force Majeure but otherwise an event of Force Majeure shall not relieve the Authority of its obligation to make any payment under this Agreement.

27. EMPLOYMENT REGULATIONS

27.1 The Parties agree that the Employment Regulations will not apply to this Agreement. Accordingly, it is acknowledged and agreed that no persons employed or engaged by the Authority or Former Contractor in the provision of any works and/or services equivalent to those envisaged to be carried out pursuant to this Agreement will transfer from the Authority or Former Contractor to Centrica on the Commencement Date.

27.2 The Employment Regulations will not apply to the termination of this Agreement. Accordingly, it is acknowledged and agreed that no persons employed or engaged by Centrica in the provision of any Works and/or Services pursuant to this Agreement will transfer from the Centrica to the Authority or any Successor Contractor on the termination of this Agreement.

27.3 The Authority shall indemnify Centrica in respect of all and any liabilities, costs, claims, demands, fines, expenses, reasonable legal costs or compensation incurred (if any) by Centrica or any Successor Contractor in connection with any and all claims brought by or on behalf of any personnel as a result of the termination of this Agreement including:

27.3.1 any protective awards, redundancy payments (whether statutory or contractual or otherwise), notice payments, liability for unfair, wrongful, or constructive dismissal, any act of unlawful discrimination, any claim for equal pay, or any other claim in respect of which an employment tribunal has jurisdiction to determine liability and make an award; and

27.3.2 any claims for personal injury arising out of his/her employment.

27.4 The Authority shall indemnify Centrica in respect of all and any liabilities, costs, claims, demands, fines, expenses, reasonable legal costs or compensation incurred (if any) by Centrica in connection with any and all claims brought by or on behalf of any personnel as a result of the commencement of this Agreement including:

27.4.1 any protective awards, redundancy payments (whether statutory or contractual or otherwise), notice payments, liability for unfair, wrongful, or constructive dismissal, any act of unlawful discrimination, any claim for equal pay, or any other claim in respect of which an employment tribunal has jurisdiction to determine liability and make an award;

27.4.2 any claims for personal injury arising out of his/her employment; and

27.4.3 any claims by any trade union or staff association or employee representative arising from or connected with any failure to comply with any legal obligation to such trade union, staff association or other employee representative whether under Regulations 13 and 14 of the Employment Regulations or any award of compensation under Regulation 15 of the Employment Regulations or otherwise.

28. CONFIDENTIALITY AND DATA PROTECTION

28.1 Except where disclosure is expressly permitted elsewhere in this Agreement, each Party shall:

28.1.1 treat the other Party's Confidential Information as confidential and safeguard it accordingly; and

28.1.2 not make or publish any statement relating to, or disclose, the other Party's Confidential Information to any other person without the other Party's prior written consent (other than those of its Staff involved in the performance of this Agreement and who have a need to know the same and are bound to keep it confidential); and

- 28.1.3 use the Confidential Information of the other Party solely in connection with the performance of this Agreement and not otherwise or for the benefit of any third party.
- 28.2 Clause 28.1 shall not apply to the extent that:
- 28.2.1 such disclosure is a requirement of Law placed upon the Party making the disclosure, including any requirements for disclosure under the FOIA or the EIR;
- 28.2.2 such disclosure is a requirement of the rules of any stock exchange or governmental or regulatory authority having the force of Law or, if not having the force of Law, compliance with which is in accordance with the general practice of persons subject to the stock exchange or governmental or regulatory authority concerned;
- 28.2.3 such information was in the possession of the Party making the disclosure without obligation of confidentiality prior to its disclosure by the information owner;
- 28.2.4 such information was lawfully obtained from a third party without obligation of confidentiality;
- 28.2.5 such information was already in the public domain at the time of disclosure otherwise than by a breach of this Agreement; or
- 28.2.6 such information is independently developed without access to the other Party's Confidential Information.
- 28.3 In relation to any publicity regarding this Agreement or the relationship between Centrica and the Authority, including television broadcasts, websites, newspapers, press conferences, press releases and marketing materials, the Party seeking to engage in such publicity shall obtain the prior consent of the other Party to such publicity.
- 28.4 The Authority shall be entitled to publicise this Agreement in accordance with any legal obligation upon the Authority.
- 28.5 For the purpose of this Clause 28, "Data Controller", "Data Processor", "Process", "Processed", "Processing", "Data Processor" and "Sensitive Personal Data" shall have the meanings given to them in the Data Protection Legislation.
- 28.6 The Parties each acknowledge and agree that they may need to Process Personal Data (in their respective capacities as Data Controllers) in order to (as appropriate): (a) administer and provide the Works and/or Services ; (b) request and receive the Works and/or Services ; (c) compile, dispatch and manage the payment of invoices under this Agreement; (e) manage this Agreement and resolve any disputes relating to it; (f) respond and/or raise general queries relating to the Works and/or Services; and (g) comply with their respective regulatory obligations and other obligations and duties under this Agreement.
- 28.7 Each Party shall Process Personal Data for the purposes set out in Clause 28.6 in accordance with their respective privacy policies. The Parties acknowledge that they may be required to share Personal Data with any Group Company and other relevant parties, within or outside of the country of origin, in order to carry out the activities listed in Clause 28.6, and in doing so each Party will ensure that the sharing and use of this Personal Data complies with applicable Data Protection Legislation.
29. **FOIA**
- 29.1 Centrica acknowledges that the Authority is subject to the requirements of the FOIA and the EIR and shall facilitate the Authority's compliance with its information disclosure requirements pursuant to the same and as provided for in this Clause 29.

- 29.2 Where the Authority receives a request for information in relation to information that Centrica via the Authority or otherwise is holding on the Authority's behalf and which the Authority does not hold itself, the Authority may refer such request for information to Centrica in which case Centrica shall:
- 29.2.1 provide the Authority with a copy of all such information (to the extent only that such information is held or required to be held by Centrica in order to fulfil any obligation under this Agreement) in the form that the Authority reasonably requires as soon as practicable and in any event within five (5) Business Days (or such other period as the Authority acting reasonably may specify) of the Authority's request; and
 - 29.2.2 provide all necessary assistance as reasonably requested by the Authority in connection with any such information, to enable the Authority to respond to a request for information within the time for compliance set out in Section 10 of the FOIA or Regulation 5 of the EIR.
- 29.3 Following notification under Clause 29.2, and up until such time as Centrica has provided the Authority with all the information specified in Clause 29.2, Centrica may make representations to the Authority as to whether or not or on what basis information requested should be disclosed, and whether further information should reasonably be provided in order to identify and locate the information requested, provided always that the Authority shall be responsible for determining at its absolute discretion:
- 29.3.1 whether information is exempt from disclosure under the FOIA and the EIR;
 - 29.3.2 whether information is to be disclosed in response to a request for information; and
- in no event shall Centrica respond directly, or allow any Subcontractor to respond directly, to a request for information unless expressly authorised to do so by the Authority.
- 29.4 Centrica shall transfer to the Authority's Representative any request for information received by it as soon as practicable and in any event within three (3) Business Days of receiving it and shall immediately thereafter notify the Authority of the date on which any such request for information was received by Centrica and the date on which it was transferred to the Authority.
- 29.5 Centrica acknowledges that any lists provided by it listing or outlining confidential information are of indicative value only and that the Authority may nevertheless be obliged to disclose confidential information pursuant to its obligations under the FOIA and/or EIR.
- 29.6 In the event of a request from the Authority pursuant to Clause 29.2, Centrica shall as soon as practicable inform the Authority of Centrica's estimated costs of complying with the request to the extent these would be recoverable if incurred by the Authority under Section 9 and/or 13(1) of the FOIA and the Freedom of Information and Data Protection (Appropriate Limits and Fees) Regulations 2004. The Authority shall reimburse Centrica for such costs as Centrica incurs in complying with the request to the extent it is itself entitled to reimbursement of such costs as set out in this Clause 29.66.
- 29.7 Centrica acknowledges that the Authority may, acting in accordance with the Department of Constitutional Affairs' Code of Practice on the Discharge of Functions of Public Authorities under Part I of the FOIA (the "**Code**"), be obliged under the FOIA, or the EIR to disclose information concerning Centrica, the Works or the Services:
- 29.7.1 in certain circumstances without consulting with Centrica; or
 - 29.7.2 following consultation with Centrica and having taken its views into account,
- provided always that where Clause 29.7.1 applies, the Authority shall, where reasonably practicable, draw this to the attention of Centrica prior to any disclosure in accordance with the recommendations of the Code.
- 29.8 Where the Authority receives a request for an internal review in response to its decision to withhold Centrica's information, the Authority shall provide Centrica with a reasonable opportunity to participate in that review and have regard to any reasonable comments made by Centrica in

connection with that review. In the event that the Authority decides following that review that the information should be disclosed under FOIA, the Authority shall notify Centrica of that fact a reasonable period before any disclosure of that information is made.

30. ANTI-BRIBERY AND CORRUPTION

30.1 Centrica warrants that:

- 30.1.1 it has not and its current and former directors, officers and employees have not and shall not engage in any Corrupt Activity or any activity, practice or conduct which could or would place the Authority in breach of section 7(1) of the Bribery Act; and
- 30.1.2 it has and shall maintain and implement adequate procedures designed to prevent Centrica, its current and former directors, officers and employees and any Associated Person from undertaking any Corrupt Activity and/or conduct that could give rise to an offence under section 7 of the Bribery Act;
- 30.1.3 it shall include undertakings similar to those contained in this clause in any sub-contract;
- 30.1.4 it shall comply with the Authority's ethics, anti-bribery and anti-corruption policies (set out as part of the Authority Policies); and
- 30.1.5 it shall keep accurate and up-to-date records showing all payments made and received and all other advantages given and received by it in connection with this Agreement and the steps it takes to comply with this clause and permit the Authority to inspect those records as reasonably required.

31. MODERN SLAVERY

31.1 Centrica undertakes to the Authority that:

- 31.1.1 it has not and its current and former directors, officers and employees have not and shall not engage in activity which would amount to a breach of the Modern Slavery Legislation or activity which would constitute an offence under the Modern Slavery Legislation if the conduct took place in the United Kingdom;
- 31.1.2 it has not and its current and former directors, officers and employees have not and shall not engage in any activity, practice or conduct which could or would place the Authority in breach of the Modern Slavery Legislation or activity which would constitute an offence under the Modern Slavery Legislation if the conduct took place in the United Kingdom;
- 31.1.3 it has and shall maintain and implement:
 - (a) procedures to ensure compliance with the Modern Slavery Legislation; and
 - (b) adequate procedures designed to prevent conduct that would give rise to an offence under the Modern Slavery Legislation;
- 31.1.4 it shall include undertakings similar to those contained in this Clause 31 in any contract it may enter into with a Subcontractor; and
- 31.1.5 from time to time, at the reasonable request of the Authority, it will confirm in writing that it has complied with its undertakings under Clause 31.1 and will provide any information reasonably requested by the Authority in support of such compliance.

31.2 Centrica shall maintain adequate records to assist in verifying its compliance with the provisions of this Clause 31 and shall permit the Authority or its third party representative immediately upon request during normal business hours to access and take copies of such records and to meet with Centrica's personnel to audit Centrica's compliance with its obligations under this Clause 31. Centrica shall give all necessary assistance to the conduct of such audits.

- 31.3 Audit access by any third party representative of the Authority in accordance with Clause 31.2 shall be subject to such representative agreeing to be bound by confidentiality obligations equivalent to those in Clause 28 in respect of the information obtained provided that all information obtained may be disclosed to the Authority.
- 31.4 In the event of a breach Clause 31.1, 31.2 or 31.3 by Centrica and/or a breach by any Subcontractor of equivalent clauses required under Clause 31.1.4 and/or if Centrica or a Subcontractor is convicted of an offence under the Modern Slavery Legislation in relation to this Agreement or any other agreement (whether or not the Authority is a party to that agreement), the Parties agree that the Authority may at its sole discretion terminate this Agreement and any other contract between the Parties and such termination shall be deemed to be termination for Centrica's material breach.
- 31.5 Centrica further undertakes to the Authority that:
- 31.5.1 if required by law to do so, it shall, for each and every financial year of Centrica, comply with its obligations under S.54 of the Modern Slavery Act 2015 by publishing a Human Trafficking Statement; and
- 31.5.2 it shall include an undertaking similar to that contained in Clause 31.5.1 in any contract it may enter into with Subcontractors.

In the event of breach of Clause 31.1.5, 31.2 or 31.5, the Parties agree that the Authority may by notice in writing to Centrica require that such breaches will be rectified within five (5) Business Days of receipt. If Centrica fails to rectify such breaches in accordance with the notice, the Authority may in its sole discretion terminate this Agreement and any other contract between the Parties and such termination shall be deemed to be termination for Centrica's material breach.

32. **DISPUTES**

- 32.1 If a dispute arises between the Authority and Centrica in relation to this Agreement (a "**Dispute**") which cannot be resolved in the first instance by the Authority Representative and Centrica Representative, then either Party may refer the Dispute for resolution to the Manager Director of the Authority and the Managing Director, Centrica Business Solutions UK & Ireland of Centrica. Such meeting(s) shall be minuted and shall be conducted in such manner and at such venue (including a meeting conducted over the telephone) as to promote a consensual resolution of the Dispute.
- 32.2 If the Parties have been unable to resolve the Dispute within a period of ten (10) Business Days of referral to senior representatives in accordance with Clause 32.1, then either of them may serve notice on the other requiring the Dispute to be settled by an expert agreed between them ("**Expert**") provided that:
- 32.2.1 if the Parties fail to agree the appointment of the Expert within five (5) Business Days of such notice, then either Party may serve notice on the other requiring the appointment of the Expert by one of the following institutions:
- (a) in relation to building, construction or engineering disputes, the President for the time being of the Institution of Civil Engineers, the Royal Institute of British Architects, Chartered Institute of Building Services Engineers, or the Royal Institute of Chartered Surveyors (as appropriate), in the case of disputes arising from the reported Energy Savings, "Expert" shall include a Certified Measurement and Verification Professional
 - (b) in relation to financial disputes, the President for the time being of the Institute of Chartered Accountants in England and Wales; or
 - (c) in relation to facilities management disputes, the President for the time being of the British Institute for Facilities Management.

32.2.2 Should the Parties be unable to agree upon which appointing body should appoint the Expert, the appointment shall be made by the President for the time being of the Law Society.

32.3 To the extent that the procedure set out in Clauses 32.1 and 32.2 does not resolve the Dispute, either Party may then commence legal proceedings in accordance with Clause 36 save where following such procedure would cause delay prejudicial to enforcement of a Party's rights under this Agreement.

32.4 If a Dispute arises between Centrica and the Authority which relates to the Works, either Party may at any time refer the dispute to adjudication. The adjudicator shall be nominated by the President or Vice President of the Royal Institution of Chartered Surveyors and the adjudication shall be governed by the Scheme for Construction Contracts.

33. **NOTICES**

33.1 Any notice or other communication which is to be given by either Party to the other shall be given in writing and sent by letter (sent by hand, pre-paid first class post, registered post or by the recorded delivery service) or electronic mail (confirmed in either case by letter). Such letters shall be addressed to the other Party in the manner referred to in Clause 33.2.

33.2 For the purposes of Clause 33.1, the address of each Party shall be:

For the Authority:

Wye Valley NHS Trust

Address: Stonebow Road, Hereford, HR1 2BN

For the attention of: Jane Ives, Managing Director

Email: Jane.Ives@wvt.nhs.uk

For Centrica:

Centrica Business Solutions UK Limited

Address: Millstream, Maidenhead Rd, Windsor SL4 5GD

For the attention of: Justin Jacober, Director, Centrica Business Solutions, UK&I

33.3 Email: Justin.Jacobser@centrica.com Either Party may change its address for service by serving a notice in accordance with this clause.

33.4 Any notice or other communication shall be deemed to have been received:

33.4.1 if delivered by hand, at the time the notice is left at the proper address or, if this time falls outside Business Hours, when Business Hours resume;

33.4.2 if sent by pre-paid first class post, registered post or by the recorded delivery service, at 9am on the second (2nd) Business Day after posting; or

33.4.3 if sent by email, at the time of transmission (provided no notice of delivery failure is received) or, if this time falls outside Business Hours, when Business Hours resume.

33.5 This Clause does not apply to the service of any proceedings or other documents in any legal action or, where applicable, any adjudication or other method of dispute resolution.

34. **SEVERABILITY**

If any provision of this Agreement shall be declared invalid, unenforceable or illegal by the courts of any jurisdiction to which it is subject, such provision may be severed and such invalidity, unenforceability or illegality shall not affect the validity, enforceability and legality of the remaining provisions of this Agreement.

35. **WAIVERS**

The failure of either Party to insist upon strict performance of any provision of this Agreement, or the failure of either Party to exercise, or any delay in exercising, any right or remedy shall not constitute a waiver of that right or remedy and shall not cause a diminution of the obligations established by this Agreement. No waiver shall be effective unless it is expressly stated to be a waiver and communicated to the other Party in writing in accordance with Clause 33. A waiver of any right or remedy arising from a breach of this Agreement shall not constitute a waiver of any right or remedy arising from any other or subsequent breach of this Agreement.

36. **GOVERNING LAW AND JURISDICTION**

This Agreement shall be governed by and construed in accordance with the law of England and Wales and, subject to Clause 32, the Parties submit to the exclusive jurisdiction of the Courts of England and Wales in respect of any dispute or claim arising out of or in connection with this Agreement or its subject matter or formation (including non-contractual disputes or claims).

37. **EXCLUSION OF THIRD PARTY (CONTRACTS) ACT**

It is agreed that for the purposes of the Contracts (Rights of Third Parties) Act 1999 that this Agreement is not intended to, and does not, give to any person who is not a party to this Agreement any rights to enforce any provisions contained in this Agreement.

38. **NO PARTNERSHIP**

Nothing in this Agreement is intended to create or shall be construed as creating any partnership or joint venture between any of the Parties, constitute any Party the agent of another Party, nor authorise any Party to make or enter into any commitments for or on behalf of any other Party.

39. **ENTIRE AGREEMENT**

39.1 This Agreement constitutes the entire Agreement between the Parties in connection with its subject matter and supersedes all prior representations, communications, negotiations and understanding concerning the subject matter of this Agreement.

39.2 Each of the Parties acknowledges that:

39.2.1 it does not enter into this Agreement on the basis of and does not rely, and has not relied, upon any statement or representation or warranty or other provision (whether oral, written, express or implied) made or agreed to by any person except those expressly repeated in this Agreement and the only remedy for misrepresentation or untrue statement made to it shall be a remedy available under this Agreement; and

39.2.2 nothing in this Agreement shall limit or exclude any liability for fraud.

40. **COUNTERPARTS**

The Parties may execute this Agreement in any number of copies and on separate copies. Each executed copy counts as an original of this Agreement and all the executed copies form one instrument.

41. **AUTHORITY ASSIGNMENT**

41.1 The Authority shall not assign or otherwise dispose of the benefit of the whole or part of this Agreement save:

41.1.1 to the Secretary of State for Health, or any other person or body replacing the foregoing (or to whom the Secretary of State exercising his statutory rights would be entitled to transfer such benefits);

41.1.2 a successor institution adopting the functions of the Authority; or

41.1.3 with the prior written consent of Centrica (such consent not to be unreasonably withheld or delayed).

42. **CENTRICA ASSIGNMENT AND/OR NOVATION**

Centrica shall not assign or otherwise dispose of the benefit of the whole or part of this Agreement without prior written consent of the Authority save that Centrica shall be entitled to assign or novate this Agreement to a Group Company provided that such Group Company has sufficient resources, capability and expertise to perform the obligations of Centrica under this Agreement. Within ten (10) Business Days of a request from Centrica, the Authority shall enter into a deed of novation with Centrica and the relevant Group Company to effect such novation.

SIGNATURE PAGE

<p>SIGNED by: Managing Director for and on behalf of Authority</p>	<p>..... (Signature) (Date)</p>
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<p>SIGNED by: Director for and on behalf of Centrica</p>	<p>..... (Signature) (Date)</p>
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SCHEDULE 1

CHANGE CONTROL PROCEDURE

1. Authority Changes

- 1.1 The Authority has the right to propose Changes in accordance with this paragraph 1. If the Authority requires a Change, it must serve an Authority Notice of Change on Centrica.
- 1.2 "**Authority Notice of Change**" means a notice served by the Authority on Centrica which:
- (a) sets out the Change required in sufficient detail to enable Centrica to calculate the Change Estimate and provides the Change Response in accordance with paragraph 1.3 below; and
 - (b) requires Centrica to provide to the Authority within fifteen (15) Business Days of receipt of the Authority Notice of Change (or such longer period as is reasonable in the opinion of the Authority), the Change Response.
- 1.3 As soon as practicable and in any event within the period specified in the Authority Notice of Change, Centrica shall deliver to the Authority the Change Response. The Change Response shall include:
- 1.3.1 Centrica's opinion on:
 - (a) any likely impact of the Change on the Energy Savings, Baseline Emissions Reductions and Energy Savings Guarantee;
 - (b) any impact of the Change on the provision of the Services, any Works or a Works Programme;
 - (c) any impact of the Change on Centrica's ability to meet its obligations under this Agreement; and
 - (d) any amendment required to this Agreement as a result of the Change;
 - 1.3.2 an implementation plan for addressing the Change, such plan to be in a format to be reasonably determined by Centrica (the "**Change Implementation Plan**"); and
 - 1.3.3 the Change Estimate, prepared in accordance with paragraphs 1.4 and 1.5 below.
- 1.4 In the Change Estimate, Centrica shall provide details of:
- 1.4.1 an estimate of any decrease or necessary increase in the capital expenditure, including any capital replacement costs, arising from the Change;
 - 1.4.2 the estimated increase or decrease in operating expenditure and overheads relating to the provision of the Services, the Works and/or the relevant Works Programme with an analysis showing the change in the costs of Staff, consumables, maintenance and related costs, after the Change is implemented;
 - 1.4.3 any interest, expenses or other third party financing costs to be incurred, reduced or avoided as a result of implementing the Change; and
 - 1.4.4 the profit which Centrica seeks to achieve in the provision of the Services and Works, as varied as a result of the Change, provided that Centrica may preserve but not increase any profit margin charged by Centrica in respect of the relevant Services and Works immediately prior to the Change, such profit margin being that specified in the Financial Model.
- 1.5 If the Change detailed in the Authority Notice of Change requires an omission of all or any part of the Works or the Services, the Change Estimate shall

- 1.5.1 set out the sum by which the cost of the Works and the Service Payments shall be reduced. Such sum shall constitute the value of the omitted Works (which, if not agreed, shall be determined in accordance with the values set out in this Agreement or the Investment Grade Proposal) and shall also include any profit and/or overhead element attributable to such omitted Works. There shall be no entitlement due to Centrica to time or money and the Authority shall not be liable to Centrica for any loss of profit, overheads, supervision, insurances and/or other preliminary items; and
- 1.5.2 where Clause 7.10.2 applies, set out details of the Long Lead Item Costs.
- 1.6 Where applicable, the Change Response must take into account the provisions of paragraph 2.7 below.
- 1.7 As soon as reasonably practicable after the Authority receives the Change Response, the Parties shall discuss and agree the issues set out in the Change Response. In such discussions:
 - 1.7.1 the Authority may modify the Authority Notice of Change, in which case Centrica shall, as soon as practicable, and in any event not more than ten (10) Business Days after receipt of such modification, notify the Authority of any consequential changes to the Change Response; and
 - 1.7.2 where the Authority reasonably requests, Centrica shall provide such additional information as the Authority reasonably requests in order to evaluate the Change Response fully.
- 1.8 Centrica may only object to an Authority Notice of Change by giving notice within the fifteen (15) Business Days pursuant to paragraph 1.3 above on one or more of the following grounds:
 - 1.8.1 that the implementation of the Change would materially and adversely affect the health and safety of any person; or
 - 1.8.2 that implementation of the Change would:
 - (a) infringe any Law; or
 - (b) have a material and adverse effect on the performance of the Services (except those Services which have been specified as requiring to be amended in the Authority Notice of Change) in a manner not compensated pursuant to this Schedule;
 - (c) have a material and adverse effect on Centrica's ability to comply with the Energy Savings Guarantee (except to the extent that the Change relates to an amendment to the Guaranteed Level) in a manner not compensated pursuant to this Schedule; or
 - (d) be a departure from Good Industry Practice; or
 - 1.8.3 that the Authority does not have the legal power or capacity to require the Change to be implemented or to do anything envisaged by this Schedule in respect of, or in connection with the Change; or
 - 1.8.4 that the Change would, if implemented, result in a change in the essential nature of the Project; or
 - 1.8.5 that the time (if any) specified for implementation of the Authority Notice of Change cannot reasonably be achieved by Centrica; or
 - 1.8.6 that the information contained in the Authority Notice of Change is inadequate to enable Centrica to respond in accordance with paragraph 1.3 above (on the assumption, whether or not the case, that it has no objection under paragraphs 1.8.1-1.8.6),

provided that Centrica may not object to an Authority Notice of Change where an Authority Notice of Change is given as a result of a failure to obtain a Consent or Satisfactory Phase 1 Works Planning Approval or Satisfactory Phase 2 Works Planning Approval.

- 1.9 If Centrica objects to an Authority Notice of Change in accordance with paragraph 1.7 and if it is agreed or determined that such objection is valid then the Authority Notice of Change shall (unless the Parties otherwise agree) be deemed to have been withdrawn.
- 1.10 At the reasonable request of the Authority, Centrica shall provide a further Change Estimate to validate the Change Estimate using an alternative estimating approach agreed between the Authority and Centrica.
- 1.11 Where there is a ten per cent (10%) or greater variation in the overall cost to the Authority between the further Change Estimate and the Change Estimate, the Authority may request a re-working of the Change Estimate.
- 1.12 If the Parties cannot agree on the contents of the Change Response, then the dispute will be determined in accordance with the Dispute Resolution Procedure.
- 1.13 As soon as practicable after the contents of the Change Response have been agreed or otherwise determined pursuant to the Dispute Resolution Procedure, the Authority shall:
 - 1.13.1 confirm in writing the Change Response (where appropriate, as modified); or
 - 1.13.2 withdraw the Authority Notice of Change.
- 1.14 If the Authority does not confirm in writing the Change Response within twenty (20) Business Days of the contents of the Change Response having been agreed in accordance with paragraph 1.6 above or determined pursuant to paragraph 1.11 above, then the Authority Notice of Change shall be deemed to have been withdrawn.
- 1.15 In the event that the Change has been agreed (or determined through the Dispute Resolution Procedure) in accordance with this paragraph 1 then:
 - 1.15.1 Centrica shall implement the Change in accordance with the Change Implementation Plan; and
 - 1.15.2 the Milestone Payment Schedule and/or Service Payments shall be adjusted in accordance with the Change Estimate once the Change is complete.

2. **Centrica Changes to the Works, Services and/or Energy Savings Guarantee**

- 2.1 If Centrica wishes to introduce a change to the Technologies (including any alternative Technologies prior to the relevant Taking-Over Certificate), the Works, the Services, and/or the Energy Savings Guarantee, it must serve a Centrica Notice of Change on the Authority.
- 2.2 "**Centrica Notice of Change**" means a notice served by Centrica on the Authority which:
 - (a) sets out the proposed Change to the Technologies, the Works, the Services, and/or Energy Savings Guarantee in sufficient detail to enable the Authority to evaluate it in full;
 - (b) specifies Centrica's reasons for proposing the Change to the Technologies, the Works, the Services, and/or the Energy Savings Guarantee (including whether or not the Change is caused by a Change in Law);
 - (c) requests the Authority to consult with Centrica with a view to deciding whether to agree to the Change proposed and, if so, what consequential changes the Authority requires as a result;

- (d) indicates any implications of the Change to the Technologies, the Works, the Services, the Energy Savings, the Baseline Emissions Reductions, the Energy Savings Guarantee and/or the Service Payments;
- (e) indicates, in particular, whether a variation to any payment from the Authority is proposed (and, if so, gives a detailed cost estimate of such proposed Change); and
- (f) indicates if there are any dates by which a decision by the Authority is critical.

2.3 The Authority shall evaluate Centrica's proposed change to the Technologies, the Works, the Services, and/or Energy Savings Guarantee, taking into account all relevant issues, including (but not limited to) whether:

- 2.3.1 a change in any payment due from it to Centrica will occur;
- 2.3.2 the Change affects the quality of the Works, the Services or the likelihood of successful delivery of the Services, the Energy Savings, the Baseline Emissions Reductions and/or the Energy Savings Guarantee;
- 2.3.3 the Change will interfere with the delivery of services by the Authority or adversely affect the performance or resilience of infrastructure serving the Authority's Premises or interfere with the relationship of the Authority with third parties;
- 2.3.4 the financial strength of Centrica is sufficient to perform the changed Works or Services;
- 2.3.5 the Change materially affects the risks or costs to which the Authority is exposed;
- 2.3.6 the implementation of the Change would:
 - (a) infringe any Law; or
 - (b) be a departure from Good Industry Practice,

and without prejudice to the Authority's right to reject the Centrica Notice of Change pursuant to paragraph 2.4.2 below (subject to paragraph 2.6 below) each of these may be grounds for the Authority in its absolute discretion to reject the Centrica Notice of Change.

2.4 2.4.1 As soon as practicable after receiving the Centrica Notice of Change, the Parties shall meet and discuss the matter referred to in it. In the event of a change to the Technologies, such meeting shall take place within ten (10) Business Days (or such longer period agreed between the Parties) of the Centrica Notice of Change.

2.4.2 During their discussions the Authority may propose modifications or accept or, subject to paragraph 2.6 below, reject the Centrica Notice of Change and, unless the Authority is minded to reject the Change, the Parties shall consult and agree the remaining details as soon as practicable, including any documents to amend this Agreement which are necessary to give effect to the proposed Change. In the event of a Change to the Technologies, the Parties shall consult and agree the remaining details within ten (10) Business Days (or such longer period agreed between the Parties) of their meeting.

2.4.3 If the Parties cannot agree on the contents of the Centrica Notice of Change or if there is any dispute between the Parties relating to the Centrica Notice of Change then, subject always to the Authority's right to reject a Centrica Change pursuant to paragraph 2.3 above, such matters shall be determined in accordance with the Dispute Resolution Procedure.

2.5 If the Authority accepts the Centrica Notice of Change (with or without modification) in writing, the relevant change to the Technologies, the Works, the Services, the Energy Savings Guarantee and/or the Service Payments shall be implemented within five (5) Business Days of the Authority's acceptance in accordance with the accepted the Centrica Notice of Change and any other document entered into between the Parties to give effect to the Change.

- 2.6 If the Authority rejects the Centrica Notice of Change, it shall be obliged to give its reasons for such a rejection provided that:
- 2.6.1 the Authority shall not be entitled to reject a Centrica Notice of Change to the extent that the Change proposed is limited to that required by a Change in Law;
 - 2.6.2 in the above circumstance where the Authority is not entitled to reject a Centrica Notice of Change, that shall be without prejudice to the Authority's right to contest any element of a Centrica Notice of Change or refer the matter to be determined in accordance with the Dispute Resolution Procedure.
- 2.7 Without prejudice to any other remedies the Authority may have in connection with this Agreement, where a Centrica Notice of Change or an Authority Notice of Change is given (or deemed to have been given) as a result of a failure to obtain a Consent or Satisfactory Phase 1 Works Planning Approval or Consent or Satisfactory Phase 2 Works Planning Approval account must be taken of the extent to which (if any) a breach by Centrica of its obligations in relation to the obtaining of such Consent or Satisfactory Phase 1 Works Planning Approval or Consent or Satisfactory Phase 2 Works Planning Approval is the cause of the failure to obtain the such Consent or Satisfactory Phase 1 Works Planning Approval or Consent or Satisfactory Phase 2 Works Planning Approval, such that the Works and/or the Services and Centrica's entitlement to payments and any profit in respect of payments in respect of the same shall be reduced accordingly.

SCHEDULE 2

CONSENTS AND SURVEYS

PART 1

PLANNING

PART 1A – PHASE 1 PLANNING

1. Centrica shall use all reasonable endeavours to assist the Authority in obtaining a Satisfactory Phase 1 Works Planning Approval including:
 - 1.1 exercising all proper care and skill in relation to the preparation, submission and process of any Phase 1 Works Planning Application;
 - 1.2 preparing, or procuring the preparation of, all documentation and supporting information reasonably required by the Authority in connection with obtaining a Phase 1 Works Planning Approval;
 - 1.3 responding to all queries of the Planning Authority promptly; and
 - 1.4 providing all assistance reasonably required by the Authority with the management of any challenge to a Phase 1 Works Planning Permission.
2. As soon as reasonably practicable and in any event within five (5) Business Days after issue of the Phase 1 Works Planning Permission the Authority shall provide to Centrica a copy of the Phase 1 Works Planning Permission and shall notify Centrica in writing of whether the Authority considers the Phase 1 Works Planning Permission to be a Satisfactory Phase 1 Works Planning Approval or an Unsatisfactory Phase 1 Works Planning Approval setting out the reasons for its conclusion.
3. Where the Authority notifies Centrica that the Phase 1 Works Planning Permission is a Satisfactory Phase 1 Works Planning Approval but Centrica considers that the Phase 1 Works Planning Permission is an Unsatisfactory Phase 1 Works Planning Approval, Centrica shall provide notice to the Authority within ten (10) Business Days of the issue of the notice given pursuant to paragraph 2 above setting out full details of the grounds for such opinion and the matter shall be treated as a Dispute and resolved in accordance with the Dispute Resolution Procedure.
4. If Centrica fails to provide the notice pursuant to paragraph 3 above then the Phase 1 Works Planning Permission shall be deemed to be a Satisfactory Phase 1 Works Planning Approval.
5. Where the Authority notifies Centrica that the Phase 1 Works Planning Permission is an Unsatisfactory Phase 1 Works Planning Approval it shall, in its absolute discretion, within five (5) Business Days after the notice given pursuant to paragraph 2 above, issue an Authority Notice of Change in respect of the Works and/or the Services or other actions required to enable Centrica to comply with the terms of the Phase 1 Works Planning Permission which render it an Unsatisfactory Phase 1 Works Planning Approval without being in breach of this Agreement or to render it a Satisfactory Phase 1 Works Planning Approval or render compliance with such Unsatisfactory Phase 1 Works Planning Approval unnecessary (in each case upon confirmation and final agreement of the consequential Authority Notice of Change, for the purposes of this Part 1, the Phase 1 Works Planning Permission shall be deemed to be a Satisfactory Phase 1 Works Planning Approval). For the avoidance of doubt, the Authority Notice of Change issued pursuant to this paragraph 5 may include the removal of the relevant Works from the scope of this Agreement with consequential changes to the Energy Savings Guarantee.

PART 1B - PHASE 2 PLANNING

1. Centrica shall use all reasonable endeavours to assist the Authority in obtaining a Satisfactory Phase 2 Works Planning Approval including:

2. exercising all proper care and skill in relation to the preparation, submission and process of any Phase 2 Works Planning Application;
3. preparing, or procuring the preparation of, all documentation and supporting information reasonably required by the Authority in connection with obtaining a Phase 2 Works Planning Approval;
4. responding to all queries of the Planning Authority promptly; and
5. providing all assistance reasonably required by the Authority with the management of any challenge to a Phase 2 Works Planning Permission.
6. As soon as reasonably practicable and in any event within five (5) Business Days after issue of the Phase 2 Works Planning Permission the Authority shall provide to Centrica a copy of the Phase 2 Works Planning Permission and shall notify Centrica in writing of whether the Authority considers the Phase 2 Works Planning Permission to be a Satisfactory Phase 2 Works Planning Approval or an Unsatisfactory Phase 2 Works Planning Approval setting out the reasons for its conclusion.
7. Where the Authority notifies Centrica that the Phase 2 Works Planning Permission is a Satisfactory Phase 2 Works Planning Approval but Centrica considers that the Phase 2 Works Planning Permission is an Unsatisfactory Phase 2 Works Planning Approval, Centrica shall provide notice to the Authority within ten (10) Business Days of the issue of the notice given pursuant to paragraph 7 above setting out full details of the grounds for such opinion and the matter shall be treated as a Dispute and resolved in accordance with the Dispute Resolution Procedure.
8. If Centrica fails to provide the notice pursuant to paragraph 8 above then the Phase 2 Works Planning Permission shall be deemed to be a Satisfactory Phase 2 Works Planning Approval.
9. Where the Authority notifies Centrica that the Phase 2 Works Planning Permission is an Unsatisfactory Phase 2 Works Planning Approval it shall, in its absolute discretion, within five (5) Business Days after the notice given pursuant to paragraph 7 above, issue an Authority Notice of Change in respect of the Works and/or the Services or other actions required to enable Centrica to comply with the terms of the Phase 2 Works Planning Permission which render it an Unsatisfactory Phase 2 Works Planning Approval without being in breach of this Agreement or to render it a Satisfactory Phase 2 Works Planning Approval or render compliance with such Unsatisfactory Phase 2 Works Planning Approval unnecessary (in each case upon confirmation and final agreement of the consequential Authority Notice of Change, for the purposes of this Part 1, the Phase 2 Works Planning Permission shall be deemed to be a Satisfactory Phase 2 Works Planning Approval).

PART 2

CONSENTS, TESTS, STUDIES AND SURVEYS

1. Centrica shall be responsible for and shall use Good Industry Practice in submitting applications for those consents and carrying out those tests, studies and surveys in each case set out in the table below with a cross in the column headed "Centrica". The Authority shall be responsible for submitting applications for those consents and carrying out those tests, studies, and surveys in each case set out in the table below with a cross in the column headed "Authority" and, where the Authority engages any third parties to submit the applications and/or carry out the tests, studies and surveys it shall procure that such third parties do so in accordance with Good Industry Practice. The Authority shall provide such assistance as Centrica (acting reasonably) may request and Centrica shall provide such assistance as the Authority (acting reasonably) may request when applying for such consents and carrying out such tests, studies and surveys. All costs payable in connection with obtaining such consents and carrying out all tests, studies and surveys (including application fees and the costs of third party service providers) shall be payable by the Authority or, if paid by Centrica, shall be reimbursed by the Authority following receipt of a valid invoice from Centrica.

2. Design changes or other changes to the Works or Services required as a result or following receipt or completion of any such consents, tests, studies and surveys shall be a Compensation Event and subject to the procedure in Clause 8 (*Extensions of Time and Compensation Events*) save to the extent that:
 - 2.1 such changes are attributable to default of Centrica under this Agreement; or
 - 2.2 the change forms part of a Change instructed through the Change Control Procedure.

3. The following table summarises the scope and responsibility for the preparation of consents, tests, studies and surveys in connection with Phase 1 Works:

Item	Centrica	Authority	Scope and key assumptions
Witness test	X		Centrica will facilitate the specified Witness tests and oversee satisfactory results prior to operation of Works.
Earthing Study	X		Centrica will undertake the survey analysis of Technologies and ensure satisfactory results are achieved prior to commencement of the Works. Centrica has not included any earth nesting within its costs. Any changes in design that are identified will be at the Authority's cost.
All Site-wide discrimination studies		X	The Authority will provide Site-wide discrimination studies for Centrica to rely on in respect of design and Works installation. Centrica will then conduct such further studies as required.
Buried Services Search		X	The Authority will provide relevant drawings of the Site identifying buried services for Centrica to rely upon during the Works and if not provided and such Works impact on the buried services, the Authority will bear any costs related to the re-routing or removal of any such buried services at its cost.

Item	Centrica	Authority	Scope and key assumptions
Archaeological Surveys		X	Centrica shall undertake the necessary survey to assist the Authority with gaining satisfactory approval and permissions to proceed, the Authority will bear any costs related to the satisfactory approval or permission.
Structural Survey		X	Centrica will provide loading and position data for Centrica equipment which will support the survey analysis and note that satisfactory results are required prior to commencement of the Works. The cost of the surveys shall be borne by the Authority. Authority to validate the requirements for any roof works and associated specialist approvals, such as aviation authorities. Any changes in design that are identified will be at the Authority's cost.
Lightning Risk Survey	X		Centrica will undertake the survey analysis on the Technologies and ensure satisfactory results are achieved prior to commencement of the Works. Any changes in design that are identified will be at the Authority's cost. Any works required to existing or interfacing Authority owned infrastructure will be at the Authority's cost.
Adjacent Third Parties		X	Centrica will undertake preliminary dialogue with adjacent third parties, such as, Network Rail, to assist the Authority to achieve satisfactory permissions or acceptance to proceed, the Authority will bear any costs related to the permissions and approvals, set out by the adjacent third party.

4. The following table summarises the scope and responsibility for the preparation of consents, tests, studies and surveys in connection with Phase 2 Works:

Item	Centrica	Authority	Scope and key assumptions
Witness test	X		Centrica will facilitate the specified Witness tests and oversee satisfactory results prior to operation of Works.
Earthing Study	X		Centrica will undertake the survey analysis of Technologies and ensure satisfactory results are achieved prior to commencement of the Works. Centrica has not included any earth nesting within its costs. Any changes in design that are identified will be at the Authority's cost.

Item	Centrica	Authority	Scope and key assumptions
All Site-wide discrimination studies		X	The Authority will provide Site-wide discrimination studies for Centrica to rely on in respect of design and Works installation. Centrica will then conduct such further studies as required.
Buried Services Search		X	The Authority will provide relevant drawings of the Site identifying buried services for Centrica to rely upon during the Works and if not provided and such Works impact on the buried services, the Authority will bear any costs related to the re-routing or removal of any such buried services at its cost.
Archaeological Surveys		X	Centrica shall undertake the necessary survey to assist the Authority with gaining satisfactory approval and permissions to proceed, the Authority will bear any costs related to the satisfactory approval or permission.
Structural Survey		X	Centrica will provide loading and position data for Centrica equipment which will support the survey analysis and note that satisfactory results are required prior to commencement of the Works. The cost of the surveys shall be borne by the Authority. Authority to validate the requirements for any roof works and associated specialist approvals, such aviation authorities. Any changes in design that are identified will be at the Authority's cost.
Adjacent Third Parties		X	Centrica will undertake preliminary dialogue with adjacent third parties, such as, National Grid, to assist the Authority to achieve satisfactory permissions or acceptance to proceed, the Authority will bear any costs related to the permissions and approvals, set out by the adjacent third party.

SCHEDULE 3

WORKS

PART 1

SUMMARY SCOPE OF WORKS

Centrica will provide the Authority with the energy savings through the upgrade and optimisation of energy-related infrastructure at the Site in order to deliver the Energy Savings Guarantee. The energy savings will be aggregated through the implementation of the energy saving measures as more fully described in Part 2A (Detailed Scope of Phase 1 Works) and Part 2B (Detailed Scope of Phase 2 Works) of this Schedule 3.

Phase 1 Summary Scope of Works			
Item	Works	Scope of Phase 1 Works	Centrica Serviced Technology or Authority Serviced Technology
1.	Ambient Loop Heat Network	Works: the design, installation and commissioning of new Ambient Loop Heat Network system including all machinery, apparatus and materials.	Centrica Serviced Technology
2.	Electrical Power upgrade	Works: Transformer 1 – 800kVA Installed between Lionel Green building and Longfield House to feed the local building heat pumps & ground array pump stations.	Authority Serviced Technology
3.	Roof mounted Solar PV System	Works: the design, installation and commissioning of a roof-mounted solar array including all machinery, apparatus and materials.	Centrica Serviced Technology
4.	Retrofit Lighting	Works: the design, installation and commissioning of replacement fittings including all machinery, apparatus and materials.	Authority Serviced Technology
5.	AHU Fan & Motor Upgrades	Works: the design, installation and commissioning of air handling fan and motor unit upgrades including all machinery, apparatus and materials.	Authority Serviced Technology
6.	Local Cooling Controls Upgrades	Works: the design, installation and commissioning of local occupant detection (PIR) for comfort cooling controls and smart thermostatic control for process cooling.	Authority Serviced Technology
7.	Mechanical Services (Insulation)	Works: the design, installation and commissioning of mechanical services thermal insulation including all materials.	Authority Serviced Technology

Phase 2 Summary Scope of Works			
Item	Works	Scope of Phase 2 Works	Centrica Serviced Technology or Authority Serviced Technology
1.	Heat Pump Energy Centre	Works: the design, installation and commissioning of new Energy Centre including Cascading Heat Pump system, Electrode boilers and all machinery, apparatus and materials.	Centrica Serviced Technology
2.	District Heating Network	Works: A new Low Temperature Hot Water (LTHW) heat network and Plate Heat Exchanger (PHE) interfaces are to be installed to allow the existing steam-to-LTHW and Steam-to-Domestic Hot Water (DHW) calorifiers to be replaced	Centrica Serviced Technology
3.	Electrical Power Upgrade	Works: The electrical site capacity will be increased to 8.5MVA by National Grid. Centrica will install new HV/LV transformers to power the Energy Centre	Authority Serviced Technology
4.	Electric Steam Generators	Works: the design, installation and commissioning of Electric Steam Generators including all materials	Authority Serviced Technology
5.	Cavity Wall Insulation	Works: the design, installation and commissioning of Cavity Wall thermal insulation including all materials.	Authority Serviced Technology
6.	Loft Insulation	Works: the design, installation and commissioning of Loft thermal insulation including all materials.	Authority Serviced Technology

PART 2

DETAILED SCOPE OF WORKS

PART 2A DETAILED SCOPE OF PHASE 1 WORKS

1. Ambient Loop Heat Network

Centrica shall install Ambient Loop Ground Source Heat Pumps providing heat to satellite buildings to reduce gas consumption and provide CO₂e savings, namely Lionel Green, Finance, Charles Renton, Post Grad, Trust HQ and Longfield House, comprising of the following:

- 1.1 The GSHP loop will consist of 200 metre deep boreholes, Heat Pumps and Air Source heat Pumps.
- 1.2 The loop will consist of distribution pipework, plate heat exchangers, heat pumps, automatic valves, circulation pumps, pressurisation units, controls equipment, heat meters, power meters, power supplies from new distribution boards, where required, and all necessary connections, to supply and install a fully working and commissioned system.
- 1.3 Centrica will carry out all excavation to form trenches for flow and return pipework. Install aggregates such as pea gravel to surround new HDPE Pipework, back-fill in compacted layers. Excavated material will be stock piled adjacent to the trenching and used to form the back fill.
- 1.4 All new pipework to be lagged in phenolic and foil faced finish internally with Ali-clad finish on external pipework.
- 1.5 Buried pipework will be pre-insulated
- 1.6 New replacement radiators shall be sized to the new LTHW circuit
- 1.7 In the Trust HQ only the existing boilers shall be stripped out and removed from site
- 1.8 Where possible a phased delivery of the system will be carried out by CBS, to minimise shutdowns and site disruption
- 1.9 Where required and in accordance to the CBS design, concrete plinth bases shall be installed.
- 1.10 The ALHN will be on a centralised control system based on the Tridion system from Honeywell, each ALHN building heat pump and ground array pump station will have their own control panels linked together by a fibre network around the site following the pipe route to allow them to communicate with each other and be control effectively. The Head end system installed within the hospital will be linked back to Centrica Salford office.
- 1.11 The system shall be capable of communicating with the existing Site BMS to provide monitoring, alarms and control if necessary.
- 1.12 Buildings upgraded with air source heat pumps will have local stand-alone controls providing space temperature, time scheduling, compensation and optimisation control.
- 1.13 Installation of a 800kVA transformer installed between Lionel Green building and Longfield House to feed the local building heat pumps & ground array pump stations;
- 1.14 Tarmac sub-base to be installed in trenched areas within borehole field. Remaining tarmac area to be planed down by 40mm. New wearing course to be installed over car park area - approx. 2000m/sq. New white lining over new tarmac areas to suit original layout
- 1.15 Carry out and make good all builders work penetrations

1.16 Fully commission the new system prior to handover to the Trust

2. **Solar PV (roof mounted)**

Centrica shall install the roof mounted Solar PV equipment, comprising of the following:

2.1 Installation of 307 Q Cell 335W modules (panels), 104 on roof 1 and 203 on roof 2. The number of modules, layout, orientation, shading and location are optimised from the Helioscope software modelling.

2.2 Installation of 3 Solar Edge invertors, 1 x SE27.6K on roof 1 and 2 x SE25.0K on roof 2. The invertors proposed locations are on the roofs in question in the vicinity of the POC to the Pharmacy plantroom.

2.3 Installation of lightning protection

2.4 The system is equipped with a P800 Optimiser to assist the modules and invertors achieve optimum performance across a range of conditions i.e. shading, cloud cover, rain, snow.

2.5 The system is equipped with a Meteocontrol system and components to provide O&M monitoring and M&V validation.

2.6 Installation of ballasted handrail system

2.7 Lifting of equipment and material from road to roof areas (provide all necessary safety management and segregation)

2.8 Install of frame and K2 Ballast system

2.9 Install inverter weatherproof shelter to meet required IP rating

2.10 Install new breaker on the Pharmacy plantroom switchboard non-essential panel

2.11 Optimiser installation

2.12 All Cabling and tray works

2.13 All Civils work and builders works in connection

2.14 Feeder Cable & POC

2.15 Submit connection agreement to confirm G99 is NOT required

2.16 Install and commission all monitoring equipment

3. **Retrofit Lighting**

3.1 Centrica shall undertake a Site-wide replacement of 2,176 non-emergency LED fittings and 1,474 emergency LED fittings.

3.2 All surveying and estimates of luminaire numbers has been made through a visual inspection. Whilst every effort has been made to be as accurate as possible, the complex nature of the lighting layout needs to be appreciated. Changes identified through detailed design will be managed through the Change Control Procedure.

3.3 All toilet cubicles will be standardised to incorporate motion sensors and emergency lighting within the cubicle.

3.4 In order to determine the lighting baseline, prior to removal, the power will be measured for a representative sample of the existing internal fittings and extrapolated to calculate the power draw

for all the existing fittings. The testing is carried out by way of instantaneous measurements and this overall existing power draw from the fittings in scope will form the baseline energy for this Technology.

The below schedule identifies the areas to be upgraded:

Site	Building / Area	Floor	Room ref	Room type	Proposed Lum Type	Part No.	IP	Luminaire Wattage (W)	Dimmable (Yes/No)	No. of Non-Emergency Luminaires	No. of Emergency Luminaires	Daylight detection	Presence Detection (Yes/No)
HEREFORD HOSPITAL	STERILE SERVICES	2ND	NA	CORRIDOR	MELODY		NO	28	NO	7	3	NO	NO
HEREFORD HOSPITAL	STERILE SERVICES	2ND	NA	CLEAN AREA	MELODY		NO	28	NO	12	3	NO	NO
HEREFORD HOSPITAL	STERILE SERVICES	2ND	NA	ROOMS	MELODY		NO	28	NO	21	6	NO	NO
HEREFORD HOSPITAL	STERILE SERVICES	2ND	NA	PLANT ROOM	STORM		YES	33	NO	3	0	NO	NO
HEREFORD HOSPITAL	STERILE SERVICES	2ND	NA	CLEAN AREA	REC ASD		NO	30	NO	6	2	YES	YES
HEREFORD HOSPITAL	NEURO & SCUBU	2ND	NA	TOILETS	CENTRO CIRCO	1800	NO	17	NO	3	10	NO	NO
HEREFORD HOSPITAL	NEURO & SCUBU	2ND	NA	ROOMS	REC ASD		NO	30	NO	7	2	NO	NO
HEREFORD HOSPITAL	NEURO & SCUBU	2ND	NA	CORRIDOR	REC ASD		NO	30	NO	2	8	NO	NO
HEREFORD HOSPITAL	NEURO & SCUBU	2ND	NA	ROOMS	MELODY		NO	28	NO	6	18	NO	NO
HEREFORD HOSPITAL	NEURO & SCUBU	2ND	NA	ROOMS	CORRIDO	1200	NO	29	NO	0	10	NO	NO
HEREFORD HOSPITAL	CHILDRENS WARD	2ND	NA	CORRIDOR	REC ASD		NO	30	NO	11	21	NO	NO
HEREFORD HOSPITAL	CHILDRENS WARD	2ND	NA	CORRIDOR	MELODY		NO	28	NO	4	4	NO	NO
HEREFORD HOSPITAL	CHILDRENS WARD	2ND	NA	BEDROOMS	CORRIDO	1200	NO	29	NO	6	14	NO	NO
HEREFORD HOSPITAL	CHILDRENS WARD	2ND	NA	ROOMS	MELODY		NO	28	NO	30	0	NO	NO
HEREFORD HOSPITAL	CHILDRENS WARD	2ND	NA	ROOMS	REC ASD		NO	30	NO	20	0	NO	NO
HEREFORD HOSPITAL	CHILDRENS WARD	2ND	NA	TOILETS	CENTRO CIRCO	1800	NO	17	NO	9	30	NO	NO
HEREFORD HOSPITAL	OUT/MATERNITY	2ND	NA	CORRIDOR	REC ASD		NO	30	NO	14	14	NO	NO
HEREFORD HOSPITAL	OUT/MATERNITY	2ND	NA	ROOMS	REC ASD		NO	30	NO	26	15	YES	YES
HEREFORD HOSPITAL	OUT/MATERNITY	2ND	NA	OFFICES	REC ASD		NO	30	NO	10	5	NO	YES
HEREFORD HOSPITAL	OUT/MATERNITY	2ND	NA	OFFICES	REC ASD		NO	30	NO	20	10	NO	NO
HEREFORD HOSPITAL	CCU	1ST	NA	CORRIDOR	MELODY		NO	28	NO	8	30	NO	NO
HEREFORD HOSPITAL	KITCHEN	1ST	NA	CORRIDOR	MELODY		NO	28	NO	6	3	NO	NO
HEREFORD HOSPITAL	KITCHEN	1ST	NA	ROOMS	ASD		NO	30	NO	8	14	NO	NO
HEREFORD HOSPITAL	KITCHEN	1ST	NA	TOILET AND STORE	CENTRO CIRCO	1800	NO	17	NO	18	3	NO	NO
HEREFORD HOSPITAL	SPIRES	1ST	NA	RESTERAUNT	REC ASD		NO	30	NO	13	13	NO	NO
HEREFORD HOSPITAL	SPIRES	1ST	NA	RESTERAUNT	CENTRO CIRCO	1800	NO	17	NO	41	0	NO	NO
HEREFORD HOSPITAL	SPIRES	1ST	NA	RESTERAUNT	MELODY		NO	28	NO	6	2	NO	NO
HEREFORD HOSPITAL	SPIRES	1ST	NA	RESTERAUNT	ZIP		NO	33	13.5	10	0	NO	NO
HEREFORD HOSPITAL	ARROW WARD	1ST	NA	CORRIDOR	REC ASD		NO	30	NO	4	12	NO	NO
HEREFORD HOSPITAL	ARROW WARD	1ST	NA	TOILET	CENTRO CIRCO	1800	NO	17	NO	4	16	NO	NO
HEREFORD HOSPITAL	ARROW WARD	1ST	NA	ROOMS	REC ASD		NO	30	NO	5	0	NO	NO
HEREFORD HOSPITAL	ARROW WARD	1ST	NA	ROOMS	MELODY		NO	28	NO	5	0	NO	NO
HEREFORD HOSPITAL	ARROW WARD	1ST	NA	ROOMS	CORRIDO	1200	NO	29	NO	10	11	NO	NO
HEREFORD HOSPITAL	LUGG WARD	1ST	NA	CORRIDOR	REC ASD		NO	30	NO	3	11	NO	NO
HEREFORD HOSPITAL	LUGG WARD	1ST	NA	CORRIDOR	MELODY		NO	28	NO	2	0	NO	NO
HEREFORD HOSPITAL	LUGG WARD	1ST	NA	ROOMS	REC ASD		NO	30	NO	2	1	NO	NO
HEREFORD HOSPITAL	LUGG WARD	1ST	NA	ROOMS	MELODY		NO	28	NO	7	0	NO	NO
HEREFORD HOSPITAL	LUGG WARD	1ST	NA	ROOMS	CORRIDO	1200	NO	29	NO	15	12	NO	NO
HEREFORD HOSPITAL	LUGG WARD	1ST	NA	TOILETS	CENTRO CIRCO	1800	NO	17	NO	5	24	NO	NO
HEREFORD HOSPITAL	WYE WARD	1ST	NA	CORRIDOR	REC ASD		NO	30	NO	4	13	NO	NO

Table: Lighting areas to be upgraded

HEREFORD HOSPITAL	WYE WARD	1ST	NA	CORRIDOR	MELODY		NO	28	NO	2	0	NO	NO
HEREFORD HOSPITAL	WYE WARD	1ST	NA	ROOMS	REC ASD		NO	30	NO	3	0	NO	NO
HEREFORD HOSPITAL	WYE WARD	1ST	NA	ROOMS	MELODY		NO	28	NO	7	10	NO	NO
HEREFORD HOSPITAL	WYE WARD	1ST	NA	ROOMS	CORRIDO	1200	NO	29	NO	10	11	NO	NO
HEREFORD HOSPITAL	WYE WARD	1ST	NA	TOILETS	CENTRO CIRCO	1800	NO	17	NO	0	18	NO	NO
HEREFORD HOSPITAL	TEME WARD	1ST	NA	CORRIDOR	REC ASD		NO	30	NO	1	10	NO	NO
HEREFORD HOSPITAL	TEME WARD	1ST	NA	CORRIDOR	MELODY		NO	28	NO	2	0	NO	NO
HEREFORD HOSPITAL	TEME WARD	1ST	NA	ROOMS	REC ASD		NO	30	NO	3	0	NO	NO
HEREFORD HOSPITAL	TEME WARD	1ST	NA	ROOMS	MELODY		NO	28	NO	3	0	NO	NO
HEREFORD HOSPITAL	TEME WARD	1ST	NA	ROOMS	CORRIDO	1200	NO	29	NO	8	8	NO	NO
HEREFORD HOSPITAL	TEME WARD	1ST	NA	TOILET	CENTRO CIRCO	1800	NO	17	NO	2	14	NO	NO
HEREFORD HOSPITAL	FROME WARD	1ST	NA	CORRIDOR	REC ASD		NO	30	NO	2	20	NO	NO
HEREFORD HOSPITAL	FROME WARD	1ST	NA	CORRIDOR	MELODY		NO	28	NO	2	0	NO	NO
HEREFORD HOSPITAL	FROME WARD	1ST	NA	ROOMS	REC ASD		NO	30	NO	7	2	YES	NO
HEREFORD HOSPITAL	FROME WARD	1ST	NA	ROOMS	MELODY		NO	28	NO	8	0	YES	NO
HEREFORD HOSPITAL	FROME WARD	1ST	NA	TOILET	CENTRO CIRCO		NO	17	NO	4	24	YES	YES
HEREFORD HOSPITAL	FROME WARD	1ST	NA	ROOMS	CORRIDO	1200	NO	29	NO	13	17	NO	NO
HEREFORD HOSPITAL	REDBROOK WARD	1ST	NA	CORRIDOR	REC ASD		NO	30	NO	2	12	NO	NO
HEREFORD HOSPITAL	REDBROOK WARD	1ST	NA	CORRIDOR	MELODY		NO	28	NO	2	0	YES	YES
HEREFORD HOSPITAL	REDBROOK WARD	1ST	NA	ROOMS	REC ASD		NO	30	NO	3	1	NO	NO
HEREFORD HOSPITAL	REDBROOK WARD	1ST	NA	ROOMS	MELODY		NO	28	NO	5	0	NO	NO
HEREFORD HOSPITAL	REDBROOK WARD	1ST	NA	ROOMS	CORRIDO	1200	NO	29	NO	10	9	NO	NO
HEREFORD HOSPITAL	REDBROOK WARD	1ST	NA	TOILETS	CENTRO CIRCO		NO	17	NO	3	20	NO	NO
HEREFORD HOSPITAL	PHARMACY	1ST	NA	ALL	REC ASD		NO	30	NO	27	16	NO	NO
HEREFORD HOSPITAL	PHARMACY	1ST	NA	ALL	MELODY		NO	28	NO	46	16	NO	YES
HEREFORD HOSPITAL	PHARMACY	1ST	NA	TOILET	CENTRO CIRCO	1800	NO	17	NO	4	14	NO	NO
HEREFORD HOSPITAL	MAIN ENTRANCE	GRD	NA	TOILET	MELODY		NO	28	NO	4	4	NO	NO
HEREFORD HOSPITAL	MAIN ENTRANCE	GRD	NA	CORRIDOR	REC ASD		NO	30	NO	9	10	NO	NO
HEREFORD HOSPITAL	IMAGING	GRD	NA	CORRIDOR	MELODY		NO	28	NO	45	16	NO	NO
HEREFORD HOSPITAL	IMAGING	GRD	NA	ROOMS	REC ASD		NO	30	NO	19	14	NO	NO
HEREFORD HOSPITAL	IMAGING	GRD	NA	ROOMS	MELODY		NO	28	NO	16	55	NO	NO
HEREFORD HOSPITAL	IMAGING	GRD	NA	TOILET	CENTRO CIRCO	1800	NO	17	NO	25	10	NO	NO
HEREFORD HOSPITAL	IMAGING	GRD	NA	CORRIDOR	REC ASD		NO	30	NO	12	13	NO	NO
HEREFORD HOSPITAL	A&E EIGN SUITE	GRD	NA	ROOMS	MELODY		NO	28	NO	20	23	NO	NO
HEREFORD HOSPITAL	ENDOSCOPY	GRD	NA	ROOMS	MELODY		NO	28	NO	20	24	NO	YES
HEREFORD HOSPITAL	ENDOSCOPY	GRD	NA	ROOMS	REC ASD		NO	30	NO	10	27	NO	NO
HEREFORD HOSPITAL	ENDOSCOPY	GRD	NA	CORRIDOR	REC ASD		NO	30	NO	7	6	NO	NO
HEREFORD HOSPITAL	ENDOSCOPY	GRD	NA	CORRIDOR	MELODY		NO	28	NO	29	22	NO	NO
HEREFORD HOSPITAL	A&E EIGN SUITE	GRD	NA	ROOMS	MELODY		NO	28	NO	40	20	NO	NO
HEREFORD HOSPITAL	A&E EIGN SUITE	GRD	NA	ROOMS	REC ASD		NO	30	NO	15	72	NO	NO
HEREFORD HOSPITAL	FB BUILDING	GRD	NA	ALL	MELODY		YES	28	NO	140	101	NO	NO
HEREFORD HOSPITAL	FB BUILDING	GRD	NA	ALL	REC ASD		YES	30	NO	19	8	NO	NO
HEREFORD HOSPITAL	FB BUILDING	GRD	NA	ALL	CORRIDO	1200	YES	29	NO	39	23	NO	NO
HEREFORD HOSPITAL	FB BUILDING	1ST	NA	OFFICES	CORRIDO	1200	YES	29	NO	45	33	NO	NO
HEREFORD HOSPITAL	FB BUILDING	1ST	NA	OFFICES	MELODY		YES	28	NO	56	24	NO	NO
HEREFORD HOSPITAL	FB BUILDING	1ST	NA	OFFICES	CORRIDO	1200	YES	29	NO	45	0	NO	NO
HEREFORD HOSPITAL	MORTUARY	GRD	NA	ALL	MELODY		YES	28	NO	10	8	NO	NO
HEREFORD HOSPITAL	MORTUARY	GRD	NA	ALL	CORRIDO	1200	YES	29	NO	10	7	NO	NO
HEREFORD HOSPITAL	MORTUARY	GRD	NA	ALL	MELODY		YES	28	NO	14	0	NO	NO
HEREFORD HOSPITAL	MORTUARY	GRD	NA	ALL	MELODY		YES	28	NO	6	0	NO	NO

Table: Lighting areas to be upgraded

HEREFORD HOSPITAL	PATHOLOGY	GRD	NA	ALL	CORRIDO	1200	YES	29	NO	47	16	NO	NO
HEREFORD HOSPITAL	PATHOLOGY	GRD	NA	ALL	CORRIDO	1200	YES	29	NO	49	44	NO	NO
HEREFORD HOSPITAL	WORKSHOP	GRD	NA	ALL	CORRIDO	1200	YES	29	NO	12	7	NO	NO
HEREFORD HOSPITAL	WORKSHOP	GRD	NA	ALL	MELODY		YES	28	NO	10	6	NO	NO
HEREFORD HOSPITAL	WORKSHOP	GRD	NA	BOILER ROOM	STORM		YES	33	NO	18	18	NO	NO
HEREFORD HOSPITAL	OXFORD SUIT	GRD	NA	CORRIDOR	MELODY		YES	28	NO	0	11	NO	YES
HEREFORD HOSPITAL	OXFORD SUIT	GRD	NA	CORRIDOR	REC ASD		YES	30	NO	0	51	NO	NO
HEREFORD HOSPITAL	OXFORD SUIT	GRD	NA	ROOMS	MELODY		YES	28	NO	17	4	NO	YES
HEREFORD HOSPITAL	OXFORD SUIT	GRD	NA	ROOMS	REC ASD		YES	30	NO	90	3	NO	NO
HEREFORD HOSPITAL	OXFORD SUIT	GRD	NA	TOILETS & WAITING ROOMS	CENTRO CIRCO	1800	NO	17	NO	40	17	NO	NO
HEREFORD HOSPITAL	PRE OPS	GRD	NA	ALL	MELODY		YES	28	NO	20	0	NO	NO
HEREFORD HOSPITAL	PRE OPS	GRD	NA	ALL	REC ASD		YES	30	NO	21	0	NO	NO
HEREFORD HOSPITAL	SODEXHO	1ST	NA	CORRIDOR	MELODY		YES	28	NO	0	14	NO	YES
HEREFORD HOSPITAL	SODEXHO	1ST	NA	ROOMS	CORRIDO	1200	YES	29	NO	20	8	NO	NO
HEREFORD HOSPITAL	SODEXHO	1ST	NA	ALL	MELODY		YES	28	NO	20	14	NO	NO
HEREFORD HOSPITAL	POST GRAD	GRD	NA	ALL	CORRIDO	1200	YES	29	NO	8	0	NO	NO
HEREFORD HOSPITAL	POST GRAD	GRD	NA	ALL	CORRIDO	1200	YES	29	NO	20	0	NO	NO
HEREFORD HOSPITAL	POST GRAD	GRD	NA	ALL	CORRIDO	1200	YES	29	NO	6	0	NO	NO
HEREFORD HOSPITAL	POST GRAD	GRD	NA	ALL	MELODY		YES	28	NO	12	0	NO	NO
HEREFORD HOSPITAL	VASCLAR/RELATIVES	1ST	NA	ROOMS	REC ASD		YES	30	NO	11	2	NO	NO
HEREFORD HOSPITAL	VASCLAR/RELATIVES	1ST	NA	ROOMS	MELODY		YES	28	NO	6	10	NO	NO
HEREFORD HOSPITAL	VASCLAR/RELATIVES	1ST	NA	TOILETS	CENTRO CIRCO	1800	NO	17	NO	6	12	NO	NO
HEREFORD HOSPITAL	STAFF ON CALL	2ND	NA	CORRIDOR	REC ASD		YES	30	NO	5	6	NO	NO
HEREFORD HOSPITAL	STAFF ON CALL	2ND	NA	ROOMS	REC ASD		YES	30	NO	8	2	NO	NO
HEREFORD HOSPITAL	STAFF ON CALL	2ND	NA	ROOMS	MELODY		YES	28	NO	19	17	NO	NO
HEREFORD HOSPITAL	STAFF ON CALL	2ND	NA	TOILETS	CENTRO CIRCO	1800	NO	17	NO	4	25	NO	NO
HEREFORD HOSPITAL	PLANTROOM	2ND	NA	PLANT ROOM	STORM		YES	33	NO	32	16	NO	NO
HEREFORD HOSPITAL	WOMENS HEALTH	2ND	NA	CORRIDOR	REC ASD		YES	30	NO	10	6	NO	NO
HEREFORD HOSPITAL	WOMENS HEALTH	2ND	NA	ROOMS	REC ASD		YES	30	NO	22	10	NO	NO
HEREFORD HOSPITAL	WOMENS HEALTH	2ND	NA	ROOMS	MELODY		YES	28	NO	12	2	NO	NO
HEREFORD HOSPITAL	WOMENS HEALTH	2ND	NA	RECEPTION	CENTRO CIRCO	1800	NO	17	NO	10	11	NO	NO
HEREFORD HOSPITAL	PROFESSIONAL DEVELOPMENT ALL	NA	NA	CORRIDOR	MELODY		YES	28	NO	26	16	NO	NO
HEREFORD HOSPITAL	PROFESSIONAL DEVELOPMENT ALL	NA	NA	ROOMS	MELODY		YES	28	NO	66	10	NO	NO
HEREFORD HOSPITAL	PROFESSIONAL DEVELOPMENT ALL	NA	NA	ROOMS	CORRIDO	1200	YES	29	NO	32	4	NO	NO
HEREFORD HOSPITAL	GENERAL	ALL	NA	ALL	INEGRAL			3	NO	120		NO	NO
HEREFORD HOSPITAL	BEDSIDE LAMP	ALL	NA	BEDROOMS	LAMP ONLY		NO	8	NO	120		NO	NO
HEREFORD HOSPITAL	TOP FLOOR PLANTROOM	3RD	NA	PLANTROOM	STORM		NO	30	NO	30	30	NO	NO

4. AHU Fan & Motor Upgrades

4.1 Includes the following AHU's, Zone 1 General, Zone 2 General, Zone 3 General, Zone 3 A&E Resuscitation and Procedures, Zone 6 General, Zone 7 General, Zone 8 General, Zone 8 CCU, Zone 8 Delivery Theatre, Endoscopy General, Theatre 1, Theatre 2, Theatre 3 and Theatre 4.

4.2 Centrica shall replace existing AHU fan/motor assemblies.

4.2.1 **Non-Clinical areas** - Upgrade AHU (supply & extract) centrifugal (belt driven) fans to fixed speed EC fans.

4.2.2 **Clinical areas** - Upgrade AHU (supply & extract) centrifugal (belt driven) fans to plug fans with variable speed drives (VSD) to provide variable flow control strategies including night time set-back.

4.2.3 **Theatre areas** – Upgrade AHU (supply & extract) centrifugal (belt driven) fans to plug fans with variable speed drives (VSD) to provide variable flow control strategies including night time set-back.

Phase 1 AHU	Type	Motor Rating kW	Running hours p.a.
Zone 1 General	Supply	4	8760
Zone 1 General	Extract	2.2	8760
Zone 2 General	Extract	3	8760
Zone 3 General	Extract	6.2	8760
Zone 3 A&E Resus and Procedures	Supply	2.8	8760
Zone 6 General	Supply	6.2	8760
Zone 6 General	Extract	3	8760
Zone 7 General	Supply	7.5	8760
Zone 7 General	Extract	4.5	8760
Zone 8 General	Supply	3	8760
Zone 8 General	Extract	7.5	8760
Zone 8 CCU	Supply	2.2	8760
Zone 8 Delivery Theatre	Supply	2.2	8760
Zone 8 Delivery Theatre	Extract	1.1	8760
Endoscopy General	Supply	4	8760
Endoscopy General	Extract	2.2	8760
Theatre 1	Supply	2.2	8760
Theatre 1	Extract	1.1	8760
Theatre 2	Supply	2.2	8760
Theatre 2	Extract	1.5	8760
Theatre 3	Supply	2.2	8760
Theatre 3	Extract	1.5	8760
Theatre 4	Supply	2.2	8760
Theatre 4	Extract	1.5	8760

4.3 Centrica shall undertake the following Site installation works:

- 4.3.1 Take readings of the fan's consumption on the day of the survey, to include photographs of the pressure, voltage and amps.
- 4.3.2 Isolate and lock off the power
- 4.3.3 Disconnect and decommission all power cabling from the isolators to the fan motors ready for removal
- 4.3.4 Remove the existing two speed motor contactors and fuses
- 4.3.5 Removal of redundant circuitry and blanking label
- 4.3.6 Remove existing fan and dual motors on supply and extract
- 4.3.7 Identify and remove the control wiring retaining the enabling and fault signals for reuse
- 4.3.8 Modify the existing fan section to suit new fan isolation (supply and extract)
- 4.3.9 Install new fan bulkhead to suit new plug fan
- 4.3.10 Install of enable & fault to remote invertors

- 4.3.11 All connections to be made and functional testing to be carried out on completion
- 4.3.12 Modify strategy & software for new invertors and update graphics
- 4.3.13 Run & Test completed by trained and competent installers and in accordance to all relevant standards.
- 4.3.14 Take after photographic reference once the above works have been completed

5. Local Cooling Controls upgrade

- 5.1 Centrica shall install 65 local occupant detection (PIR) for comfort cooling controls and 23 smart thermostatic control for process cooling
- 5.2 Survey of room suitability and set up requirements
- 5.3 Installation of all controls as per schedule within existing ACU circuitry
- 5.4 Four different types of usage patterns are used to calculate occupancy patterns for baseline calculations.

Office Hrs	Occupancy	Usage	Hrs Saving	
	8-18, 5 days a w	24-7, 7 days a week		Assumed 10 hours per day 5 days a week
Hrs work Week	50	168		Assumed 6 months cooling season
Months	6	6		Assumed 50% Occupancy
Hrs per yr	1,300	4,368	1,534	
% Occupancy			50%	

Extended Office Hrs	Occupancy	Usage	Hrs Saving	
	8-20, 5 days a w	24-7, 7 days a week		Assumed 12 hours per day 5 days a week
Hrs work Week	60	168		Assumed 6 months cooling season
Months	6	6		Assumed 50% Occupancy
Hrs per yr	1,560	4,368	1,404	
% Occupancy			50%	

Office Hrs Well Managed	Occupancy	Usage	Hrs Saving	
	8-18, 5 days a w	20-7, 7 days a week		Assumed 10 hours per day 5 days a week
Hrs work Week	50	140		Assumed 4 hours per day off due to well managed AC
Months	6	6		Assumed 6 months cooling season
Hrs per yr	1,300	3,640	1,170	Assumed 50% Occupancy
% Occupancy			50%	

24-7 Intermitent	Occupancy	Usage	Hrs Saving	
	12-7, 7 days a w	24-7, 7 days a week		Assumed used 12 hors out of 24 hours per day
Hrs work Week	84	168		Assumed 6 months cooling season
Months	6	6		Assumed 50% Occupancy
Hrs per yr	2,184	4,368	1,092	
% Occupancy			50%	

The savings will be deemed for this measure, as the energy consumption after the installation of new controls will be entirely dependent on people movement. A desktop survey was carried out to build the baseline and calculate the savings (as below), based on the use of each room/area.

The below schedules were created from the desktop survey and are subject to change through the site survey. The final schedules shall be agreed between the parties, prior to the works commencing.

Comfort Cooling asset schedule

Department	Asset no.	Location	Equipment	Internal Model	External Unit	Savings Assumptions
RMC Office (Old Computer Training)	AC63	Office	Daikin	R100FJ7W1	R100FJ7W1	Office hrs
Single Point of Access Office	AC64	Office	Mitsubishi Heavy	FDC71VNX-1	FDC71VNX-1	Office hrs
Single Point of Access Office	AC65	Office	Mitsubishi Electric	PUHZ-RP71VHA4	PUHZ-RP71VHA4	Office hrs
Fred Bulmer Clinic	AC66	Console Room	Daikin	RY100B7W1	RY100B7W1	Office Hrs Well Managed
Fred Bulmer Clinic	AC67	Clinic Room 2	Daikin	RY71B7W1	RY71B7W1	Office Hrs Well Managed
Fred Bulmer Clinic	AC68	Clinic Room 2	Daikin	RY71B7W1	RY71B7W1	Office Hrs Well Managed
Fred Bulmer Clinic	AC69	Clinic Room 3	Daikin	RY45DB7V1	RY45DB7V1	Office Hrs Well Managed
Fred Bulmer Clinic	AC126	Clinic room	Mitsubishi Electric	SUZ-KA50VA4	SUZ-KA50VA4	Office Hrs Well Managed
Pathology	AC89	DR AS Johnson	Mitsubishi Electric	PUHZ-ZRP50VKA	PUHZ-ZRP50VKA	Office Hrs Well Managed
Pathology	AC90	Head of Microbiology	Mitsubishi Electric	PUHZ-ZRP50VKA	PUHZ-ZRP50VKA	Office Hrs Well Managed
Pathology	AC91	Walkthrough Office	Mitsubishi Electric	PUHZ-ZRP50VKA	PUHZ-ZRP50VKA	Office Hrs Well Managed
Information Services	AC106	Office	Mitsubishi Heavy	FDCP308HEN3B	FDCP308HEN3B	Office hrs
Mammography	AC107	Exam room	Mitsubishi electric	PUHZ-ZRP100VKA	PUHZ-ZRP100VKA	Office hrs
CT Scan 2 "Clive"	114D	Reporting Room	Mitsubishi electric	PLFY-P25VBM-E	PUHY-P350YLM-A	24-7 Intermitent
MRI	18	Exam Room	Mitsubishi electric	PUHZ-ZRP100VKA	PKA-RP50HAL	24-7 Intermitent
CT Scan	23A	Control Room	Mitsubishi electric	PLFY-P25VBM-E	PUMY-P140YHMB	24-7 Intermitent
Sodexo general office	46A	Office	Mitsubishi Electric	PKA-RP50HAL	PKA-RP50HAL	Office Hrs Well Managed
Sodexo general office	46B	Office	Mitsubishi electric	PKA-RP50HAL	PKA-RP50HAL	Office Hrs Well Managed
SSD Wash Room	50A	Wash Room	Mitsubishi Electric	PLA-RP71BA	PLA-RP71BA	Office hrs
SSD Wash Room	50B	Wash Room	Mitsubishi Electric	PLA-RP71BA	PLA-RP71BA	Office hrs
Costcutter Shop	70	Shop Floor	LG	UT30NP4	UT30NP4	Extended Office hrs
Pathology	92	Leptospira	Mitsubishi Electric	PLA-RP125BA	PUHZ-P125VHA3	Extended Office hrs
Pathology	93	Leptospira	Mitsubishi Electric	PLA-RP125BA	PUHZ-P125VHA3	Extended Office hrs
Pathology	94	Faeces Room	Mitsubishi Electric	PKA-RP50HAL	PUHZ-RP50VHA4	Extended Office hrs
Pathology	95	Microbiology	Haier	AB36NACNAA	AU36NAINBA	Extended Office hrs
Pathology	96	Microbiology	Toshiba	RAV-SM1404UY-E	RAV-SM1403AT-E	Extended Office hrs
Pathology	97	Microbiology	Mitsubishi Electric	PLA-RP100BA2	PUHZ-RP100VHA3	Extended Office hrs
Pathology	AC98	Microbiology Biohazard	Toshiba	RAS-167SAV-E	RAV-167SKV-E3	Extended Office hrs
Pathology	100	Hysiology Lab	Toshiba	Not Visable due to position	RAV-167SKV-E3	Extended Office hrs
Pathology	101	Hysiology Lab	Toshiba	Not Visable due to position	RAV-167SKV-E3	Extended Office hrs
Pathology	102	Clinical chemistry	Toshiba	Not visible due to position	RAV-167SKV-E3	Extended Office hrs
Pathology	103	Clinical chemistry	Toshiba	Not viable due to position	RAV-167SKV-E3	Extended Office hrs
Pathology	104	Clinical chemistry	Toshiba	Not visible due to position	RAV-167SKV-E3	Extended Office hrs
CT Scan 2 "Clive"	114A	Scanner Room	Mitsubishi electric	PLFY-P125VBM-E	PUHY-P350YLM-A	24-7 Intermitent
Workshop	115A	Workshop	Mitsubishi electric	PLA-RP60VA	PUHZ-P125VHA3	Office hrs
	115B	Workshop	Mitsubishi electric	PLA-RP60VA	PUHZ-P125VHA3	Office hrs
Blood Science (Pathology)	128	Blood science	Mitsubishi Electric	PLA-RP100BA	PUHZ-P100VHA4	Office hrs
	129	Blood science	Mitsubishi Electric	PLA-RP140BA2	PUHZ-P140VHA3	Office hrs
	130	Blood science	Mitsubishi Electric	PLA-140BA2	PUHZ-P140VHA3	Office hrs
	131	Blood science	Mitsubishi Electric	PLA-RP100BA	PUHZ-P100VHA4	Office hrs
	132	Blood science	Mitsubishi Electric	PLA-RP140BA2	PUHZ-P140VHA3	Office hrs

Department	Asset no.	Location	Equipment	Internal Model	External Unit	Savings Assumptions
Post Graduate Centre	AC1	Reception Office	Hitachi	RAC-50NH4	RAC-50NH4	Office hrs
Post Graduate Centre	AC2	Reception Office	Hitachi	RAC-50NH4	RAC-50NH4	Office hrs
Post Graduate Centre	AC3	Office	Mitsubishi Electric	PUH-P1.6VGAA	PUH-P1.6VGAA	Office hrs
Post Graduate Centre	AC4	Office	Mitsubishi Electric	PUH-P1.6VGAA	PUH-P1.6VGAA	Office hrs
Post Graduate Centre	AC5	Lecture Hall	Hitachi	RAS-4AG7VE	RAS-4AG7VE	Office hrs
Post Graduate Centre	AC6	Lecture Hall	Hitachi	RAS-4AG7VE	RAS-4AG7VE	Office hrs
Post Graduate Centre	AC118	Observation room	Mitsubishi Electric	MSZ-GF60VE	MUZ-GF60VE	Office hrs
Post Graduate Centre	AC119	Viewing Room	Mitsubishi Electric	MSZ-GF60VE	MUZ-GF60VE	Office hrs
Mortuary	AC28	Pathologists office	Daikin	R25GZ7V11	R25GZ7V11	Office hrs
Mortuary	AC30	Tecnhicians Office	Daikin	R25GZ7V11	R25GZ7V11	Office hrs
Mortuary	AC31	Viewing Room	Daikin	R25GZ7V11	R25GZ7V11	Extended Office hrs
Mortuary	AC32	Waiting Room	Daikin	R25GZ7V11	R25GZ7V11	Extended Office hrs
Mortuary	AC33	Bier Room	Daikin	R25GZ7V11	R25GZ7V11	Extended Office hrs
Macmillan Renton Unit	AC123	Prep room	Mitsubishi Electric	SRC25ZM-S	SRC25ZM-S	Office hrs
Pharmacy	AC38	Behind Counter	Toshiba	RAV-SP892AT-E	RAV-SP892AT-E	Office Hrs Well Managed
Pharmacy	AC39	Behind Counter	Toshiba	RAV-SP802AT-E	RAV-SP892AT-E	Office Hrs Well Managed
Receipt and Distribution	AC42	Office	R25GZ7V11	RAS4AGE5L	RAS4AGE5L	Office hrs
Receipt and Distribution	AC43	Office	Hitachi	RAS4HVNCIE	RAS4AGE5L	Office hrs
Atkins Office	AC44	Office	Hitachi	RAS4AGE5L	RAS4AGE5L	Office hrs
Atkins Office	AC45	Office	Hitachi	RAS4AGE5L	RAS4AGE5L	Office hrs
Diabetics	AC53	Consultation Room	Haier	AU142AFBBA	AU142AFBBA	Office hrs
Mercia Office	AC60	Office	Mitsubishi Electric	MU-A09YV	MU-A09YV	Office hrs
Mercia Office	AC61	Office	Mitsubishi Electric	MUH-A12YV	MUH-A12YV	Office hrs
Mercia Office	AC62	Office	Mitsubishi Electric	MUCFH-A18WV	MUCFH-A18WV	Office hrs

Process Cooling controls upgrade

Department	Asset no.	Location	Equipment	Model	Unit
Staff Kitchen	14	Walk in Fridge	Zanotti	Not Visable	3C-A 3344-C
MRI	18	Exam Room			SUZ-KA71VA2
CT Scan	23B	Exam Room			TBC
Mortuary	24	Body Store Fridge A-D			MDB135TO02F
	25	Body Store Fridge E-H			MDB135TO02F
	26	Infected Body Store			BDB221TO174F
Macmillan Renton Unit	34	IT Hub	Mitsubishi Electric	MSZ-GE71VA	MSZ-GE71VA
Pharmacy	36	Med Store	Toshiba	RAV-SM1102UT-E	RAV-SM1102UT-E
	AC37	Roof	Toshiba	RAV-SM1102AT-E	RAV-SM1102UT-E
	40	Med Store	Toshiba	RAV-SM1102UT-E	RPI-2.5FSN2E
SSD Plant Room	48	Plant Room	Mitsubishi Electric	PCA-RP140KAQ	PCA-RP140KAQ & ROC-5.0FSN2E
	AC48	Roof	Mitsubishi Electric	PUHZ-P140VHA	
	49	Plant Room	Hitachi	ROC-5.0FSN2E	
	AC49	Roof	Hitachi	RAS-5HRNM2E	
Physio Motor Room	52	Motor Room	Mitsubishi Electric	PKA-RP50HAL	PKA-RP50HAL
Computer Department	54,55,56	Computer Room	Denco	D34XH	NX-4-K0552P
	57	Computer Room	Daikin	FAQ100BVV1B	FAQ100BVV1B
	59	Battery Room	Toshiba	RAV-264K-PE	RAV-264K-PE
Main Lift Motor Room	80	Motor Room	Hitachi	RPK-4AGS	RPK-4AGS
IT Hub	84	Hub E	Mitsubishi Electric	PKA-RP35HAL	PKA-RP35HAL
	85	Hub F	Mitsubishi Electric	PKA-RP35HAL	PKA-RP35HAL
	86	Hub G	Haier	AC242ACBAA	AC242ACBAA
	87	ITU UPS Room	Hitachi	RAS-25FH6	RAS-25FH6
	99	Hysiology Computer Room	Toshiba	RAS-24UKPES4	RAS-24UKPES4
CT Scan 2 "Clive"	114A	Scanner Room	Mitsubishi electric	PLFY-P125VBM-E	PLFY-P125VBM-E
	114B	Scanner Room	Mitsubishi electric	PLFY-P125VBM-E	
	133	Blood fridge	J&E hall		JEH2-0150-M-1
	AC133	outside wall	J&E hall	JEH2-0150-M-1	
	134	blood fridge	J&E hall		
	AC134	outsidewall	J&E hall	JEH2-0150-M-1	

6. **Mechanical Services Insulation**

- 6.1 Centrica shall install 1,254 valves/ flange covers and apply insulation to 138 linear metres of bare pipework.
- 6.2 All insulation covers conform to BS 5422 2009
- 6.3 All insulation covers non-combustible as to BS 476 Part 4
- 6.4 All insulation covers are designed to enclose the entire valve body including bonnet flange, mating flanges and overlap adjacent line insulation by a minimum of 50mm
- 6.5 Insulation covers wherever practical will be constructed in one piece
- 6.6 Insulation covers are of sewn construction
- 6.7 All flaps are installed in a manner suitable for water shedding
- 6.8 Insulation covers are for use on surfaces with operating temperatures from 0°C to 230°C
- 6.9 Insulation material is 50mm x 45kg/m³ Rockwool
- 6.10 Velcro fasteners with hook and loop flaps for quick installation and release
- 6.11 Draw cord to be 4mm braided polyester with tensile strength of 160kg and melting point of 250°C
- 6.12 Thread to be 'firefly' spun meta-aramide with flame protection up to 370°C
- 6.13 ID label to be material construction

Insulation covers have a thermal conductivity (k) of 0.049 W/mK (at 100°C)

6.14

Mechanical services insulation to be installed

Site Name		Main Boiler Room	
Valve & Pipework Details			
Cover Ref. No.	Cover Type	Nominal Bore	Quantity
1	VT	1	43
2	VT	1.25	10
3	VT	1.5	21
4	VT	2	23
5	F	1	8
6	F	2	6
7	F	2.5	5
8	F	8	2
9	VF	1	9
10	VF	1.5	17
11	VF	2	11
12	VF	4	15
13	VF	5	1
14	VF	8	2
15	vf	8	1
16	vf	8	1
17	vf	8	4
18	AIR&DIRT	8	1
19	lagging	2	12
20	lagging	1.5	10
21	lagging	6	1
22	lagging	8	1
23	lagging	1.5	9
24	lagging	1	36
25	lagging	1.25	10

Site Name		Plantroom 1A	
Valve & Pipework Details			
Cover Ref. No.	Cover Type	Nominal Bore	Quantity
1	VT	1	8
2	VT	1.25	29
3	VT	1.5	43
4	VT	2	49
5	F	2	2
6	F	2.5	3
7	F	3	4
8	LAGGING	1	2
9	LAGGING	1.25	2
10	vt	1	42
11	vf	1	7

Site Name Plantroom 1B			
Valve & Pipework Details			
Cover Ref. No.	Cover Type	Nominal Bore	Quantity
1	VT	1	12
2	VT	1.25	33
3	VT	1.5	26
4	VT	2	37
5	F	1.5	2
6	F	3	1
7	VF	2	4
8	VF	2.5	8
9	VF	3	1
10	LAGGING	1.25	2
11	vt	1	16
12	vf	1	1

Site Name Plantroom 1C			
Valve & Pipework Details			
Cover Ref. No.	Cover Type	Nominal Bore	Quantity
1	vt	1	3
2	vt	1.25	43
3	vt	1.5	26
4	vt	2	47
5	f	1.5	11
6	f	2	2
7	f	3	2
8	vf	2.5	4
9	vf	3	6
10	lagging	1.25	1
11	lagging	1.5	2
12	vt	1	6
13	vf	1	1

Site Name Plantroom 1D			
Valve & Pipework Details			
Cover Ref. No.	Cover Type	Nominal Bore	Quantity
1	vt	1	2
2	vt	1.25	20
3	lagging	1.5	1
4	vt	1	16
5	vf	1	2

Site Name Plantroom 2 Support Building			
Valve & Pipework Details			
Cover Ref. No.	Cover Type	Nominal Bore	Quantity
1	vt	1	44
2	vt	1.25	21
3	vt	1.5	15
4	vt	2	2
5	f	1.5	8
6	f	3	2
7	vf	1	12
8	vf	1.5	12
9	vf	3	8
10	vf	1	8
11	vf	2	2
12	vf	2	1
13	vf	2	2
14	vf	8	1
15	lagging	1.5	1
16	lagging	3	3
17	lagging	1.5	6
18	lagging	1.25	13
19	lagging	1	10
20	vt	1	10
21	vf	1	2
22	vf	2	1

Site Name Plantroom 3			
Valve & Pipework Details			
Cover Ref. No.	Cover Type	Nominal Bore	Quantity
1	vt	1	84
2	vt	1.25	90
3	vt	1.5	95
4	vt	2	58
5	f	1	2
6	f	1.25	2
7	f	2.5	2
8	f	3	4
9	f	6	1
10	vf	1.5	2
11	vf	2	4
12	vf	2.5	7
13	vf	3	4
14	vf	4	2
15	air&dirt	2.5	1
16	air&dirt	3	1
17	vf	2	4
18	vf	1	4
19	vf	2	2
20	lagging	2	4
21	lagging	1.5	4
22	lagging	1.25	6
23	lagging	2.5	2
24	vt	1	30
25	vf	1	5

PART 2B DETAILED SCOPE OF PHASE 2 WORKS

1. Heat Pumps

- 1.1 Centrica shall Construct a new Energy Centre in the Orchard car park which will house Air Source Heat Pumps which feed into Water-to-Water heat pumps to provide the base heating load, electrode boilers will be installed for resilience/top up. A new Low Temperature Hot Water (LTHW) heat network

and Plate Heat Exchanger (PHE) interfaces are to be installed to allow the existing steam-to-LTHW and Steam-to-Domestic Hot Water (DHW) calorifiers to be replaced.

- 1.2 The existing Steam boilers retained acting as emergency resilience. In the event of a power failure to site the steam boilers will back feed the LTHW network via new Steam to LTHW plate heat exchangers (located in the Support Building Plant Room).
- 1.3 The electrical site capacity will be increased to 8.5MVA by National Grid. Centrica will install new HV/LV transformers to power the Energy Centre. A new connection will be installed from the new DNO substation to the Weighbridge substation.
- 1.4 A new controls system will be installed, with interfaces to existing site kit installed by Johnson Controls.

2. Plantroom Details.

2.1 Energy Centre

- 2.1.1 6 no. 379kWt Air Source Heat Pumps
- 2.1.2 2 no. 10,000ltr buffer vessels
- 2.1.3 3 no. 1141kWt Water to Water Heat Pumps
- 2.1.4 4 no. 500kW Electrode Boilers
- 2.1.5 2 no. 30,000ltr Thermal Stores

2.2 Pathology

- 2.2.1 Duty/Standby 634kW PHE for Space Heating
- 2.2.2 Duty/Standby 134kW PHE for Domestic Hot Water
- 2.2.3 2 no. 3200ltr Hot Water Tanks

2.3 Mortuary

- 2.3.1 80kW PHE for Space Heating
- 2.3.2 1 no. 16kW PHE and 800ltr Hot Water Tank for Domestic Hot Water
- 2.3.3 1 no. 43kW PHE and 430ltr Hot Water Tank for Domestic Hot Water

2.4 Age Care A

- 2.4.1 94kWt PHE for space heating

2.5 Age Care B

- 2.5.1 Duty/Standby 156kW PHE for Space Heating

2.5.2 Duty/Standby 37kW PHE for Domestic Hot Water

2.5.3 2 no. 1400ltr Hot Water Tanks

2.6 Age Care C

2.6.1 319kW PHE for Space Heating

2.6.2 21kW PHE for Domestic Hot Water

2.6.3 1 no. 440ltr Hot Water Tanks

2.7 72 Bed Ward

2.7.1 Duty/Standby 421kW PHE for Space Heating

2.7.2 Duty/Standby 400kW PHE for Domestic Hot Water

2.7.3 2 no. 4000ltr Hot Water Tanks

2.8 ITU

2.8.1 Duty/Standby 115kW PHE for Space Heating

2.9 Theatres

2.9.1 Duty/Standby 328kW PHE for Space Heating

2.9.2 Duty/Standby 162kW PHE for Domestic Hot Water

2.9.3 2 no. 3500ltr Hot Water Tanks

2.10 Main Hospital Plant room B

2.10.1 Duty/Standby 1825kW PHE for Space Heating

2.10.2 Duty/Standby 404kW PHE for Domestic Hot Water

2.10.3 2 no. 3000ltr Hot Water Tanks

2.11 Support Building (SSD)

2.11.1 215kW PHE for Space Heating

2.11.2 40kW PHE for Domestic Hot Water

2.11.3 1 no. 700ltr Hot Water Tanks

2.11.4 323kW PHE for washer

3. Electric Steam Generators

3.1 New electric steam boilers will be installed to feed the Autoclaves in SSD and Pathology.

3.1.1 3no. 190 ltr (120 ltr boiler and 70 ltr pre-heat tank) Electric Steam Generators in SSD

3.1.2 1no. 600 ltr Laboratory Effluent Containment Single Ended Sterilizer in Pathology

4. Cavity Wall Insulation

4.1 Cavity wall insulation shall be installed in Pathology.

4.2 Cavity wall insulation will be EnergyStore SuperBead Insulation

4.3 Cavity wall insulation shall be installed to a total area of 983 sqm

5. Loft Insulation

5.1 Loft insulation shall be installed in loft spaces, where accessible, in Age Care and Rehabilitation

5.2 Loft insulation will be Knauf Loft Roll 44

5.3 410 sqm of loft insulation shall be installed to a total depth of 300mm

PART 3

COMPLETION TESTS

PART 3A PHASE 1 WORKS COMPLETION TESTS

As specified in paragraphs 0 to 6 of this Part 3, in respect of each Technology, the following completion tests will be undertaken for the relevant Technologies at the Site. On completion of all applicable tests for a specific Technology at the Site, a Taking-Over Certificate and/or Completion Certificate (as applicable) for that Technology at the Site will be issued to the Authority by the Supplier in accordance with Clause 7.7.2

- PRE-COMMISSIONING TEST
- G99 COMMISSIONING TEST / OTHER THIRD-PARTY TEST
- TAKING-OVER CERTIFICATE
- PERFORMANCE TEST FOR M&V PURPOSES
- SNAGGING COMPLETE
- COMPLETION CERTIFICATE

The following completion tests will be undertaken for each of the Technologies in compliance with CIBSE specifications where applicable:

1. AMBIENT LOOP HEAT NETWORK

Centrica shall carry out the following tests to demonstrate successful completion of the installation.

STAGE	DETAIL
STAGE 1: PRE-COMMISSIONING TEST	<ul style="list-style-type: none">• Visual check• Functional test for heat pumps, ambient loop and heat distribution system in the plantrooms and auxiliary equipment• Pressure tests to 1.5 x working pressure
STAGE 2: COMMISSIONING TEST	<ul style="list-style-type: none">• Commissioning of pipework system in compliance with CIBSE standards:<ul style="list-style-type: none">• Commissioning Code W: Water distribution systems (2010)• Commissioning Code R: Refrigerating systems (2002)• TM51: Ground Source Heat Pumps• Manufactures guidelines• Heat Pump performance test• Heat exchangers performance test

STAGE 3: COMPLETION CERTIFICATE	<ul style="list-style-type: none"> • O&M manual handed over • The Authority shall sign the Completion Certificate once the Completion Criteria have been satisfied
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2. **ROOF MOUNTED SOLAR PV SYSTEM**

All PV installations must comply with the requirements of the latest version of BS7671 (with special reference to Part 712) and the IET Code of Practice for Grid Connected Solar PV Systems (IET CoP).

The commissioning process for a grid-connected PV system follows that described in the IET Code of Practice for Grid Connected Solar PV Systems.

STAGE	DETAIL
STAGE 1: PRE-COMMISSIONING TEST	<p>Inspection and testing of the AC circuits to the requirements of BS7671.</p> <p>This is the same procedure as for any AC system and is described in BS7671 and the supporting document Guidance Note 3: Inspection & Testing. Therefore, it is assumed that the standard AC circuit tests will be conducted, and the AC checks listed below are specific to PV systems or are the result of feedback following particular issues in the field.</p>
STAGE 2: PERFORMANCE TEST	<p>Inspection & testing of the system in accordance with BS EN 62446, "Grid connected photovoltaic systems. Minimum requirements for system documentation, commissioning tests and inspection." The example checklist set out at Appendix 2 of this Part 3 reflects requirements from BS EN 62446, and adds some other requirements that are the result of feedback from the field</p>
STAGE 3: COMPLETION CERTIFICATE	<p>Marking up diagrams and submitting engineering change requests, where as-built systems are found not to comply with the design documents and drawings (see form at end of this document) O&M manual handed over</p> <p>The Authority shall sign the Completion Certificate once the Completion Criteria have been satisfied</p>

3. **RETROFIT LIGHTING**

The completion test is undertaken when a section of the installed lighting is identified as physically complete and operation of the individual fittings are demonstrated.

STAGE	DETAIL
STAGE 1: PRE-COMMISSIONING TEST	<p>This stage involves the completion of a Pre-Commissioning Report which is used to confirm the various functions of the installed equipment, this report incorporates a systematic approach to the process, with each stage being confirmed by Centrica initialling the items.</p> <p>This stage is undertaken when a section of the installed lighting is identified as physically complete and operation of the individual fittings are demonstrated</p>

	<p>Light levels taken at random sample locations (to be agreed) prior to replacement of the light fittings.</p> <p>Before and after fitting kW power levels measured for representative samples, with delta grossed up by number of fittings in each area to establish saving, applied to electricity tariff and run hours. As specified in Schedule 5 (<i>Energy Savings Guarantee & Measurement & Verification</i>) Part 2</p> <p>Light levels are to be taken in hours of darkness and witnessed by the Authority</p>
STAGE 2: TAKING-OVER CERTIFICATE	<p>The Taking-Over Requirements are:</p> <ul style="list-style-type: none"> Physically complete Operation of individual fittings demonstrated <p>O&M manual handed over</p> <p>The Authority shall sign the Taking Over Certificate once the Taking-Over Requirements have been satisfied</p>
STAGE 3: PERFORMANCE TEST	<p>This stage demonstrates the performance of the equipment against a detailed test and M&V procedures to be prepared by Centrica. Numbers are based on a single unit.</p> <p>Electrical Outputs:</p> <p>Light levels taken at random sample locations after replacement of the light fittings to prove that replacement lighting levels are no lower.</p> <p>Light levels are to be taken in hours of darkness and witnessed by the Authority</p> <p>Savings calculation/approval (as per M&V plan)</p>
STAGE 4: SNAGGING	Snagging Completed
STAGE 5: COMPLETION CERTIFICATE	<p>O&M manual handed over</p> <p>The Authority shall sign the Completion Certificate once the Completion Criteria have been satisfied</p>

4. **AHU FAN AND MOTOR UPGRADES**

STAGE	DETAIL
STAGE 1: PRE-COMMISSIONING TEST	<p>Dilapidation survey – pre-works</p> <p>Pre-installation - Tests to be carried out as per M&V section.</p>
STAGE 2: TAKING-OVER CERTIFICATE	<p>The Taking-Over Requirements are:</p> <ul style="list-style-type: none"> Physically complete

	<ul style="list-style-type: none"> • Operation of individual motors/fans demonstrated • O&M manual handed over <p>The Authority shall sign the Taking-Over Certificate once the Taking-Over Requirements have been satisfied</p>
STAGE 3: PERFORMANCE TEST	AHU Post installation - Tests to be carried out as per M&V section.
STAGE 4: SNAGGING	Snagging Completed
STAGE 5: COMPLETION CERTIFICATE	The Authority shall sign the Completion Certificate once the Completion Criteria have been satisfied

5. **LOCAL COOLING CONTROLS UPGRADE**

STAGE	DETAIL
STAGE 1: PRE-COMMISSIONING TEST	Inspection and Testing complete
STAGE 2: TAKING-OVER CERTIFICATE	<p>The Taking-Over Requirements are:</p> <ul style="list-style-type: none"> • Physically Complete • Manufacturer's data sheet • O&M manual handed over <p>The Authority shall sign the Taking Over Certificate once the Taking-Over Requirements have been satisfied</p>
STAGE 3: SNAGGING	Snagging Completed
STAGE 4: COMPLETION CERTIFICATE	The Authority shall sign the Completion Certificate once the Completion Criteria have been satisfied

6. **MECHANICAL SERVICES - INSULATION**

STAGE	DETAIL
STAGE 1: PRE-COMMISSIONING TEST	Workmanship report
STAGE 2: TAKING-OVER CERTIFICATE	<p>The Taking-Over Requirements are:</p> <ul style="list-style-type: none"> • Physically Complete

	<ul style="list-style-type: none"> Manufacturer's data sheet O&M manual handed over <p>The Authority shall sign the Taking Over Certificate once the Taking-Over Requirements have been satisfied</p>
STAGE 3: SNAGGING	Snagging Completed
STAGE 4: COMPLETION CERTIFICATE	The Authority shall sign the Completion Certificate once the Completion Criteria have been satisfied

PART 3B PHASE 2 WORKS COMPLETION TESTS

As specified in paragraphs [1 to 6] of this Part 3B, in respect of each Technology, the following completion tests will be undertaken for the relevant Technologies at the Site. On completion of all applicable tests for a specific Technology at the Site, a Taking-Over Certificate and/or Completion Certificate (as applicable) for that Technology at the Site will be issued to the Authority by the Supplier in accordance with Clause 7.7.2

- PRE-COMMISSIONING TEST
- COMMISSIONING
- TAKING-OVER CERTIFICATE
- PERFORMANCE TEST FOR M&V PURPOSES
- SNAGGING COMPLETE
- COMPLETION CERTIFICATE

The following completion tests will be undertaken for each of the Technologies in compliance with CIBSE specifications where applicable:

1. HEAT PUMPS

Centrica shall carry out the following tests to demonstrate successful completion of the installation

STAGE	DETAIL
STAGE 1: PRE-COMMISSIONING TEST	<ul style="list-style-type: none"> Visual check Functional test for heat pumps, district heating network and heat distribution system in the energy centre, plantrooms and auxiliary equipment <p>Pressure tests to 1.5 x working pressure</p>
STAGE 2: TAKING-OVER CERTIFICATE	<ul style="list-style-type: none"> Commissioning of pipework system in compliance with CIBSE standards: <ul style="list-style-type: none"> • Commissioning Code W: Water distribution systems (2010) • Commissioning Code R: Refrigerating systems (2002) • AM17: Heat Pump Installations for large non-domestic buildings (2022)

	<ul style="list-style-type: none"> Manufactures guidelines <ul style="list-style-type: none"> Heat Pump performance test Heat exchangers performance test
STAGE 3: SNAGGING	<ul style="list-style-type: none"> O&M manual handed over The Authority shall sign the Completion Certificate once the Completion Criteria have been satisfied

2. LOFT INSULATION

STAGE	DETAIL
STAGE 1: PRE-COMMISSIONING TEST	Workmanship report
STAGE 2: TAKING-OVER CERTIFICATE	<p>The Taking-Over Requirements are:</p> <ul style="list-style-type: none"> Physically Complete Manufacturer's data sheet O&M manual handed over <p>The Authority shall sign the Taking Over Certificate once the Taking-Over Requirements have been satisfied</p>
STAGE 3: SNAGGING	Snagging Completed
STAGE 4: COMPLETION CERTIFICATE	The Authority shall sign the Completion Certificate once the Completion Criteria have been satisfied

3. CAVITY WALL INSULATION

STAGE	DETAIL
STAGE 1: PRE-COMMISSIONING TEST	Workmanship report
STAGE 2: TAKING-OVER CERTIFICATE	<p>The Taking-Over Requirements are:</p> <ul style="list-style-type: none"> Physically Complete Manufacturer's data sheet O&M manual handed over <p>The Authority shall sign the Taking Over Certificate once the Taking-Over Requirements have been satisfied</p>

STAGE 3: SNAGGING	Snagging Completed
STAGE 4: COMPLETION CERTIFICATE	The Authority shall sign the Completion Certificate once the Completion Criteria have been satisfied

4. AUTOCLAVES

STAGE	DETAIL
STAGE 1: PRE-COMMISSIONING TEST	Workmanship report
STAGE 2: TAKING-OVER CERTIFICATE	<p>The Taking-Over Requirements are:</p> <ul style="list-style-type: none"> • Physically Complete • Manufacturer's data sheet • O&M manual handed over <p>The Authority shall sign the Taking Over Certificate once the Taking-Over Requirements have been satisfied</p>
STAGE 3: SNAGGING	Snagging Completed
STAGE 4: COMPLETION CERTIFICATE	The Authority shall sign the Completion Certificate once the Completion Criteria have been satisfied

PART 4

TRAINING

Within three (3) months following the Phase 1 Service Commencement Date and again within three (3) months following the Phase 2 Service Commencement Date, Centrica shall deliver a single respective training session free of charge to not more than ten (10) nominated representatives of the Authority. This training session will be delivered to personnel that will be able to cascade the learning throughout the teams in a 'train the trainer' fashion. The training session will focus on how to efficiently, and safely isolate and otherwise make safe Centrica Serviced Technologies where it is necessary for the PFI Contractor to do so as part of the First Line Response in relation to a Category 1 Breakdown. Subject to terms and conditions agreed by the Parties, Centrica may deliver further training sessions.

APPENDIX 1

Taking-Over Certificate

To be provided in respect of Authority Serviced Technologies

Issued by: CENTRICA BUSINESS SOLUTIONS UK LIMITED
Address: Millstream, Maidenhead Road, Windsor, Berkshire, England, SL4 5GD

Works: Energy Performance Contract Scope of Works
Situated at: WYE VALLEY NHS TRUST

To: WYE VALLEY NHS TRUST
Address: Stonebow Road, Hereford HR1 2BN

Date:

We refer to the agreement dated 2021 between WYE VALLEY NHS TRUST (1) and CENTRICA BUSINESS SOLUTIONS UK LIMITED (2) relating to Centrica Works, Services and the provision of an Energy Savings Guarantee (the "**Energy Performance Contract**"). Terms defined in the Energy Performance Contract shall have the same meaning in this Taking-Over Certificate.

It is hereby certified under Clause 7.7.2 of the Energy Performance Contract that the Works to install [lighting/other Authority Serviced Technology] at the Site during the month of [insert relevant month] as set out below have been completed in accordance with the Energy Performance Contract on 2021.

- The scope of the works completed for the month are **[give details]**
- The value of the relevant Works completed for the month is £[insert]
- The proportion of the relevant Milestone Payment that the above sum comprises is [x]%

It is hereby certified that the requirements for Taking-Over of the [insert Section] have been met in accordance with the requirements of the Energy Performance Contract.

.....

Centrica's Representative

Date:.....

The Authority hereby accepts the above Taking Over Certificate.

.....

Authority's Representative

Date:.....

APPENDIX 2

COMPLETION CERTIFICATE

To be provided in respect of all Technologies

Issued by: CENTRICA BUSINESS SOLUTIONS UK LIMITED
Address: Millstream, Maidenhead Road, Windsor, Berkshire, England, SL4 5GD

Works: Energy Performance Contract Scope of Works
Situated at: WYE VALLEY NHS TRUST

To: WYE VALLEY NHS TRUST
Address: Stonebow Road, Hereford HR1 2BN

Date:

We refer to the agreement dated 2021 between WYE VALLEY NHS TRUST (1) and CENTRICA BUSINESS SOLUTIONS UK LIMITED (2) relating to Centrica Works, Services and the provision of an Energy Savings Guarantee (the **Energy Performance Contract**). Terms defined in the Energy Performance Contract shall have the same meaning in this Taking-Over Certificate.

It is hereby certified under Clause 7.7.7 of the Energy Performance Contract that the Works to install [lighting/other Authority Serviced Technology] at the Site during the month of [insert relevant month] as set out below have been completed in accordance with the Energy Performance Contract on 2021.

- The scope of the works completed for the month are **[give details]**
- The value of the relevant Works completed for the month is £[insert]
- The proportion of the relevant Milestone Payment that the above sum comprises is [x]%
- [The value of the Early Savings to be delivered for the completed Works is £[insert]]

It is hereby certified that the requirements for Taking-Over of the [insert Section] have been met in accordance with the requirements of the Energy Performance Contract.

.....

Centrica's Representative

Date:.....

The Authority hereby accepts the above Completion Certificate.

.....

Authority's Representative

Date:.....

SCHEDULE 4

SERVICES

PART 1

SCOPE OF SERVICES

Centrica will provide the Authority with the operations and maintenance services in accordance with the criteria outlined in this schedule and each of the Technologies listed below is a Centrica Serviced Technology.

Item	Works	Scope of Services
1.	Measurement & Verification	Services: the provision of measurement and verification services and insurances
2.	Ambient Loop Heat Pump	Services: the provision of operations and maintenance services in relation to the Technology
3.	Solar PV System	Services: the provision of operations and maintenance services in relation to the Technology
4.	Heat Pump Energy Centre	Services: the provision of operations and maintenance services in relation to the Technology

1. MEASUREMENT & VERIFICATION

This consists of the requirement to undertake measurement and verification assessments in delivering the Savings Audit Reports. Centrica is not obliged to provide measurement and verification services as described in this section where the Authority has exercised its right under Clause 9.7 to require Centrica to cease providing such services.

The below table represents the time period that savings performance for each Technology is to be measured and reported.

Technology	Measurement Period	Reporting Period	Reporting Frequency
Ambient Loop Heat Pump (Phase 1 Works)	Annual for contract duration from Phase 1 Guarantee Commencement Date	Contract duration from Phase 1 Guarantee Commencement Date	Monthly
Solar PV	N/A		Quarterly
LED and Controls Lighting Upgrade	Instantaneous		
AHU Fan and Motor Upgrade	Instantaneous/2 weeks		
Local Cooling Controls Upgrade	N/A		

Mechanical Services Insulation	N/A		
Heat pumps and electrode boilers (Phase 2 Works)	Annual for contract duration from Phase 2 Guarantee Commencement Date	Contract duration from Phase 2 Guarantee Commencement Date	Monthly
Cavity wall insulation	N/A		Quarterly
Loft insulation	N/A		
Electric steam generators	N/A		

For the Ambient Loop Heat Network and ASHP (Phase 1 Works) and heat pumps (Phase 2 Works), Energy data from the specified meters will be continuously collected and recorded by CBS using a data logging system and AWS. Weather data will be collected by CBS in case there is a requirement for a baseline adjustment.

For Solar PV, the Energy data from the solar PV arrays will be collected and recorded by CBS. There is no requirement to monitor independent variables in relation to this Technology since none which affect the energy consumption within the measurement boundary have been identified.

On a quarterly basis, CBS will provide a savings report showing the following:

- Site reference, name and address
- Measurement period start and end dates
- Estimate of savings (or avoided energy use) in energy, financial and carbon terms
- Any other parameters as agreed with Wye Valley NHS Trust

In addition, a monthly savings report will be provided by CBS showing the following for the ALHN and ASHP (Phase 1 Works) and heat pumps/electrode boilers (Phase 2 Works) savings only:

- Estimate of savings (or avoided energy use) in energy terms
- Any other parameters as agreed with Wye Valley NHS Trust

2. Phase 1 Ambient Loop Heat Pump & Phase 2 Energy Centre Heat Pumps

The below table sets out the Services to be provided by Centrica in relation to the Ambient Loop Heat Pump Technology.

Centrica will undertake two service visits per year (one major and one minor), with the visit prior to the heating season being the major service visit.

All works shall be compliant to the original equipment manufacturer recognised standard.

2.1 Maintenance Activity table

Maintenance Item	Required Activity
Circulation Pumps	

Maintenance Item	Required Activity
Firmware and software	Update firmware and software to latest version
Inverter setting	Ensure all settings are correct
Pump performance	Ensure each pump is operating to its motor and pressure curve
Motor checks	Check the insulation resistance of the motor windings
	Check the amp reading against Full Load Current (FLC) comparison
	Check motor bearing condition
	Grease bearing if applicable
	Check for motor noise
Pump change over	Demonstrate correct pump change over
Run hours	Check pump run hours and compare
Incoming power supply	Test incoming power supply and ensure correct voltage
Terminations	Check security of wiring terminations, plugs and earthing
Leaks	Visual check for any leaks
Seal	Check condition of mechanical shaft seal
Pump rotation	Check the pump rotation is correct
Security guards	Ensure all safety guards are in place
Clean	General clean of equipment
Heat Pumps	
Compressors and associated components	Leak test all joints, valves & connections in compliance with F-GAS regulations. Provide report with test certification
Refrigerant levels	Check all HP's confirm full charge of refrigerant
Oil change	Check all HP's oil levels, record oil discolouration
Compressors	Check correct operation of compressor and demonstrate it loading up
	Check for unusual compressor noise during normal operation
	Visual check of compressor - check for distortion, corrosion & leaks
Refrigerant drier & filters	Check for blockages - change if due

Maintenance Item	Required Activity
Controls & pressure switches	Check for correct operation of High Pressure (H.P), Low Pressure (L.P) & safety switches record settings & calibrate against initial set points. Report any defects
Transducers	Check correct operation of pressure transducers
Pack operating pressures	Record suction & discharge pressures
Probes	Check correct installation and location of all temperature probes
Probe calibration	Validate all temperature probes
Expansion Valves	Confirm correct operation of Electronic Expansion Valve (EEV) and record superheat
Heaters	Check correct operation of compressor crankcase heaters
Electrical connections	Check all are tight and secure and are free from discolouration
Electrical contactors relays & MCB's	Check functionality
Emergency stop	Check for correct operation
Pressure relief valves	Check for leakages check and record pressure settings, labelling and record dates
F-Gas records & reports	Complete all reports in compliance with F-Gas regulations
Heat pump controllers	Back up all software installed on the heat pumps controllers. Verify controllers are online and data points are active
Electrical meters	Ensure that the electrical meters for each heat pump are operating
Plate heat exchangers	Photograph all evaporators and condensers (plate heat exchangers) report any leaks or corrosion
Lagging	Check condition of all lagging
Automatic Air Vent's (AAV's)	To be replaced every 3 years
Components & Pipework	Check for distortion and corrosion
Fixings & Brackets	Check all are secure and tight
Low Temperature Hot Water (LTHW) (Space heating system)	
Temperature probes	Visual inspection of all temperature probes, validate all temperature readings using a handheld device. Validate temperature readings with the heat pump temperature probes
Flow meters	Mag flow meters to be validated every 4 years to ensure calibration

Maintenance Item	Required Activity
Actuators	Demonstrate correct operation, ensure no adverse noise - actuators to be replaced in line with manufacturer's instructions (suggested change cycle is every 4 years)
Pressure transducers	Validate pressure transducers using a manual gauge
Energy calculators	Visual inspection and record readings
Water samples	Chemical & bacterial sample taken from inside the plant room and sent to a UKAS approved laboratory for analysis to BSRIA standards
Valves	Ensure no leaks from any valves and that they operate correctly
Tanks	Clear drain cocks
Pipework	Ensure no leaks from pipework. Visual inspection of all lagging, ensure that all valve jackets are present and secure
Strainers	Remove, photograph and clean strainers
Water meters	Record water meter readings
Flow meters	Visual inspection of flow meter bodies, leads and heads
Pressure relief valves	Ensure valves are not leaking/passing record dates
Dosing pots	Ensure all dosing pots are closed from the system and are drained of water
Labels	Ensure all identification labels are fitted and visible
Expansion vessel	Ensure correct operation of the vessel, witness compressor running, Pressure relief operating, solenoid valve and drain down the vessel
Auto air vents (AAV's)	To be replaced every 3 years
Air Source Heat Pumps (ASHP)	
Refrigerant side	
ASHP unit	General inspection of unit
Heat pump oil	Acid test
Evaporator coil	Visual inspect for damage
Evaporator coil	Clean
Fans	Visual inspection
Fans	Prove correct operation
Fans	Clean

Maintenance Item	Required Activity
Drier core	Inspect/Replace drier core
Compressors	Visual inspection
Pressure Relief Valve (PRV)	Visual inspection and leak test
Temperature probes	Validate temperature probes
Pressure transducers	Validate pressure transducers
Pack pressure	Check pack pressures
F-GAS Reports	Reports completed when introducing/removing gas
Plate heat exchanger	Visual inspection of plate heat exchanger
Water side	
Buffer vessel	Visual inspection of buffer vessel;
Immersion heaters	Check resistance and prove operation
Strainer	Remove and clean strainer
Water	Take water sample for analysis
Pipework	Visual inspection of the pipework Schedule 6
Pumps	Visual inspection of pumps/prove correct operation and rotation
Valves	Ensure all valves operate freely
Lagging	Visual inspection of lagging
Flow switch	Prove operation of flow switch
PRV's (pressure relief valve's)	Ensure PRV's are in date and are not passing
Pressurisation unit	Visual inspection/Prove operation/ check settings
Expansion vessel	Check pressure
Automatic Valves	Confirm operation of all automatic valves
Manual gauges	Manual validation
Auto air vents	Check date and prove operation
Electrical	
General wiring	Visual inspection of heat pump wiring
Connections	Check of condition and tightness of connections

Maintenance Item	Required Activity
Contactors	Visual inspection of contactors/prove operation
Thermal imaging	Thermal imaging of control panel and main power termination

2.2 Exclusions

- Inspection of any secondary pipework outside the plantroom in the building
- Addition of any refrigerant gas
- Replacement of any oil
- Replacement of any strainers
- Any remedial works
- Any water treatment
- Any parts not listed above
- Any BMS or associated equipment
- Any replacement of PRV's
- Inspection of underfloor manifold and associated equipment
- Any replacement of automatic air vents (AAV's)
- Anything not specifically stated as included
- Any maintenance activities associated with the side stream filtration units

3. Electrode Boilers

An annual maintenance visit to be undertaken, incorporating the tasks below:

- Shut the boiler down, drain the water from the system, and clean out all accumulated scale build-up, corrosion, and sludge from the pressure vessel.
- Check for electrode deterioration and erosion of the electrodes, counter electrodes, and stripper of the regulating shield.
- Check for erosion of nozzles. Check the nozzle stock for erosion and remove any scale build-up.
- Check the general mechanical condition of the boiler assembly.
- Check all pressure gauges for accuracy.
- Remove the circulating pump(s) and inspect for wear of the shaft bearings and pump impeller.
- Check the safety valves for wear and correct settings.
- Inspect the blowdown valves for seat erosion.

- Clean the hydraulic pump reservoir, air filter, and suction strainer.

3.1 Exclusions

Inspection of any secondary pipework outside the plantroom in the building

Any remedial works

Any water treatment

Any parts not listed above

Any BMS or associated equipment

Any replacement of PRV's

Inspection of underfloor manifold and associated equipment

Any replacement of automatic air vents (AAV's)

Anything not specifically stated as included

4. Solar PV

The Services are monitoring, reporting, cleaning and corrective maintenance services to repair any defect in or malfunction to this Centrica Serviced Technology. Two planned visits per annum are included in the Service Payment, corrective maintenance, parts and labour will be chargeable.

4.1 Exclusions

- Inspection of final connections to the Authority's network / distribution boards;
- The Authority is to provide safe access to installations or parts of installations where it is not available;
- Thermal imaging service (this can be carried out as an additional service subject to payment of an additional fee); and
- If the environmental conditions be such that the PV modules require more frequent cleaning (only two visits per annum provided) Centrica will inform the Authority and this service can be carried out at an additional charge. Environmental conditions include, but are not limited to, dust accumulation from increased local development, partial shading from any new development, increase in bird droppings from a change in local population.

5. Corrective Maintenance

5.1 For the purposes of this paragraph 5:

5.1.1 "**Category 1 Breakdown**" means an Eligible Breakdown which constitutes an Emergency;

5.1.2 "**Category 1 Purchase Order**" means a purchase order, in a form acceptable to Centrica (acting reasonably), authorising Centrica to provide Corrective Maintenance Services (and incur associated expenditure) in relation to the occurrence of a Category 1 Breakdown up to a maximum of £750 (Index Linked) per breakdown in respect of Centrica's Corrective Maintenance Fee for responding to such breakdown. The maximum amount may be adjusted from time to time during the Term by the agreement of the Parties;

- 5.1.3 **"Corrective Maintenance Fee"** means the service fee payable by the Authority to Centrica for the provision of Corrective Maintenance Services in response to the occurrence of an Eligible Breakdown as calculated in accordance with paragraph 5.12;
- 5.1.4 **"Corrective Maintenance Services"** means services to:
- (a) investigate and assess an Eligible Breakdown, its causes and options for remedying and
 - (b) reset, repair or replace any plant or equipment forming part of a Centrica Serviced Technology where and to the extent such reset, repair or replacement is required to rectify an Eligible Breakdown,
- and for the avoidance of doubt, Corrective Maintenance Services shall not include any services performed by Centrica pursuant to paragraphs 2 and 3 of this Schedule 4;
- 5.1.5 **"Eligible Breakdown"** means a fault or malfunction in any plant and equipment forming part of a Centrica Serviced Technology; and
- 5.1.6 **"General Purchase Order"** means a purchase order, in a form acceptable to Centrica (acting reasonably), authorising Centrica to provide Corrective Maintenance Services (and incur associated expenditure) in relation to the occurrence of an Eligible Breakdown (except a Category 1 Breakdown) up to a maximum of £5,000 (Index Linked) per breakdown in respect of Centrica's Corrective Maintenance Fee for responding to such breakdown;
- 5.1.7 **"PFI Contractor"** means contractor appointed by Authority for the provision services in respect of the Site pursuant to the PFI Contract; and
- 5.1.8 **"Standing Purchase Orders"** means, collectively, the General Purchase Order and the Category 1 Purchase Order.

Provision of Corrective Maintenance Services

- 5.2 Subject to the Authority providing Centrica with the Standing Purchase Orders (and maintaining the same in effect during the Term), Centrica shall provide Corrective Maintenance Services in response to an Eligible Breakdown subject to, and in accordance with, this paragraph 5 in the following circumstances:
- 5.2.1 where Centrica identifies the occurrence of an Eligible Breakdown during, or as a result of, a service visit carried out in accordance with paragraphs 2 or 3 of this Schedule 4 above;
 - 5.2.2 where the occurrence of an Eligible Breakdown is identified by Centrica's remote monitoring systems; or
 - 5.2.3 the Authority or the PFI Contractor notifies Centrica of the occurrence of an Eligible Breakdown.
- 5.3 Centrica may commence provision of Corrective Maintenance Services in response to an Eligible Breakdown where it reasonably considers that the Corrective Maintenance Fee in respect of such services shall not exceed (i) the amount specified in the General Purchase Order in relation to an Eligible Breakdown which is not a Category 1 Breakdown, or (ii) the amount specified in the Category 1 Purchase Order in relation to a Category 1 Breakdown.
- 5.4 Where Centrica reasonably considers that paragraph 5.3 does not apply, it shall promptly provide the Authority with its good faith estimate of the Corrective Maintenance Fee payable by the Authority to Centrica for the Corrective Maintenance Services required to respond to the relevant Eligible Breakdown together with reasonable supporting evidence. The Parties acknowledge and agree that this paragraph 5.4 may apply where Centrica has already provided Corrective Maintenance Services

in response to the relevant Eligible Breakdown (including by carrying out an investigation and/or an assessment of such Eligible Breakdown, its causes and options for remediation).

- 5.5 As soon as reasonably practicable following receipt of Centrica's estimate, the Authority shall issue a purchase order (in a form acceptable to Centrica acting reasonably) for the amount of the Corrective Maintenance Fee estimated by Centrica. The Parties acknowledge and agree that Centrica is not obliged to provide and shall not be liable to the Authority howsoever arising for not providing, the relevant Corrective Maintenance Services until Centrica has received the corresponding purchase order from the Authority.

First Line Response

- 5.6 The Parties acknowledge and agree that the PFI Contractor is obliged:
- 5.6.1 to maintain services at the Site at all times during the normal working days or via a call-out arrangement out of hours;
 - 5.6.2 to carry out visual inspections in line with the existing Site regime of plant and equipment installed at the Site, including Centrica Serviced Technologies; and
 - 5.6.3 to provide services to the Authority to (i) mitigate the consequences of any damage to, impairment of, or disruption at the Site (including buildings, facilities, plant and equipment located at the Site) and (ii) make the Site safe to enable continued operations. These services are referred to in this paragraph 5 as "First Line Response" and may include isolating faulty plant and equipment and implementing of standby or temporary solutions.
- 5.7 Accordingly where a Category 1 Breakdown occurs:
- 5.7.1 the Authority shall (or shall procure that the PFI Contractor) immediately notifies Centrica of the occurrence of the Category 1 Breakdown;
 - 5.7.2 the Authority shall (at its cost) ensure that the PFI Contractor provides the First Line Response in response to the Category 1 Breakdown and shall (or shall procure that the PFI Contractor) keeps Centrica updated from time to time as to the progress and completion of the PFI Contractor's provision of the First Line Response;
 - 5.7.3 unless otherwise agreed by the Parties, the Authority shall ensure that the PFI Contractor does not reset, repair or replace any faulty or malfunctioning plant and equipment forming part of the Centrica Serviced Technologies which (i) has caused or contributed to, or (ii) became faulty or was caused to malfunction as a result of, the occurrence of the Category 1 Breakdown; and
 - 5.7.4 the Authority shall grant (or procure the grant) and Centrica shall grant (to the extent that it has sufficient rights to do so), the PFI Contractor such access rights to the Site (including any compounds or secured areas) as may be required to enable the PFI Contractor to provide the First Line Response and to use Critical Spares where and to the extent agreed by the Parties pursuant paragraph 5.11.1,

and notifications and updates provided under paragraphs 5.7.1 and 5.7.2 shall be by the following means:

- (a) by telephone: + 44 (0)800 975 6151 and/or
- (b) by e-mail: (Not Used)

Critical spares

- 5.8 Within 30 Business Days of the Phase 1 Service Commencement Date, Centrica shall provide the Authority with a list of spare parts (of a kind and in such quantities) which it is recommended that the

Authority maintain (at its cost) in stock at the Site ("**Critical Spares**") to facilitate the efficient and timely provision of the Corrective Maintenance Service.

5.9 Where and to the extent the Authority maintains a stock of Critical Spares at the Site, the Authority shall:

5.9.1 store the Critical Spares in a secure location at the Site and use all reasonable endeavours to prevent any alteration or damage to, interference with, removal or theft of, the Critical Spares;

5.9.2 shall not sell, offer to sell, underlet or lend the Critical Spares; and

5.9.3 shall not, and shall procure that its officers, employees, agents, representatives, contractors (of any tier) or invitees shall not, by act or omission, invalidate any manufacturer's warranties in respect of any of the Critical Spares.

5.10 Centrica shall:

5.10.1 have the exclusive right to use any Critical Spares (unless otherwise agreed by the Parties) and the Authority shall grant Centrica such rights of access to the secure location where the Critical Spares are stored to obtain and use such spares for the purpose of providing the Corrective Maintenance Services; and

5.10.2 procure spare parts to replace any Critical Spares used by Centrica (at the Authority's cost). Where Centrica replaces any Critical Spares:

(a) risk of loss to such replacement spares shall pass from Centrica to the Authority upon the earlier of (i) such replacement spares are received by the Authority into its possession, and (ii) when such replacement spares are stored in the secure location at the Site referred to in paragraph 5.9.1 above; and

(b) title to such replacement spares shall pass from Centrica to the Authority upon payment in full by the Authority for the same.

Energy Savings Guarantee

5.11 For the period:

5.11.1 commencing on the day on which an Eligible Breakdown first occurs; and

5.11.2 ending on the day on which Centrica completes the provision of the Corrective Maintenance Services in respect of such breakdown, the affected plant and any independent equipment shall be deemed to be performing in accordance with their design parameters for the purposes of calculating the Energy Savings Guarantee.

Corrective Maintenance Fee

5.12 In consideration of Centrica providing the Corrective Maintenance Services in response to an Eligible Breakdown, the Authority shall pay Centrica the Corrective Maintenance Fee in accordance with Clause 14. The Corrective Maintenance Fee in respect of an Eligible Breakdown shall be calculated as:

$$A = \sum(Be * Ce) + D$$

Where:

"A" is the Corrective Maintenance Fee payable in respect of an Eligible Breakdown in pounds sterling;

"Be" is the number of hours spent by, or otherwise chargeable in respect of, each Centrica employee or sub-contractor in providing the relevant Corrective Maintenance Services. The classification by job title of each Centrica employee or sub-contractor is set out in Table 1 below;

"Ce" is the hourly rate (in pounds sterling) applicable to each classification of Centrica employee or sub-contractor in providing the relevant Corrective Maintenance Services. The hourly rates applicable on the date of this Agreement are set out in the table immediately below and such rates shall be Index Linked:

"D" is the aggregate cost in pounds sterling of all Critical Spares used and replacements ordered in the provision of the relevant Corrective Maintenance Services.

Labour Rates		
	Time of day	Rate (£/hour)*
Senior engineer to attend Site, (minimum call-out 4 hours)	Monday – Friday, 8am – 6pm	68.75
Senior engineer to attend Site, (minimum call-out 4 hours)	Monday – Friday, 6pm –8am and any time Saturday/Sunday including public holidays	112.5
Remote engineers time to resolve site problems through controls (offsite)	At any time	62.5
Additional Services	To be agreed with the Operator prior to commencing work	

*rates are index linked and shall be reviewed annually

SCHEDULE 5

ENERGY SAVINGS GUARANTEE & MEASUREMENT & VERIFICATION

PART 1

ENERGY SAVINGS GUARANTEE

1. Except where the Authority has exercised its right under Clause 9.7 to require Centrica to cease providing measurement and verification services, in which case this Schedule 5 (Energy Savings Guarantee & Measurement & Verification) shall cease to have effect in accordance with that Clause, the Guaranteed Level is the sum of:

1.1 the Baseline Electricity Consumption Reduction; and

1.2 the Baseline Gas Consumption Reduction.

If either:

1.2.1 the sum of the Electricity Consumption Reduction and the Gas Consumption Reduction is different to the Guaranteed Level; or

1.2.2 any individual Technology fails to achieve any reduction stated against it in Schedule 8 (Financial Model),

but there is no overall Energy Savings Shortfall, Centrica shall not be liable to the Authority under the Energy Savings Guarantee for any difference in the electricity or gas consumption, or for any failure of any individual Technology to achieve any stated saving and/or reduction.

2. **Savings Audit Report**

2.1 Each Savings Audit Report shall:

2.1.1 be based on the methodology and engineering formulae included in Part 2 of this Schedule 5 ("**Savings Calculations**"); and

2.1.2 include an annual savings statement showing the calculations made in accordance with those Savings Calculations.

PART 2

MEASUREMENT AND VERIFICATION (M&V) METHODOLOGY

1. General

The Measurement and Verification plan details how Centrica will demonstrate the savings that will be realised from the Technologies. The M&V plan is generated to ensure energy savings are demonstrated in a transparent and robust manner.

The baseline period selected for the process is from 01/04/2018 – 31/03/2019 for the Phase 1 Works and 01/04/2021 – 31/03/2022 for the Phase 2 Works. The savings calculations reference the consumptions and conditions of this period. At the end of each reporting period, appropriate adjustments will be made to account for the impact of the changes in the consumption and conditions, using the appropriate baseline adjustment methodologies.

The M&V Plan is based on the International Performance Measurement and Verification Protocol (IPMVP) Volume 1 EVO 10000-1:2022 which sets standards for M&V methodologies.

The project will deliver to the Authority an IPMVP-aligned performance measurement and verification process for this energy performance contract and the determination of the project's energy savings will follow current best practice, as defined in IPMVP Volume I, EVO 10000 – 1:2022.

2. M&V plan

Table 1 below summarises the methodology to validate savings for each Technology. Through the operation of the M&V plan, the savings will be reported on a measure-by-measure basis to provide overall Site energy savings.

Technology	Guarantee Method	Operational verification	Measured parameter
GSHP Ambient Loop Heat Network (ALHN) and ASHP	IPMVP Option B	Measurement of all the key parameters, Commissioning report and operational verification through ongoing maintenance of the system.	Power into each heat pump; Heat output of each circuit of each heat pump station; Pump power (ground array pumps, new ambient, secondary pumps)
Solar PV	Deemed through engineering calculations	Commissioning report and operational verification through ongoing maintenance of the system	N/A
LED & Control Upgrades	IPMVP Option A. Controls savings will be deemed through engineering calculations	Measurement of a representative sample of luminaires before and after replacement. Demonstrated savings will be extrapolated to the	Power

		<p>rest of the replaced luminaires.</p> <p>Lux level measurements will be carried out before and after replacement to ensure light levels are matched or improved.</p> <p>Commissioning report will be issued to the Authority.</p>	
AHU Fan & Motor Upgrades	IPMVP Option A	<p>Measurement of the three biggest AHU fans power before and after replacement. Demonstrated savings will be extrapolated to the rest of the replaced AHU fans.</p> <p>Measurement power (amps, volts, PF) and pressure & air flow will be carried out to ensure air volumes and pressures are matched.</p> <p>Commissioning report will be issued to the Authority.</p>	Power
Local Cooling Units	Deemed through engineering calculations	Commissioning report	N/A
Mechanical Services Insulation	Deemed through engineering calculations	Photographic evidence and commissioning report	N/A
Heat pumps and electrode boilers ¹	IPMVP Option B	Measurement of all the key parameters, Commissioning report and operational verification through ongoing	<p>Power into each heat pump/electrode boiler</p> <p>Heat output of each heat pump/electrode boiler, heat output from source side buffer vessels and heat utilised by site</p>

¹ Phase 2 Works

		maintenance of the system.	Parasitic power
Electric steam generators ¹	Deemed through engineering calculations	Photographic evidence and commissioning report	N/A
Cavity wall insulation ¹	Deemed through engineering calculations	Photographic evidence and commissioning report	N/A
Loft insulation ¹	Deemed through engineering calculations	Photographic evidence and commissioning report	N/A

Table 1: M&V methodology

3. M&V Plan Structure

In line with the specific requirements of IPMVP, the M&V plan will be structured as follows:

- 3.1.1 **Energy Conservation Measure Intent:** A brief description of all the energy savings interventions that we will be deploying along with the expected energy savings for each Technology and operational verification procedures.
- 3.1.2 **IPMVP Option and Measurement Boundary:** the specific methodological approach that we will use to determine project-attributable savings.
- 3.1.3 **Baseline: Period, Energy and Conditions:** the pre-existing conditions and energy data for each of the sites included within the project (before the energy saving measures were implemented).
- 3.1.4 **Reporting Period:** the defined time that project savings performance will be reported to the Authority.
- 3.1.5 **Basis for Adjustment:** the set of conditions to which all energy measurements will be adjusted to take account of influencing dynamics or changes to the sites that materially impact on reported savings.
- 3.1.6 **Analysis Procedure:** the data analysis procedures, algorithms and assumptions to be used by in each savings report presented to the Authority.
- 3.1.7 **Energy Prices:** the prices used to value the savings and whether and how savings will be adjusted if prices change in future.
- 3.1.8 **Meter Specifications:** for all metering points and period(s).
- 3.1.9 **Monitoring Responsibilities:** for reporting and recording all energy data, independent variables and static factors within the measurement boundary during the reporting period.
- 3.1.10 **Expected Accuracy:** an evaluation of the expected accuracy and level of uncertainty associated with the measurement, data capture, sampling, analysis and adjustments to be used in the planned savings reports.
- 3.1.11 **Budget:** the budget and the resources that have been allocated to adequately deliver the savings determination, both in terms of initial setup costs and ongoing costs throughout the reporting period.

3.1.12 **Savings Report Format:** how project performance results will be reported and documented (a sample report will be included).

3.1.13 **Quality Assurance:** the quality assurance procedures that we will use for all savings reports and any interim steps in preparing these reports.

3.2 The M&V Plan will be developed throughout the construction phase.

4. **IPMVP Options and Measurement Boundaries**

This section sets out the key methodological approaches that Centrica will use to determine the savings for each Technology listed above in Part 1. It focuses on specifying three key terms:

- IPMVP option used to determine savings
- measurement boundary for these savings; and
- interactive effects

IPMVP option

IPMVP good practice sets out four options for determining energy savings. These options are referred to as option A, B, C and D. Option C and D are considered not applicable to this EPC because this is used to determine savings at the overall hospital rather than at the specific Technology level. Therefore, this agreement utilises option A and B as noted below:

Option	Title	Description
A	Retrofit Isolation: Key Parameter Measurement	<p>Using this option savings will be determined by field measurement (e.g. via sub-meter) of the key performance parameter(s) which defines the energy use of the Technologies' affected system(s) and/or the success of the project. Any relevant parameters not selected for field measurement are estimated (e.g. hours of operation). The basis of this estimation must be evidenced and justified, whilst the likely plausible savings error arising from this estimation will be evaluated. In summary, savings will be calculated via engineering calculation of baseline versus reporting period energy from:</p> <ul style="list-style-type: none"> • short-term or continuous measurements of key operating parameter(s); and • estimated values • routine and non-routine adjustments as required.
B	Retrofit Isolation: All Parameter Measurement	<p>Using this option savings are determined by field measurement of all parameters defining the energy use of the Technology-affected system. Savings will be calculated via:</p> <ul style="list-style-type: none"> • short-term or continuous measurements of baseline versus reporting period energy, and/or engineering computations using measurements of proxies of energy use.

		<ul style="list-style-type: none"> • routine and non-routine adjustments as required.
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Table 2: IPMVP options A and B

Where the cost of measurement would outweigh the savings gained from a Technology and the level of savings are low compared to the total savings from the EPC, the savings from a Technology may be deemed. Deemed energy savings will be demonstrated by way of robust engineering calculations and no measurement will be carried out. Standard operational verification and reporting procedures still apply for these Technologies.

Measurement boundary

This refers to the boundary that is drawn around equipment and/or systems to segregate those areas which are relevant to savings determination from those which are not. According to IPMVP good practice, all energy use from equipment or systems within the proposed measurement boundary must be measured or estimated, whether the energy uses are within the boundary or not. As well as defining the metering points that will be utilised to assemble the requisite data, the measurement boundary also sets the scope for any adjustments (see Section 5 for more information) may be applied to that Technology. It is important to note that only changes to the Site's energy systems and operating variables within the defined measurement boundary must be monitored in order to prepare any adjustment terms.

The measurement boundary and meter points are shown below in Table 3.

Technology	Measurement Boundary	Permanent meter location
GSHP Ambient Loop Heat Network (ALHN) (phase 1)	Ground array system, ambient loop, each heat pump station up to heat exchanger interfaces.	Power meter on each heat pump; heat meter on each heat pump; power meters for each pump (ground array pumps).
ASHP	Each air source heat pump station up to heat exchanger interfaces	Power meter on each heat pump; heat meter on each heat pump
Solar PV	All the generation system from PV panels to generation meter	2x generation meters (for O&M purposes)
LED and Controls Lighting Upgrade	Light fittings to be replaced. Controls are integrated in the light fitting.	N/A
AHU Fan and Motor Upgrade	Fan to be replaced. Air volume and pressure verification will be done immediately after fan.	Power meters to 3 sample AHU's
Local Cooling Controls Upgrade	Each AC unit on which the new controls will be installed.	N/A
Mechanical Services Insulation	Each component that will be insulated.	N/A
Heat pumps and electrode boilers ¹	New energy centre including cascade heat pump system, electrode boilers and	Power into each heat pump/electrode boiler

	associated equipment	parasitic	Heat output of each heat pump/electrode boiler, heat output from source side buffer vessels and heat utilised by site Parasitic power
Electric steam generators ¹	Each electric generator	steam	N/A
Cavity wall insulation ¹	Each wall that will be insulated		N/A
Loft insulation ¹	Loft area to be insulated		N/A

Table 3: Measurement boundary and permanent meter locations

Interactive Effects

The final element that needs to be defined refers to energy-related effects created by a Technology, but not measured within the measurement boundary (as above). When drawing a measurement boundary, it is important to consider any energy flows affected by the Technology but beyond the boundary; these are known as interactive effects.

If the magnitude of the interactive effect is expected to be significant, engineering estimates may be made. Alternatively, if the measurement boundary can be expanded to encompass interactive effects, there is no need to estimate them. IPMVP also accepts that interactive effects may be ignored, as long as the M&V plan includes discussion of each effect and its likely magnitude.

Table 4 and below includes a matrix of interactive effects for all the Technologies to be installed as part of this project. The specific effects are discussed in the sections below, detailed for each Technology, together with an assessment of their significance. Interactive effects are treated in different ways depending on whether they are deemed to be significant and if they are, will the interactivity be accounted for through the energy savings calculations or via measurements taken to demonstrate the savings. The Technology specific situations are discussed in the following sections.

	GSHP AHLN	ASHP	Solar PV	LED and Controls Upgrades	AHU Fan and Motor Upgrade	Local Cooling Controls Upgrade	Mechanical Services Insulation
GSHP AHLN	N/A	No	No	No	No	No	No
ASHP	No	N/A	No	No	No	No	No
Solar PV	No	No	N/A	No	No	No	No
LED and Controls Upgrades	No	No	No	N/A	No	No	No
AHU Fan and Motor Upgrade	No	No	No	No	N/A	No	No
Local Cooling Controls Upgrade	No	No	No	No	No	N/A	No
Mechanical Services Insulation	No	No	No	No	No	No	N/A

Table 4: Summary of interactive effects (Phase 1 Works only)

	GSHP AHLN	ASHP	Solar PV	LED and Controls Upgrades	Local Cooling Controls Upgrade	Mechanical Services Insulation	Heat pumps and electrode boilers	Cavity wall insulation	Loft insulation	Electric steam generators
GSHP AHLN	N/A	No	No	No	No	No	No	No	No	No
ASHP	No	N/A	No	No	No	No	No	No	No	No
Solar PV	No	No	N/A	No	No	No	No	No	No	No
LED and Controls Upgrades	No	No	No	N/A	No	No	No	No	No	No
Local Cooling Controls Upgrade	No	No	No	No	N/A	No	No	No	No	No
Mechanical Services Insulation	No	No	No	No	No	N/A	No	No	No	No
Heat pumps and electrode boilers¹	No	No	No	No	No	No	N/A	Yes	Yes	No
Cavity wall insulation¹	No	No	No	No	No	No	Yes	N/A	No	No
Loft insulation¹	No	No	No	No	No	No	Yes	No	N/A	No
Electric steam generators¹	No	No	No	No	No	No	No	No	No	N/A

Table 5: Summary of interactive effects (Phase 1 Works and Phase 2 Works)

4.1 **GSHP Ambient Loop Heat Network (ALHN) (phase 1)**

IPMVP option B will be used to demonstrate the savings from this measure. All the key parameters of the system will be measured continuously for the contract period.

This measure displaces fossil fuel utilised to generate building heating (space heating and domestic hot water) loads. The fossil fuel savings have been calculated based on the normalised annual building heating consumption derived from heat metering.

The ALHN electricity consumption required to provide the required building heating loads has been calculated based on the normalised annual ALHN electricity consumption derived from power metering.

The measurement boundary of the measure is the and new GSHP units (including ground source array) and associated pipework.

No interactive effects relating to this measure have been identified since the heat pumps will not have any effect outside the measurement boundary.

4.2 **ASHP**

IPMVP option B will be used to demonstrate the savings from this measure. All the key parameters of the system will be measured continuously for the contract period.

This measure displaces fossil fuel utilised to generate building heating (space heating and domestic hot water) loads. The fossil fuel savings have been calculated based on the normalised annual building heating consumption derived from heat metering.

The ALHN electricity consumption required to provide the required building heating loads has been calculated based on the normalised annual ALHN electricity consumption derived from power metering.

The measurement boundary of the measure is the new ASHP units and associated pipework.

No interactive effects relating to this measure have been identified since the heat pumps will not have any effect outside the measurement boundary.

4.3 **Solar PV**

This measure will be demonstrated using engineering calculations. The reason for deeming this element of the savings is that the cost of direct measurement of these savings would outweigh the level of savings estimated to be achieved by this Technology. However, electricity generation will be monitored by way of generation meters on each array.

The measurement boundary for this Technology encompasses the solar installation from the PV panels to the generation meter after inverters.

No interactive effects relating to this measure have been identified since the solar PV will not have any effect outside the measurement boundary.

4.4 **LED and Controls Lighting Upgrade**

IPMVP option A has been chosen to demonstrate the savings from the fitting upgrade and the controls savings will be deemed through engineering calculations. The key parameter to be measured is the power draw of both the existing and replacement fittings. The savings resulting from the lighting retrofit will be demonstrated using a power test using a calibrated power meter both prior and after the retrofit has taken place. The operating hours of the light fittings have been agreed upon.

The measurement boundary has been drawn to include the lighting fittings and controls at each site as detailed in the lighting line-by-line. The line-by-line for each site will be issued when the lighting installation is complete, and this will form a standalone document for each site.

The measurement boundary for this Technology encompasses only those fittings, lamps and controls replaced as part of the measure.

No interactive effects relating to this measure have been identified since the lighting will not have any effect outside the measurement boundary.

4.5 AHU Fan and Motor Upgrade

IPMVP option A has been chosen to demonstrate the savings from this Technology. The key parameter to be measured is the power.

Electrical savings will be recorded by measuring the power draw of a sample of 3 representative fan/motor upgrades. Where Panoramic Power sensors were installed during the IGP, the average power consumption will be used as the baseline and either a 2-week measurement period (using Panoramic Power sensors) or a spot measurement will suffice after the implementation of the measure for the determination of the energy savings. The average savings from measured units will be applied to the rest of the units.

The measurement boundary for this Technology includes the motor or fan to be replaced. Air volume or pressure verification will be done immediately after the fan.

No interactive effects relating to this measure have been identified since the AHUs will not have any effect outside the measurement boundary.

4.6 Local Cooling Controls Upgrade

The savings will be deemed for this measure, as the energy consumption after the installation of new controls will be entirely dependent on people movement. A desktop survey was carried out to build the baseline and calculate the savings, based on the use of each room/area.

The measurement boundary for this Technology is each AC units on which the new controls will be installed.

No interactive effects relating to this measure have been identified since the AC units will not have any effect outside the measurement boundary.

4.7 Mechanical Services Insulation

This measure will be demonstrated using engineering calculations. The reason for deeming this element of the savings is that the cost of direct measurement of these savings would outweigh the level of savings estimated to be achieved by this Technology.

The measurement boundary of this measure is each component that will be insulated.

No interactive effects relating to this measure have been identified since the insulation will not have any effect outside the measurement boundary.

4.8 Heat pumps and electrode boilers¹

IPMVP option B will be used to demonstrate the savings from this measure. All the key parameters of the system will be measured continuously for the contract period.

This measure displaces fossil fuel utilised to generate building heating (space heating and domestic hot water) loads. The fossil fuel savings have been calculated based on the annual building heating consumption derived from gas metering.

The heat pump and electrode boiler electricity consumption required to provide the required building heating loads has been calculated based on the modelled SCOP.

The measurement boundary of the measure is the cascade heat pumps, electrode boilers and associated pipework.

An interactive effect between this measure and both the cavity wall insulation and loft insulation has been identified. The heat pumps and electrode boilers will be supplying heat to the pathology building where cavity wall insulation is to be installed and to the age care building where loft insulation is to be installed. This has been considered and found to be negligible and therefore does not need to be taken into consideration in the modelling of energy savings.

4.9 **Electric steam generators¹**

This measure will be demonstrated using engineering calculations. The reason for deeming this element of the savings is that the cost of direct measurement of these savings would outweigh the level of savings estimated to be achieved by this Technology.

The measurement boundary of this measure is the new electric steam generators.

No interactive effects relating to this measure have been identified since the electric steam generators will not have any effect outside the measurement boundary.

4.10 **Cavity wall insulation¹**

This measure will be demonstrated using engineering calculations. The reason for deeming this element of the savings is that the cost of direct measurement of these savings would outweigh the level of savings estimated to be achieved by this Technology.

The measurement boundary of this measure is each wall that will be insulated.

An interactive effect between this measure and the heat pumps and electrode boilers has been identified. The heat pumps and electrode boilers will be supplying heat to the pathology building where cavity wall insulation is to be installed. This has been considered and found to be negligible and therefore does not need to be taken into consideration in the modelling of energy savings.

4.11 **Loft insulation¹**

This measure will be demonstrated using engineering calculations. The reason for deeming this element of the savings is that the cost of direct measurement of these savings would outweigh the level of savings estimated to be achieved by this Technology.

The measurement boundary of this measure is the loft area that will be insulated.

An interactive effect between this measure and the heat pumps and electrode boilers has been identified. The heat pumps and electrode boilers will be supplying heat to the age care building where loft insulation is to be installed. This has been considered and found to be negligible and therefore does not need to be taken into consideration in the modelling of energy savings.

5. **BASELINE: PERIOD, ENERGY AND CONDITIONS**

IPMVP good practice requires that the M&V plan documents the baseline period, energy and conditions for each Technology within the specified measurement boundary. The baseline period should typically span a full operating cycle from maximum to minimum energy use and should represent all operating modes of the facility. Very often a whole year of baseline data is needed to define a full operating cycle.

These pre-project baseline conditions are established to provide a baseline or pre-install level of performance at the Sites i.e. how much energy the site (or specific equipment or area) would have been consumed in a business as usual (BAU) scenario. This pre-install condition data is later

compared with the post-install (reporting period) data to determine the energy saving performance of the Technology or project as a whole.

All independent variable data coinciding with the energy data (e.g. production rate, ambient temperature) as well as all static factors coinciding with the energy data need to be taken into account and documented.

Technology	Minimum baseline measurement period
GSHP and ASHP Ambient Loop Heat Network (ALHN) (phase 1)	1 year
Solar PV	1 year
LED and Controls Lighting Upgrade	Spot measurement
AHU Fan and Motor Upgrade	2 weeks
Local Cooling Controls Upgrade	N/A
Mechanical Services Insulation	N/A
Heat pumps and electrode boilers ¹	1 year
Electric Steam Generators ¹	N/A
Cavity wall insulation ¹	N/A
Loft insulation ¹	N/A

Table 6: Minimum baseline measurement period

5.1 GSHP Ambient Loop Heat Network (ALHN) (phase 1)

The baseline energy from the Technology is the gas consumption and building heating (space heating and domestic hot water) loads during the baseline period (April 2018 – March 2019) at Hereford County Hospital.

The building heating and hot water loads (kWh) for the proposed GSHP buildings are shown below in Table 7.

Building	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
01 HM Finance Bld	8,989	8,110	7,692	6,044	3,978	-	-	-	2,967	4,967	6,967	7,692	57,408
02 Lionel Green	37,693	34,006	32,255	25,344	16,681	9,124	5,806	7,373	12,441	20,828	29,214	32,255	263,020
03 Charles Renton	7,057	8,087	7,030	5,723	1,743	2,131	2,003	1,714	2,232	3,843	6,952	7,970	56,484
04 Post Grad	12,057	12,304	10,484	4,896	2,847	-	-	-	127	3,527	11,928	12,270	70,440
05 Trust HQ	20,646	19,156	17,746	14,793	3,555	4,239	-	-	687	6,471	19,051	19,822	126,167
06 Longfield A	22,575	22,907	21,689	16,310	5,548	3,778	5,879	5,237	5,475	14,657	19,832	21,177	165,065
07 Longfield B	26,989	27,100	30,013	17,873	15,140	5,783	5,916	5,009	7,964	23,032	27,767	28,841	221,428

Table 7: Summary of building heating and hot water loads (kWh) for proposed GSHP buildings (phase 1)

Conditions which will affect the energy savings from this Technology include the heat utilisation on site and the weather. The Trust will be responsible for reporting any static factor changes as set out in Section 9.

5.2 ASHP

The baseline energy from the Technology is the gas consumption and building heating (space heating and domestic hot water) loads during the baseline period (April 2018 – March 2019) at Hereford County Hospital.

The building heating and hot water loads (kWh) for the proposed ASHP buildings are shown below in Table 8.

Building	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
08 Diabetics	9,304	8,349	8,352	8,544	3,872	3,532	4,052	3,053	4,047	5,626	7,747	9,236	75,713
14 Ein Brook	4,985	4,267	4,051	2,188	1,034	215	-	244	788	1,916	3,308	4,525	27,518
19 Acute Medical Unit	8,142	9,420	6,849	4,569	3,512	1,921	3,428	4,353	4,415	7,391	7,764	7,168	68,931

Table 8: Summary of heating and hot water loads (kWh) for proposed ASHP buildings

Conditions which will affect the energy savings from this Technology include the heat utilisation on site and the weather. The Trust will be responsible for reporting any static factor changes as set out in Section 9.

5.3 Solar PV

The baseline of this Technology is the available roof space and the historical weather data obtained from Helioscope software.

The energy savings from this Technology have been deemed using engineering calculations.

Conditions which will affect the energy savings from this Technology include a change in available space, and weather changes. The Trust will be responsible for reporting any static factor changes as set out in Section 9.

5.4 LED and Controls Lighting Upgrade

In order to determine the lighting baseline, the power will be measured for a representative sample of the internal fittings (see Section 6 for further details) and extrapolated to calculate the power draw for all the existing fittings. The testing is carried out by way of instantaneous measurements and this overall existing power draw from the fittings in scope will form the baseline energy for this Technology as show in Table 9 below.

Site	Building / Area	Floor	Room ref	Room type	Description	Lum Wattage (W)	Lum Wattage inc Ballast Losses (W)	Total Wattage (W)
HEREFORD HOSPITAL	STERILE SERVICES	2ND	NA	CORRIDOR	T5 3x14W	42.00	42.00	420.00
HEREFORD HOSPITAL	STERILE SERVICES	2ND	NA	CLEAN AREA	T8 4x18W	72.00	72.00	1,080.00
HEREFORD HOSPITAL	STERILE SERVICES	2ND	NA	ROOMS	T5 3x14W	42.00	42.00	1,134.00
HEREFORD HOSPITAL	STERILE SERVICES	2ND	NA	PLANT ROOM	T8 1x58W	58.00	58.00	174.00
HEREFORD HOSPITAL	STERILE SERVICES	2ND	NA	CLEAN AREA	T5 3x28W	84.00	84.00	672.00
HEREFORD HOSPITAL	NEURO & SCUBU	2ND	NA	TOILETS	2D 1x28W	28.00	28.00	364.00
HEREFORD HOSPITAL	NEURO & SCUBU	2ND	NA	ROOMS	T5 3x28W	84.00	84.00	756.00
HEREFORD HOSPITAL	NEURO & SCUBU	2ND	NA	CORRIDOR	T5 3x28W	84.00	84.00	840.00
HEREFORD HOSPITAL	NEURO & SCUBU	2ND	NA	ROOMS	T5 3x14W	42.00	42.00	1,008.00
HEREFORD HOSPITAL	NEURO & SCUBU	2ND	NA	ROOMS	T8 1x58W	58.00	58.00	580.00
HEREFORD HOSPITAL	CHILDRENS WARD	2ND	NA	CORRIDOR	T5 3x28W	84.00	84.00	2,688.00
HEREFORD HOSPITAL	CHILDRENS WARD	2ND	NA	CORRIDOR	T5 3x14W	42.00	42.00	336.00
HEREFORD HOSPITAL	CHILDRENS WARD	2ND	NA	BEDROOMS	T8 1x58W	58.00	58.00	1,160.00
HEREFORD HOSPITAL	CHILDRENS WARD	2ND	NA	ROOMS	T5 3x14W	42.00	42.00	1,260.00
HEREFORD HOSPITAL	CHILDRENS WARD	2ND	NA	ROOMS	T5 3x28W	84.00	84.00	1,680.00
HEREFORD HOSPITAL	CHILDRENS WARD	2ND	NA	TOILETS	2D 1x28W	28.00	28.00	1,092.00
HEREFORD HOSPITAL	OUT/MATERNITY	2ND	NA	CORRIDOR	T5 3x28W	84.00	84.00	2,352.00
HEREFORD HOSPITAL	OUT/MATERNITY	2ND	NA	ROOMS	T8 3x58W	174.00	174.00	7,134.00
HEREFORD HOSPITAL	OUT/MATERNITY	2ND	NA	OFFICES	T5 2x28W	56.00	56.00	840.00
HEREFORD HOSPITAL	OUT/MATERNITY	2ND	NA	OFFICES	T8 3x18W	54.00	54.00	1,620.00
HEREFORD HOSPITAL	CCU	1ST	NA	CORRIDOR	T5 3x14W	42.00	42.00	1,596.00
HEREFORD HOSPITAL	KITCHEN	1ST	NA	CORRIDOR	T8 3x18W	54.00	54.00	486.00
HEREFORD HOSPITAL	KITCHEN	1ST	NA	ROOMS	T5 3x28W	84.00	84.00	1,848.00
HEREFORD HOSPITAL	KITCHEN	1ST	NA	TOILET AND STORE	PL 2x14W	28.00	28.00	588.00
HEREFORD HOSPITAL	SPIRES	1ST	NA	RESTERAUNT	T5 3x28W	84.00	84.00	2,184.00
HEREFORD HOSPITAL	SPIRES	1ST	NA	RESTERAUNT	PL 2x14W	28.00	28.00	1,148.00
HEREFORD HOSPITAL	SPIRES	1ST	NA	RESTERAUNT	T5 3x14W	42.00	42.00	336.00
HEREFORD HOSPITAL	SPIRES	1ST	NA	RESTERAUNT	LAMP 1x50W	50.00	50.00	500.00
HEREFORD HOSPITAL	ARROW WARD	1ST	NA	CORRIDOR	T5 3x28W	84.00	84.00	1,344.00
HEREFORD HOSPITAL	ARROW WARD	1ST	NA	TOILET	2D 1x28W	28.00	28.00	560.00
HEREFORD HOSPITAL	ARROW WARD	1ST	NA	ROOMS	T5 3x28W	84.00	84.00	420.00
HEREFORD HOSPITAL	ARROW WARD	1ST	NA	ROOMS	T5 3x14W	42.00	42.00	210.00
HEREFORD HOSPITAL	ARROW WARD	1ST	NA	ROOMS	T8 1x58W	58.00	58.00	1,218.00
HEREFORD HOSPITAL	LUGG WARD	1ST	NA	CORRIDOR	T5 3x28W	84.00	84.00	1,176.00
HEREFORD HOSPITAL	LUGG WARD	1ST	NA	CORRIDOR	T5 3x14W	42.00	42.00	84.00
HEREFORD HOSPITAL	LUGG WARD	1ST	NA	ROOMS	T5 3x28W	84.00	84.00	252.00
HEREFORD HOSPITAL	LUGG WARD	1ST	NA	ROOMS	T5 3x14W	42.00	42.00	294.00
HEREFORD HOSPITAL	LUGG WARD	1ST	NA	ROOMS	T8 1x58W	58.00	58.00	1,566.00
HEREFORD HOSPITAL	LUGG WARD	1ST	NA	TOILETS	2D 1x28W	28.00	28.00	812.00
HEREFORD HOSPITAL	WYE WARD	1ST	NA	CORRIDOR	T5 3x28W	84.00	84.00	1,428.00

HEREFORD HOSPITAL	WYE WARD	1ST	NA	CORRIDOR	T5 3x14W	42.00	42.00	84.00	
HEREFORD HOSPITAL	WYE WARD	1ST	NA	ROOMS	T5 3x28W	84.00	84.00	252.00	
HEREFORD HOSPITAL	WYE WARD	1ST	NA	ROOMS	T5 3x14W	42.00	42.00	714.00	
HEREFORD HOSPITAL	WYE WARD	1ST	NA	ROOMS	T8 1x58W	58.00	58.00	1,218.00	
HEREFORD HOSPITAL	WYE WARD	1ST	NA	TOILETS	2D 1x28W	28.00	28.00	504.00	
HEREFORD HOSPITAL	TEME WARD	1ST	NA	CORRIDOR	T5 3x28W	84.00	84.00	924.00	
HEREFORD HOSPITAL	TEME WARD	1ST	NA	CORRIDOR	T5 3x14W	42.00	42.00	84.00	
HEREFORD HOSPITAL	TEME WARD	1ST	NA	ROOMS	T5 3x28W	84.00	84.00	252.00	
HEREFORD HOSPITAL	TEME WARD	1ST	NA	ROOMS	T5 3x14W	42.00	42.00	126.00	
HEREFORD HOSPITAL	TEME WARD	1ST	NA	ROOMS	T8 1x58W	58.00	58.00	928.00	
HEREFORD HOSPITAL	TEME WARD	1ST	NA	TOILET	2D 1x28W	28.00	28.00	448.00	
HEREFORD HOSPITAL	FROME WARD	1ST	NA	CORRIDOR	T5 3x28W	84.00	84.00	1,848.00	
HEREFORD HOSPITAL	FROME WARD	1ST	NA	CORRIDOR	T5 3x14W	42.00	42.00	84.00	
HEREFORD HOSPITAL	FROME WARD	1ST	NA	ROOMS	T5 3x28W	84.00	84.00	756.00	
HEREFORD HOSPITAL	FROME WARD	1ST	NA	ROOMS	T5 3x14W	42.00	42.00	336.00	
HEREFORD HOSPITAL	FROME WARD	1ST	NA	TOILET	2D 1x28W	28.00	28.00	784.00	
HEREFORD HOSPITAL	FROME WARD	1ST	NA	ROOMS	T8 1x58W	58.00	58.00	1,740.00	
HEREFORD HOSPITAL	REDBROOK WARD	1ST	NA	CORRIDOR	T5 3x28W	84.00	84.00	1,176.00	
HEREFORD HOSPITAL	REDBROOK WARD	1ST	NA	CORRIDOR	T5 3x14W	42.00	42.00	84.00	
HEREFORD HOSPITAL	REDBROOK WARD	1ST	NA	ROOMS	T5 3x28W	84.00	84.00	336.00	
HEREFORD HOSPITAL	REDBROOK WARD	1ST	NA	ROOMS	T5 3x14W	42.00	42.00	210.00	
HEREFORD HOSPITAL	REDBROOK WARD	1ST	NA	ROOMS	T8 1x58W	58.00	58.00	1,102.00	
HEREFORD HOSPITAL	REDBROOK WARD	1ST	NA	TOILETS	2D 1x28W	28.00	28.00	644.00	
HEREFORD HOSPITAL	PHARMACY	1ST	NA	ALL	T5 3x28W	84.00	84.00	3,612.00	
HEREFORD HOSPITAL	PHARMACY	1ST	NA	ALL	T5 3x14W	42.00	42.00	2,604.00	
HEREFORD HOSPITAL	PHARMACY	1ST	NA	TOILET	PL 1x28W	28.00	28.00	504.00	
HEREFORD HOSPITAL	MAIN ENTRANCE	GRD	NA	TOILET	T5 3x14W	42.00	42.00	336.00	
HEREFORD HOSPITAL	MAIN ENTRANCE	GRD	NA	CORRIDOR	T5 3x28W	84.00	84.00	1,596.00	
HEREFORD HOSPITAL	IMAGING	GRD	NA	CORRIDOR	T5 3x14W	42.00	42.00	2,562.00	
HEREFORD HOSPITAL	IMAGING	GRD	NA	ROOMS	T5 3x28W	84.00	84.00	2,772.00	
HEREFORD HOSPITAL	IMAGING	GRD	NA	ROOMS	T5 3x14W	42.00	42.00	2,982.00	
HEREFORD HOSPITAL	IMAGING	GRD	NA	TOILET	2D 1x28W	28.00	28.00	980.00	
HEREFORD HOSPITAL	IMAGING	GRD	NA	CORRIDOR	T5 3x28W	84.00	84.00	2,100.00	
HEREFORD HOSPITAL	A&E EIGN SUITE	GRD	NA	ROOMS	T5 3x14W	42.00	42.00	1,806.00	
HEREFORD HOSPITAL	ENDOSCOPY	GRD	NA	ROOMS	T5 3x14W	42.00	42.00	1,848.00	
HEREFORD HOSPITAL	ENDOSCOPY	GRD	NA	ROOMS	T5 3x28W	84.00	84.00	3,108.00	
HEREFORD HOSPITAL	ENDOSCOPY	GRD	NA	CORRIDOR	T5 3x28W	84.00	84.00	1,092.00	
HEREFORD HOSPITAL	ENDOSCOPY	GRD	NA	CORRIDOR	T5 3x14W	42.00	42.00	2,142.00	
HEREFORD HOSPITAL	A&E EIGN SUITE	GRD	NA	ROOMS	T5 3x14W	42.00	42.00	2,520.00	
HEREFORD HOSPITAL	A&E EIGN SUITE	GRD	NA	ROOMS	T5 3x28W	84.00	84.00	7,308.00	
HEREFORD HOSPITAL	FB BULIDING	GRD	NA	ALL	T8 3x18W	54.00	54.00	13,014.00	
HEREFORD HOSPITAL	FB BULIDING	GRD	NA	ALL	T8 3x36W	108.00	108.00	2,916.00	
HEREFORD HOSPITAL	FB BULIDING	GRD	NA	ALL	T8 2x70W	140.00	140.00	8,680.00	
HEREFORD HOSPITAL	FB BULIDING	1ST	NA	OFFICES	T8 1x58W	58.00	58.00	4,524.00	
HEREFORD HOSPITAL	FB BULIDING	1ST	NA	OFFICES	T8 3x18W	54.00	54.00	4,320.00	
HEREFORD HOSPITAL	FB BULIDING	1ST	NA	OFFICES	T8 2x58W	116.00	116.00	5,220.00	
HEREFORD HOSPITAL	MORTUARY	GRD	NA	ALL	T5 3x14W	42.00	42.00	756.00	
HEREFORD HOSPITAL	MORTUARY	GRD	NA	ALL	T8 1x58W	58.00	58.00	986.00	
HEREFORD HOSPITAL	MORTUARY	GRD	NA	ALL	T5 4x14W	56.00	56.00	784.00	
HEREFORD HOSPITAL	MORTUARY	GRD	NA	ALL	T8 4x18W	72.00	72.00	432.00	
HEREFORD HOSPITAL	PATHOLOGY	GRD	NA	ALL	T5 2x35W	70.00	70.00	4,410.00	
HEREFORD HOSPITAL	PATHOLOGY	GRD	NA	ALL	T5 1x35W	35.00	35.00	3,255.00	
HEREFORD HOSPITAL	WORKSHOP	GRD	NA	ALL	T8 1x58W	58.00	58.00	1,102.00	
HEREFORD HOSPITAL	WORKSHOP	GRD	NA	ALL	T5 3x14W	42.00	42.00	672.00	
HEREFORD HOSPITAL	WORKSHOP	GRD	NA	BOILER ROOM	T8 1x58W	58.00	58.00	2,088.00	
HEREFORD HOSPITAL	OXFORD SUIT	GRD	NA	CORRIDOR	T5 3x14W	42.00	42.00	462.00	
HEREFORD HOSPITAL	OXFORD SUIT	GRD	NA	CORRIDOR	T5 2x28W	56.00	56.00	2,856.00	
HEREFORD HOSPITAL	OXFORD SUIT	GRD	NA	ROOMS	T5 3x14W	42.00	42.00	882.00	
HEREFORD HOSPITAL	OXFORD SUIT	GRD	NA	ROOMS	T5 3x28W	84.00	84.00	7,812.00	
HEREFORD HOSPITAL	OXFORD SUIT	GRD	NA	TOILETS & WAITING RO	PL 1x28W	28.00	28.00	1,596.00	
HEREFORD HOSPITAL	PRE OPS	GRD	NA	ALL	T8 3x18W	54.00	54.00	1,080.00	
HEREFORD HOSPITAL	PRE OPS	GRD	NA	ALL	T8 3x36W	108.00	108.00	2,268.00	
HEREFORD HOSPITAL	SODEXHO	1ST	NA	CORRIDOR	T5 3x14W	42.00	42.00	588.00	
HEREFORD HOSPITAL	SODEXHO	1ST	NA	ROOMS	T8 1x58W	58.00	58.00	1,624.00	
HEREFORD HOSPITAL	SODEXHO	1ST	NA	ALL	T8 3x18W	54.00	54.00	1,836.00	
HEREFORD HOSPITAL	POST GRAD	GRD	NA	ALL	T8 2x58W	116.00	116.00	928.00	
HEREFORD HOSPITAL	POST GRAD	GRD	NA	ALL	T8 2x36W	72.00	72.00	1,440.00	
HEREFORD HOSPITAL	POST GRAD	GRD	NA	ALL	T8 2x70W	140.00	140.00	840.00	
HEREFORD HOSPITAL	POST GRAD	GRD	NA	ALL	T8 4x18W	72.00	72.00	864.00	
HEREFORD HOSPITAL	VASCLAR/RELATIVES	1ST	NA	ROOMS	T5 3x28W	84.00	84.00	1,092.00	
HEREFORD HOSPITAL	VASCLAR/RELATIVES	1ST	NA	ROOMS	T5 3x14W	42.00	42.00	672.00	
HEREFORD HOSPITAL	VASCLAR/RELATIVES	1ST	NA	TOILETS	PL 1x28W	28.00	28.00	504.00	
HEREFORD HOSPITAL	STAFF ON CALL	2ND	NA	CORRIDOR	T8 3x36W	108.00	108.00	1,188.00	
HEREFORD HOSPITAL	STAFF ON CALL	2ND	NA	ROOMS	T8 3x36W	108.00	108.00	1,080.00	
HEREFORD HOSPITAL	STAFF ON CALL	2ND	NA	ROOMS	T8 4x18W	72.00	72.00	2,592.00	
HEREFORD HOSPITAL	STAFF ON CALL	2ND	NA	TOILETS	PL 1x28W	28.00	28.00	812.00	
HEREFORD HOSPITAL	PLANTROOM	2ND	NA	PLANT ROOM	T8 1x58W	58.00	58.00	2,784.00	
HEREFORD HOSPITAL	WOMENS HEALTH	2ND	NA	CORRIDOR	T5 3x28W	84.00	84.00	1,344.00	
HEREFORD HOSPITAL	WOMENS HEALTH	2ND	NA	ROOMS	T5 3x28W	84.00	84.00	2,688.00	
HEREFORD HOSPITAL	WOMENS HEALTH	2ND	NA	ROOMS	T5 3x14W	42.00	42.00	588.00	
HEREFORD HOSPITAL	WOMENS HEALTH	2ND	NA	RECEPTION	PL 1x28W	28.00	28.00	588.00	
HEREFORD HOSPITAL	PROFESSIONAL DEVELOPMENT	ALL	NA	CORRIDOR	T8 1x36W	36.00	39.60	1,980.00	
HEREFORD HOSPITAL	PROFESSIONAL DEVELOPMENT	ALL	NA	ROOMS	T8 4x18W	72.00	72.00	5,472.00	
HEREFORD HOSPITAL	PROFESSIONAL DEVELOPMENT	ALL	NA	ROOMS	T8 1x58W	58.00	63.80	2,296.80	
HEREFORD HOSPITAL	GENERAL	ALL	NA	ALL	PL 1x13W	13.00	13.00	1,560.00	
HEREFORD HOSPITAL	BEDSIDE LAMP	ALL	NA	BEDROOMS	LAMP 1x43W	43.00	43.00	5,160.00	
HEREFORD HOSPITAL	TOP FLOOR PLANTROOM	3RD	NA	PLANTROOM	T8 1x58W	58.00	63.80	3,828.00	

Table 9: Existing fitting wattage - LED and Controls Lighting Upgrade

The measurement boundary has been drawn around the fittings and lamps included in the lighting line-by-line.

The assumed operating times as agreed with the Trust are shown below in Table 10.

The operating hours for each room were determined using a combination of the following:

- Observation at time of survey visit
- Questioning staff during the time of survey

Site	Building / Area	Floor	Room ref	Room type	Total annual operating hours	Day op hours inc controls	Night op hours inc controls	Total annual op hours inc controls	Existing Total Day Energy (kWh) per Annum inc controls	Existing Total Night (kWh) per Annum inc controls	Existing Total Energy (kWh) per Annum
HEREFORD HOSPITAL	STERILE SERVICES	2ND	NA	CORRIDOR	4,171.44	4,171.44	-	4,171.44	1,752.00	-	1,752.00
HEREFORD HOSPITAL	STERILE SERVICES	2ND	NA	CLEAN AREA	4,171.44	4,171.44	-	4,171.44	4,505.16	-	4,505.16
HEREFORD HOSPITAL	STERILE SERVICES	2ND	NA	ROOMS	4,171.44	4,171.44	-	4,171.44	4,730.41	-	4,730.41
HEREFORD HOSPITAL	STERILE SERVICES	2ND	NA	PLANT ROOM	4,171.44	4,171.44	-	4,171.44	725.83	-	725.83
HEREFORD HOSPITAL	STERILE SERVICES	2ND	NA	CLEAN AREA	7,300.02	7,300.02	-	7,300.02	4,905.61	-	4,905.61
HEREFORD HOSPITAL	NEURO & SCUBU	2ND	NA	TOILETS	2,920.01	2,289.29	-	2,289.29	833.30	-	833.30
HEREFORD HOSPITAL	NEURO & SCUBU	2ND	NA	ROOMS	5,840.02	4,672.01	-	4,672.01	3,532.04	-	3,532.04
HEREFORD HOSPITAL	NEURO & SCUBU	2ND	NA	CORRIDOR	5,840.02	5,840.02	-	5,840.02	4,905.61	-	4,905.61
HEREFORD HOSPITAL	NEURO & SCUBU	2ND	NA	ROOMS	5,840.02	5,840.02	-	5,840.02	5,886.74	-	5,886.74
HEREFORD HOSPITAL	NEURO & SCUBU	2ND	NA	ROOMS	5,840.02	5,840.02	-	5,840.02	3,387.21	-	3,387.21
HEREFORD HOSPITAL	CHILDRENS WARD	2ND	NA	CORRIDOR	5,840.02	5,840.02	-	5,840.02	15,697.96	-	15,697.96
HEREFORD HOSPITAL	CHILDRENS WARD	2ND	NA	CORRIDOR	5,840.02	5,840.02	-	5,840.02	1,962.25	-	1,962.25
HEREFORD HOSPITAL	CHILDRENS WARD	2ND	NA	BEDROOMS	5,840.02	5,840.02	-	5,840.02	6,774.42	-	6,774.42
HEREFORD HOSPITAL	CHILDRENS WARD	2ND	NA	ROOMS	5,840.02	5,840.02	-	5,840.02	7,358.42	-	7,358.42
HEREFORD HOSPITAL	CHILDRENS WARD	2ND	NA	ROOMS	5,840.02	5,840.02	-	5,840.02	9,811.23	-	9,811.23
HEREFORD HOSPITAL	CHILDRENS WARD	2ND	NA	TOILETS	2,920.01	2,920.01	-	2,920.01	3,188.65	-	3,188.65
HEREFORD HOSPITAL	OUT/MATERNITY	2ND	NA	CORRIDOR	5,840.02	5,840.02	-	5,840.02	13,735.72	-	13,735.72
HEREFORD HOSPITAL	OUT/MATERNITY	2ND	NA	ROOMS	5,840.02	5,840.02	-	5,840.02	41,662.67	-	41,662.67
HEREFORD HOSPITAL	OUT/MATERNITY	2ND	NA	OFFICES	5,840.02	5,840.02	-	5,840.02	4,905.61	-	4,905.61
HEREFORD HOSPITAL	OUT/MATERNITY	2ND	NA	OFFICES	5,840.02	5,840.02	-	5,840.02	9,460.83	-	9,460.83
HEREFORD HOSPITAL	CCU	1ST	NA	CORRIDOR	5,840.02	4,578.57	-	4,578.57	7,307.40	-	7,307.40
HEREFORD HOSPITAL	KITCHEN	1ST	NA	CORRIDOR	4,380.01	3,504.01	-	3,504.01	1,702.95	-	1,702.95
HEREFORD HOSPITAL	KITCHEN	1ST	NA	ROOMS	3,650.01	3,650.01	-	3,650.01	6,745.22	-	6,745.22
HEREFORD HOSPITAL	KITCHEN	1ST	NA	TOILET AND STORE	2,920.01	2,920.01	-	2,920.01	1,716.96	-	1,716.96
HEREFORD HOSPITAL	SPIRES	1ST	NA	RESTERAUNT	5,840.02	5,840.02	-	5,840.02	12,754.59	-	12,754.59
HEREFORD HOSPITAL	SPIRES	1ST	NA	RESTERAUNT	5,840.02	5,840.02	-	5,840.02	6,704.34	-	6,704.34
HEREFORD HOSPITAL	SPIRES	1ST	NA	RESTERAUNT	5,840.02	5,840.02	-	5,840.02	1,962.25	-	1,962.25
HEREFORD HOSPITAL	SPIRES	1ST	NA	RESTERAUNT	5,840.02	5,840.02	-	5,840.02	2,920.01	-	2,920.01
HEREFORD HOSPITAL	ARROW WARD	1ST	NA	CORRIDOR	5,840.02	5,840.02	-	5,840.02	7,848.98	-	7,848.98
HEREFORD HOSPITAL	ARROW WARD	1ST	NA	TOILET	2,920.01	2,920.01	-	2,920.01	1,635.20	-	1,635.20
HEREFORD HOSPITAL	ARROW WARD	1ST	NA	ROOMS	5,840.02	5,840.02	-	5,840.02	2,452.81	-	2,452.81
HEREFORD HOSPITAL	ARROW WARD	1ST	NA	ROOMS	5,840.02	5,840.02	-	5,840.02	1,226.40	-	1,226.40
HEREFORD HOSPITAL	ARROW WARD	1ST	NA	ROOMS	5,840.02	5,840.02	-	5,840.02	7,113.14	-	7,113.14
HEREFORD HOSPITAL	LUGG WARD	1ST	NA	CORRIDOR	5,840.02	5,840.02	-	5,840.02	6,867.86	-	6,867.86
HEREFORD HOSPITAL	LUGG WARD	1ST	NA	CORRIDOR	5,840.02	5,840.02	-	5,840.02	490.56	-	490.56
HEREFORD HOSPITAL	LUGG WARD	1ST	NA	ROOMS	5,840.02	5,840.02	-	5,840.02	1,471.68	-	1,471.68
HEREFORD HOSPITAL	LUGG WARD	1ST	NA	ROOMS	5,840.02	5,840.02	-	5,840.02	1,716.96	-	1,716.96
HEREFORD HOSPITAL	LUGG WARD	1ST	NA	ROOMS	5,840.02	5,840.02	-	5,840.02	9,145.47	-	9,145.47
HEREFORD HOSPITAL	LUGG WARD	1ST	NA	TOILETS	2,920.01	2,920.01	-	2,920.01	2,371.05	-	2,371.05
HEREFORD HOSPITAL	WYE WARD	1ST	NA	CORRIDOR	5,840.02	5,840.02	-	5,840.02	8,339.54	-	8,339.54
HEREFORD HOSPITAL	WYE WARD	1ST	NA	CORRIDOR	5,840.02	5,840.02	-	5,840.02	490.56	-	490.56
HEREFORD HOSPITAL	WYE WARD	1ST	NA	ROOMS	5,840.02	5,840.02	-	5,840.02	1,471.68	-	1,471.68
HEREFORD HOSPITAL	WYE WARD	1ST	NA	ROOMS	5,840.02	5,840.02	-	5,840.02	4,169.77	-	4,169.77
HEREFORD HOSPITAL	WYE WARD	1ST	NA	ROOMS	5,840.02	5,840.02	-	5,840.02	7,113.14	-	7,113.14
HEREFORD HOSPITAL	WYE WARD	1ST	NA	TOILETS	2,920.01	2,920.01	-	2,920.01	1,471.68	-	1,471.68
HEREFORD HOSPITAL	TEME WARD	1ST	NA	CORRIDOR	5,840.02	5,840.02	-	5,840.02	5,396.17	-	5,396.17
HEREFORD HOSPITAL	TEME WARD	1ST	NA	CORRIDOR	5,840.02	5,840.02	-	5,840.02	490.56	-	490.56
HEREFORD HOSPITAL	TEME WARD	1ST	NA	ROOMS	5,840.02	5,840.02	-	5,840.02	1,471.68	-	1,471.68
HEREFORD HOSPITAL	TEME WARD	1ST	NA	ROOMS	5,840.02	5,840.02	-	5,840.02	735.84	-	735.84
HEREFORD HOSPITAL	TEME WARD	1ST	NA	ROOMS	5,840.02	5,840.02	-	5,840.02	5,419.53	-	5,419.53
HEREFORD HOSPITAL	TEME WARD	1ST	NA	TOILET	2,920.01	2,920.01	-	2,920.01	1,308.16	-	1,308.16
HEREFORD HOSPITAL	FROME WARD	1ST	NA	CORRIDOR	5,840.02	5,840.02	-	5,840.02	10,792.35	-	10,792.35
HEREFORD HOSPITAL	FROME WARD	1ST	NA	CORRIDOR	5,840.02	5,840.02	-	5,840.02	490.56	-	490.56
HEREFORD HOSPITAL	FROME WARD	1ST	NA	ROOMS	5,840.02	5,840.02	-	5,840.02	4,415.05	-	4,415.05
HEREFORD HOSPITAL	FROME WARD	1ST	NA	ROOMS	5,840.02	5,840.02	-	5,840.02	1,962.25	-	1,962.25
HEREFORD HOSPITAL	FROME WARD	1ST	NA	TOILET	2,920.01	2,920.01	-	2,920.01	2,289.29	-	2,289.29
HEREFORD HOSPITAL	FROME WARD	1ST	NA	ROOMS	5,840.02	5,840.02	-	5,840.02	10,161.63	-	10,161.63
HEREFORD HOSPITAL	REDBROOK WARD	1ST	NA	CORRIDOR	5,840.02	5,840.02	-	5,840.02	6,867.86	-	6,867.86
HEREFORD HOSPITAL	REDBROOK WARD	1ST	NA	CORRIDOR	5,840.02	5,840.02	-	5,840.02	490.56	-	490.56
HEREFORD HOSPITAL	REDBROOK WARD	1ST	NA	ROOMS	5,840.02	5,840.02	-	5,840.02	1,962.25	-	1,962.25
HEREFORD HOSPITAL	REDBROOK WARD	1ST	NA	ROOMS	5,840.02	5,840.02	-	5,840.02	1,226.40	-	1,226.40
HEREFORD HOSPITAL	REDBROOK WARD	1ST	NA	ROOMS	5,840.02	5,840.02	-	5,840.02	6,435.70	-	6,435.70
HEREFORD HOSPITAL	REDBROOK WARD	1ST	NA	TOILETS	2,920.01	2,920.01	-	2,920.01	1,880.49	-	1,880.49
HEREFORD HOSPITAL	PHARMACY	1ST	NA	ALL	5,840.02	4,672.01	-	4,672.01	16,875.31	-	16,875.31
HEREFORD HOSPITAL	PHARMACY	1ST	NA	ALL	5,840.02	4,672.01	-	4,672.01	12,165.92	-	12,165.92
HEREFORD HOSPITAL	PHARMACY	1ST	NA	TOILET	2,920.01	2,920.01	-	2,920.01	1,471.68	-	1,471.68
HEREFORD HOSPITAL	MAIN ENTRANCE	GRD	NA	TOILET	5,840.02	5,840.02	-	5,840.02	1,962.25	-	1,962.25
HEREFORD HOSPITAL	MAIN ENTRANCE	GRD	NA	CORRIDOR	5,840.02	4,578.57	-	4,578.57	7,307.40	-	7,307.40
HEREFORD HOSPITAL	IMAGING	GRD	NA	CORRIDOR	5,110.01	5,110.01	-	5,110.01	13,091.86	-	13,091.86
HEREFORD HOSPITAL	IMAGING	GRD	NA	ROOMS	5,110.01	5,110.01	-	5,110.01	14,164.96	-	14,164.96
HEREFORD HOSPITAL	IMAGING	GRD	NA	ROOMS	5,110.01	5,110.01	-	5,110.01	15,238.06	-	15,238.06
HEREFORD HOSPITAL	IMAGING	GRD	NA	TOILET	2,920.01	2,920.01	-	2,920.01	2,861.61	-	2,861.61
HEREFORD HOSPITAL	IMAGING	GRD	NA	CORRIDOR	5,110.01	5,110.01	-	5,110.01	10,731.03	-	10,731.03
HEREFORD HOSPITAL	A&E EIGN SUITE	GRD	NA	ROOMS	5,840.02	5,840.02	-	5,840.02	10,547.07	-	10,547.07
HEREFORD HOSPITAL	ENDOSCOPY	GRD	NA	ROOMS	5,840.02	4,672.01	-	4,672.01	8,633.88	-	8,633.88
HEREFORD HOSPITAL	ENDOSCOPY	GRD	NA	ROOMS	5,840.02	5,840.02	-	5,840.02	18,150.77	-	18,150.77
HEREFORD HOSPITAL	ENDOSCOPY	GRD	NA	CORRIDOR	5,840.02	5,840.02	-	5,840.02	6,377.30	-	6,377.30
HEREFORD HOSPITAL	ENDOSCOPY	GRD	NA	CORRIDOR	5,840.02	5,840.02	-	5,840.02	12,509.31	-	12,509.31
HEREFORD HOSPITAL	A&E EIGN SUITE	GRD	NA	ROOMS	5,840.02	5,840.02	-	5,840.02	14,716.84	-	14,716.84
HEREFORD HOSPITAL	A&E EIGN SUITE	GRD	NA	ROOMS	5,840.02	5,840.02	-	5,840.02	42,678.84	-	42,678.84
HEREFORD HOSPITAL	FB BUILDING	GRD	NA	ALL	2,659.29	2,659.29	-	2,659.29	34,608.04	-	34,608.04
HEREFORD HOSPITAL	FB BUILDING	GRD	NA	ALL	2,659.29	2,659.29	-	2,659.29	7,754.50	-	7,754.50
HEREFORD HOSPITAL	FB BUILDING	GRD	NA	ALL	2,659.29	2,659.29	-	2,659.29	23,082.66	-	23,082.66
HEREFORD HOSPITAL	FB BUILDING	1ST	NA	OFFICES	2,659.29	2,659.29	-	2,659.29	12,030.64	-	12,030.64
HEREFORD HOSPITAL	FB BUILDING	1ST	NA	OFFICES	2,659.29	2,659.29	-	2,659.29	11,488.15	-	11,488.15
HEREFORD HOSPITAL	FB BUILDING	1ST	NA	OFFICES	2,659.29	2,659.29	-	2,659.29	13,881.51	-	13,881.51
HEREFORD HOSPITAL	MORTUARY	GRD	NA	ALL	3,285.01	3,285.01	-	3,285.01	2,483.47	-	2,483.47
HEREFORD HOSPITAL	MORTUARY	GRD	NA	ALL	3,285.01	3,285.01	-	3,285.01	3,239.02	-	3,239.02
HEREFORD HOSPITAL	MORTUARY	GRD	NA	ALL	3,285.01	3,285.01	-	3,285.01	2,575.45	-	2,575.45
HEREFORD HOSPITAL	MORTUARY	GRD	NA	ALL	3,285.01	3,285.01	-	3,285.01	1,419.12	-	1,419.12

HEREFORD HOSPITAL	PATHOLOGY	GRD	NA	ALL	5,110.01	5,110.01	-	5,110.01	22,535.16	-	22,535.16
HEREFORD HOSPITAL	PATHOLOGY	GRD	NA	ALL	5,110.01	5,110.01	-	5,110.01	16,633.10	-	16,633.10
HEREFORD HOSPITAL	WORKSHOP	GRD	NA	ALL	5,110.01	5,110.01	-	5,110.01	5,631.24	-	5,631.24
HEREFORD HOSPITAL	WORKSHOP	GRD	NA	ALL	5,110.01	5,110.01	-	5,110.01	3,433.93	-	3,433.93
HEREFORD HOSPITAL	WORKSHOP	GRD	NA	BOILER ROOM	5,110.01	5,110.01	-	5,110.01	10,669.71	-	10,669.71
HEREFORD HOSPITAL	OXFORD SUIT	GRD	NA	CORRIDOR	5,110.01	4,088.01	-	4,088.01	1,888.66	-	1,888.66
HEREFORD HOSPITAL	OXFORD SUIT	GRD	NA	CORRIDOR	5,110.01	4,088.01	-	4,088.01	11,675.36	-	11,675.36
HEREFORD HOSPITAL	OXFORD SUIT	GRD	NA	ROOMS	5,110.01	4,088.01	-	4,088.01	3,605.63	-	3,605.63
HEREFORD HOSPITAL	OXFORD SUIT	GRD	NA	ROOMS	5,110.01	5,110.01	-	5,110.01	39,919.43	-	39,919.43
HEREFORD HOSPITAL	OXFORD SUIT	GRD	NA	TOILETS & WAITING RO	2,190.01	2,190.01	-	2,190.01	3,495.25	-	3,495.25
HEREFORD HOSPITAL	PRE OPS	GRD	NA	ALL	3,545.72	3,545.72	-	3,545.72	3,829.38	-	3,829.38
HEREFORD HOSPITAL	PRE OPS	GRD	NA	ALL	3,545.72	3,545.72	-	3,545.72	8,041.70	-	8,041.70
HEREFORD HOSPITAL	SODEXHO	1ST	NA	CORRIDOR	3,545.72	2,836.58	-	2,836.58	1,667.91	-	1,667.91
HEREFORD HOSPITAL	SODEXHO	1ST	NA	ROOMS	3,545.72	3,545.72	-	3,545.72	5,758.26	-	5,758.26
HEREFORD HOSPITAL	SODEXHO	1ST	NA	ALL	3,545.72	3,545.72	-	3,545.72	6,509.95	-	6,509.95
HEREFORD HOSPITAL	POST GRAD	GRD	NA	ALL	2,867.87	2,867.87	-	2,867.87	2,661.38	-	2,661.38
HEREFORD HOSPITAL	POST GRAD	GRD	NA	ALL	2,867.87	2,867.87	-	2,867.87	4,129.73	-	4,129.73
HEREFORD HOSPITAL	POST GRAD	GRD	NA	ALL	2,867.87	2,867.87	-	2,867.87	2,409.01	-	2,409.01
HEREFORD HOSPITAL	POST GRAD	GRD	NA	ALL	2,867.87	2,867.87	-	2,867.87	2,477.84	-	2,477.84
HEREFORD HOSPITAL	VASCLAR/RELATIVES	1ST	NA	ROOMS	4,484.30	4,484.30	-	4,484.30	4,896.85	-	4,896.85
HEREFORD HOSPITAL	VASCLAR/RELATIVES	1ST	NA	ROOMS	4,484.30	4,484.30	-	4,484.30	3,013.45	-	3,013.45
HEREFORD HOSPITAL	VASCLAR/RELATIVES	1ST	NA	TOILETS	4,484.30	4,484.30	-	4,484.30	2,260.09	-	2,260.09
HEREFORD HOSPITAL	STAFF ON CALL	2ND	NA	CORRIDOR	4,588.58	4,588.58	-	4,588.58	5,451.24	-	5,451.24
HEREFORD HOSPITAL	STAFF ON CALL	2ND	NA	ROOMS	2,502.86	2,502.86	-	2,502.86	2,703.09	-	2,703.09
HEREFORD HOSPITAL	STAFF ON CALL	2ND	NA	ROOMS	2,502.86	2,502.86	-	2,502.86	6,487.42	-	6,487.42
HEREFORD HOSPITAL	STAFF ON CALL	2ND	NA	TOILETS	2,502.86	2,502.86	-	2,502.86	2,032.33	-	2,032.33
HEREFORD HOSPITAL	PLANTROOM	2ND	NA	PLANT ROOM	1,460.00	1,460.00	-	1,460.00	4,064.65	-	4,064.65
HEREFORD HOSPITAL	WOMENS HEALTH	2ND	NA	CORRIDOR	5,110.01	5,110.01	-	5,110.01	6,867.86	-	6,867.86
HEREFORD HOSPITAL	WOMENS HEALTH	2ND	NA	ROOMS	4,380.01	4,380.01	-	4,380.01	11,773.47	-	11,773.47
HEREFORD HOSPITAL	WOMENS HEALTH	2ND	NA	ROOMS	4,380.01	4,380.01	-	4,380.01	2,575.45	-	2,575.45
HEREFORD HOSPITAL	WOMENS HEALTH	2ND	NA	RECEPTION	4,380.01	4,380.01	-	4,380.01	2,575.45	-	2,575.45
HEREFORD HOSPITAL	PROFESSIONAL DEVELOPMENT ALL	NA	NA	CORRIDOR	2,607.15	2,607.15	-	2,607.15	5,162.16	-	5,162.16
HEREFORD HOSPITAL	PROFESSIONAL DEVELOPMENT ALL	NA	NA	ROOMS	2,607.15	2,607.15	-	2,607.15	14,266.32	-	14,266.32
HEREFORD HOSPITAL	PROFESSIONAL DEVELOPMENT ALL	NA	NA	ROOMS	2,607.15	2,607.15	-	2,607.15	5,988.10	-	5,988.10
HEREFORD HOSPITAL	GENERAL	ALL	NA	ALL	2,920.01	2,085.72	834.29	2,920.01	3,253.72	1,301.49	4,555.21
HEREFORD HOSPITAL	BEDSIDE LAMP	ALL	NA	BEDROOMS	2,920.01	1,460.00	1,460.00	2,920.01	7,533.62	7,533.62	15,067.24
HEREFORD HOSPITAL	TOP FLOOR PLANTROOM	3RD	NA	PLANTROOM	6,570.02	3,650.01	2,920.01	6,570.02	13,972.24	11,177.79	25,150.03

Table 10: Existing operating hours - LED and Controls Lighting Upgrade

The lighting schedule (to be submitted separately) details both weekday and weekend operating hours for each area identified for luminaire/lamp replacements. Together with the number of weeks of operation per year, this allows for calculation of the annual operating hours.

Control savings will be deemed using engineering calculations.

A change in the quantity of fittings post-installation or a change in the operating hours would affect the savings from this measure. The Trust will be responsible for reporting any static factor changes as set out in Section 9.

5.5 AHU Fan and Motor Upgrade

The existing power consumption and operating time measurement has been carried out with Panoramic Power sensors and analysed on the Power Radar portal or using clamp test data. Where not available nominal rate multiplied by a load factor of 80% has been assumed.

Plantroom	AHU	Type	Motor Rating (kW)	Running hours p.a.
Third Floor Plantroom	Zone 1 General	Supply	4	8760
Third Floor Plantroom	Zone 1 General	Extract	2.2	8760
Third Floor Plantroom	Zone 2 General	Extract	3	8760
Third Floor Plantroom	Zone 3 General	Extract	6.2	8760
Third Floor Plantroom	Zone 3 A&E Resus and Procedures	Supply	2.8	8760

Plantroom	AHU	Type	Motor Rating (kW)	Running hours p.a.
Third Floor Plantroom	Zone 6 General	Supply	6.2	8760
Third Floor Plantroom	Zone 6 General	Extract	3	8760
Third Floor Plantroom	Zone 7 General	Supply	7.5	8760
Third Floor Plantroom	Zone 7 General	Extract	4.5	8760
Third Floor Plantroom	Zone 8 General	Supply	3	8760
Third Floor Plantroom	Zone 8 General	Extract	7.5	8760
Third Floor Plantroom	Zone 8 CCU	Supply	2.2	8760
Third Floor Plantroom	Zone 8 Delivery Theatre	Supply	2.2	8760
Third Floor Plantroom	Zone 8 Delivery Theatre	Extract	1.1	8760
	Endoscopy General	Supply	4	8760
	Endoscopy General	Extract	2.2	8760
	Theatre 1	Supply	2.2	8760
	Theatre 1	Extract	1.1	8760
	Theatre 2	Supply	2.2	8760
	Theatre 2	Extract	1.5	8760
	Theatre 3	Supply	2.2	8760
	Theatre 3	Extract	1.5	8760
	Theatre 4	Supply	2.2	8760
	Theatre 4	Extract	1.5	8760

Table 11: Scope and operating hours - AHU Fan and Motor Upgrade

Conditions which will affect the energy savings from this Technology include a change in the operating hours of the fans/motors or a change in the fans/motors themselves, for example, the removal of a motor. The Trust will be responsible for reporting any static factor changes as set out in Section 9.

5.6 Local Cooling Controls Upgrade

The baseline energy for this Technology will be the existing energy consumption of the AC split units without controls.

The energy savings from this Technology have been deemed using engineering calculations.

Conditions which will affect the energy savings from this Technology include the removal of any of the AC split units with presence sensors installed or a change of use in the areas in which the AC split units are operating. The Trust will be responsible for reporting any static factor changes as set out in Section 9.

5.7 Mechanical Services Insulation

The baseline energy from this Technology is the gas consumption during the baseline period.

The energy savings from this Technology have been deemed using engineering calculations.

A change in the utilisation of heat could affect the gas consumption and therefore the savings from this measure. The Trust will be responsible for reporting any static factor changes as set out in Section 9.

5.8 Heat pumps and electrode boilers

The baseline energy from the Technology is the gas consumption and building heating (space heating and domestic hot water) loads during the baseline period April 2021 – March 2022 at Hereford County Hospital.

The building heating and hot water loads (kWh) for the proposed heat pump buildings are shown below in Table 12.

Consumption/load	Energy (kWh)
Gas consumption provided by the Trust for 2021/22	15,549,157
Gas for Finance (Phase 1) - to be excluded from baseline	75,720
Gas for AMU - to be excluded from baseline	91,908
Gas for catering - to be excluded from baseline	147,529
Gas for Autoclaves in Path & SSD - to be excluded from baseline	707,136
Total gas consumption excluding the above	14,526,864
Gas for Phase 3 72 Bed Ward	1,477,067
Total baseline gas consumption for heating	16,003,931
Total baseline heat load	12,162,987

Table 12: Baseline gas/heat for heat pumps

Conditions which will affect the energy savings from this Technology include the heat utilisation on site and the weather. The Trust will be responsible for reporting any static factor changes as set out in Section 9.

5.9 Electric steam generators¹

The baseline energy from this Technology is the gas consumption of the autoclaves in pathology and SSD during the baseline period.

The energy savings from this Technology have been deemed using engineering calculations.

A change in the utilisation of steam by the autoclaves could affect the gas consumption and therefore the savings from this measure. The Trust will be responsible for reporting any static factor changes as set out in Section 9.

5.10 Cavity wall insulation

The baseline energy from this Technology is the gas consumption during the baseline period.

The energy savings from this Technology have been deemed using engineering calculations.

A change in the utilisation of heat could affect the gas consumption and therefore the savings from this measure. The Trust will be responsible for reporting any static factor changes as set out in Section 9.

5.11 Loft insulation

The baseline energy from this Technology is the gas consumption during the baseline period.

The energy savings from this Technology have been deemed using engineering calculations.

A change in the utilisation of heat could affect the gas consumption and therefore the savings from this measure. The Trust will be responsible for reporting any static factor changes as set out in Section 9.

6. BASIS FOR ADJUSTMENT

This section details how adjustments to the baseline (setting out how much energy the sites/equipment would have used if the project had not taken place) will be carried out in order to take account of changes to operating conditions. IPMVP good practice sets out two broad approaches for these adjustments – routine and non-routine.

Routine adjustments: relate to any energy-governing factors that are expected to change routinely during the reporting period, such as the weather (temperature and daylight for example). A variety of techniques can be used to define the adjustment methodology to take account of these changes, but valid mathematical techniques must be used.

Non-routine adjustments: relate to those energy-governing factors which are not usually expected to change such as the facility size, the design, and operation and volume of installed equipment, shift patterns, or the type of occupants. Importantly, these static factors must be monitored for change throughout the reporting period.

6.1 GSHP Ambient Loop Heat Network (ALHN) (phase 1)

Routine Adjustments

Centrica has identified three reasons which could affect the savings from the GSHP Ambient Loop Heat Network (ALHN) (phase 1): weather, operational performance and site changes. In the event that the actual savings are lower than the guaranteed savings, Centrica will investigate these three factors as follows.

Weather

Centrica has determined that non-routine adjustments for outside air temperature will be required as this is a significant independent variable which will affect the savings from the GSHP Ambient Loop Heat Network (ALHN) (phase 1). Heating Degree Days (HDD) will be used to calculate the impact of this. Centrica has used a regression function to calculate a regression equation for the heat utilisation against HDD. The regression equation is:

$$\text{Heat utilisation (kWh)} = (1800.5 \times \text{HDD}) + 65376$$

The 5-year average HDD 01/04/2018 - 31/03/2019 have been obtained from the following source:

Description:	Celsius-based 5-year-average (2015-2019) heating degree days with a base temperature of 18°C
Source:	www.degreedays.net
Station:	Hereford Credenhill, ENG, GB (2.80W,52.08N)
Station ID:	03522

Table 13: Weather station data

Centrica will use the regression equation to remove weather impact. For each month in the reporting period the actual HDD value from that period will be entered into the equation to calculate what the thermal load would have been for that HDD value in the baseline period. This will be compared against the actual measured thermal load through the heat meters.

If the difference between the actual savings and the guaranteed savings cannot be explained by the weather, then Centrica will investigate the operational performance of the GSHP Ambient Loop Heat Network (ALHN) (phase 1).

Centrica will correct for any impact due to weather using the agreed weather model. If the weather correction explains the higher utilisation fully then Centrica will inform the Trust and carry out a savings adjustment. No party will be responsible for the loss of savings. However, if the weather correction does not explain the higher utilisation fully, the remaining higher utilisation will be attributed to an increase in site demand. Centrica will carry out a baseline adjustment and inform the Trust.

During the design phase of the project, further analysis will be carried out to correlate heat utilisation against ambient air temperature, as this is expected to yield a stronger correlation than HDD. Therefore, the regression analysis may be updated to reflect this during the design phase of this project.

Non-routine Adjustments

There are static factors which could affect the savings from this Technology:

- Operational performance
- Site changes, including but not limited to, the following:
 - Change of use of building(s)
 - Change of operating hours of building(s)
 - Removal/addition of building(s)
 - Change in heat load(s) for space heating/DHW
 - Change in setpoint(s) for space heating/DHW

Operational Performance

The operational performance of the GSHP and ASHP Ambient Loop Heat Network (ALHN) (phase 1) consists of two elements: the availability (of the heat pumps) and the heat pump COPs.

Using relevant meters on the heat pumps in line with IPMVP option B, Centrica will continuously monitor the electricity input and heat outputs. Centrica will calculate the COP of the heat pumps using the measured input and output data. If the heat pumps are available and operating in line with the expected COP but there is still an unexplained underperformance this will be investigated to determine the responsibility (Centrica or Trust). Underperformance resulting from site changes outside of the control of Centrica will be the responsibility of the Trust and will be the basis for Centrica to carry out a non-routine savings adjustment.

If the heat pumps are available and the COPs are in line with the expected COPs (and the weather has been taken into account as described above) then the reason for any remaining underperformance will be due to changes on site outside the control of Centrica.

If a breakdown occurs which affects the energy savings guarantee, the affected plant and any independent equipment shall be deemed to be performing in accordance with their design parameters for the purposes of calculating the energy savings guarantee.

Site changes

If the actual thermal loads increase above the modelled loads, Centrica will make any non-routine savings adjustments as set out above during that period. If the weather adjustments have been carried out, the heat pumps are available, the COPs are in line with expected values and there is still a difference in heat supplied compared with expected outputs, this will be due to a Site change outside the control of Centrica and will be reported to the Trust.

For any period where a site change outside of the control of Centrica is identified, Centrica will carry out a savings adjustment (or non-routine adjustment).

6.2 **ASHP**

Routine Adjustments

Centrica has identified three reasons which could affect the savings from the ASHP: weather, operational performance and site changes. In the event that the actual savings are lower than the guaranteed savings, Centrica will investigate these three factors as follows.

Weather

Centrica has determined that non-routine adjustments for outside air temperature will be required as this is a significant independent variable which will affect the savings from the ASHP. Heating Degree Days (HDD) will be used to calculate the impact of this. Centrica has used a regression function to calculate a regression equation for the heat utilisation against HDD. The regression equation is:

$$\text{Heat utilisation (kWh)} = (1800.5 \times \text{HDD}) + 65376$$

The 5-year average HDD 01/04/2018 - 31/03/2019 have been obtained from the following source:

Description:	Celsius-based 5-year-average (2015-2019) heating degree days with a base temperature of 18°C
Source:	www.degreedays.net
Station:	Hereford Credenhill, ENG, GB (2.80W,52.08N)
Station ID:	03522

Table 14: Weather station data

Centrica will use the regression equation to remove weather impact. For each month in the reporting period the actual HDD value from that period will be entered into the equation to calculate what the thermal load would have been for that HDD value in the baseline period. This will be compared against the actual measured thermal load through the heat meters.

If the difference between the actual savings and the guaranteed savings cannot be explained by the weather, then Centrica will investigate the operational performance of the ASHP.

Centrica will correct for any impact due to weather using the agreed weather model. If the weather correction explains the higher utilisation fully then Centrica will inform the Trust and carry out a savings adjustment. No party will be responsible for the loss of savings. However, if the weather correction does not explain the higher utilisation fully, the remaining higher utilisation will be attributed to an increase in site demand. Centrica will carry out a baseline adjustment and inform the Trust.

During the design phase of the project, further analysis will be carried out to correlate heat utilisation against ambient air temperature, as this is expected to yield a stronger correlation than HDD. Therefore, the regression analysis may be updated to reflect this during the design phase of this project.

Non-routine Adjustments

There are static factors which could affect the savings from this Technology:

- Operational performance
- Site changes, including but not limited to, the following:
 - Change of use of building(s)
 - Change of operating hours of building(s)
 - Removal/addition of building(s)
 - Change in heat load(s) for space heating/DHW
 - Change in setpoint(s) for space heating/DHW

Operational Performance

The operational performance of the ASHP consists of two elements: the availability (of the heat pumps) and the heat pump COPs.

Using relevant meters on the heat pumps in line with IPMVP option B, Centrica will continuously monitor the electricity input and heat outputs. Centrica will calculate the COP of the heat pumps using the measured input and output data. If the heat pumps are available and operating in line with the expected COP but there is still an unexplained underperformance this will be investigated to determine the responsibility (Centrica or Trust). Underperformance resulting from site changes outside of the control of Centrica will be the responsibility of the Trust and will be the basis for Centrica to carry out a non-routine savings adjustment.

If the heat pumps are available and the COPs are in line with the expected COPs (and the weather has been taken into account as described above) then the reason for any remaining underperformance will be due to changes on site outside the control of Centrica.

Site changes

If the actual thermal loads increase above the modelled loads, Centrica will make any non-routine savings adjustments as set out above during that period. If the weather adjustments have been carried out, the heat pumps are available, the COPs are in line with expected values and there is still a difference in heat supplied compared with expected outputs, this will be due to a Site change outside the control of Centrica and will be reported to the Trust.

For any period where a site change outside of the control of Centrica is identified, Centrica will carry out a savings adjustment (or non-routine adjustment).

6.3 Solar PV

Routine Adjustments

No routine adjustments have been identified which will affect the energy savings from the solar PV.

Non-routine Adjustments

Since the savings from this Technology will be deemed using engineering calculations, the savings will be demonstrated once installation is complete.

Original levels of savings will continue to be reported throughout the duration of the contract unless a specific change in either of the factors above is reported to Centrica. It is the responsibility of the Trust to report any static factor changes during the contract period to allow Centrica to calculate baseline adjustments where necessary.

6.4 LED and Controls Lighting Upgrade

Routine Adjustments

No routine adjustments have been identified which will affect the energy savings from the lighting replacements.

Non-routine Adjustments

Since the savings will be demonstrated using short-term measurements, the savings will be demonstrated once the installation is complete and the lighting schedules finalised.

However, there are static factors which could affect the savings from this Technology:

- Change in quantity of fittings/controls installed
- Change of operating hours in an area where new lighting was installed as part of this Technology

Original levels of savings will continue to be reported throughout the duration of the contract unless a specific change in either of the factors above is reported to Centrica. It is the responsibility of the Trust to report any such changes during the contract period to allow Centrica to calculate the baseline adjustments where necessary.

6.5 AHU Fan and Motor Upgrade

Routine Adjustments

No routine adjustments have been identified which will affect the energy savings from the fan/motor replacements.

Non-routine Adjustments

Since the savings from this Technology will be measured, the savings will be demonstrated once installation is complete.

However, there are static factors which could affect the savings from this Technology:

- Change in operating hours of AHUs
- Change in quantity of fans/motors installed

Original levels of savings will continue to be reported throughout the duration of the contract unless a specific change in either of the factors above is reported to Centrica. It is the responsibility of the Trust to report any such changes during the contract period to allow Centrica to calculate the baseline adjustments where necessary.

6.6 Local Cooling Controls Upgrade

Routine Adjustments

No routine adjustments have been identified which will affect the energy savings from the local cooling controls upgrade.

Non-routine Adjustments

Since the savings from this Technology will be deemed using engineering calculations, the savings will be demonstrated once installation is complete.

However, there are static factors which could affect the savings from this Technology:

- Change in quantity of AC split units or controls installed
- Change of operating hours in an area where new controls were installed as part of this Technology

Original levels of savings will continue to be reported throughout the duration of the contract unless a specific change in either of the factors above is reported to Centrica. It is the responsibility of the Trust to report any static factor changes during the contract period to allow Centrica to calculate baseline adjustments where necessary.

6.7 Mechanical Services Insulation

Routine Adjustments

No routine adjustments have been identified which will affect the energy savings from the mechanical services insulation.

Non-routine Adjustments

Since the savings from this Technology will be deemed using engineering calculations, the savings will be demonstrated once installation is complete.

However, there are static factors which could affect the savings from this Technology:

- Change in quantity of valve covers/lagging installed

Original levels of savings will continue to be reported throughout the duration of the contract unless a specific change in either of the factors above is reported to Centrica. It is the responsibility of the Trust to report any static factor changes during the contract period to allow Centrica to calculate baseline adjustments where necessary.

6.8 Heat pumps and electrode boilers¹

Routine Adjustments

Centrica has identified three reasons which could affect the savings from the heat pumps and electrode boilers (Phase 2 Works): weather, operational performance and site changes. In the event that the actual savings are lower than the guaranteed savings, Centrica will investigate these three factors as follows.

Weather

Centrica has determined that non-routine adjustments for outside air temperature will be required as this is a significant independent variable which will affect the savings from the heat pumps and electrode boilers (Phase 2 Works). Heating Degree Days (HDD) will be used to calculate the impact of this. Centrica has used a regression function to calculate a regression equation for the heat utilisation against HDD. The regression equation is:

$$\text{Heat utilisation (kWh)} = (2504.4 \times \text{HDD}) + 590938$$

The monthly HDD 01/04/21 – 31/03/22 have been obtained from the following source:

Description:	Celsius-based heating degree days with a base temperature of 15.5 C
Source:	www.degreedays.net

Station:	Hereford Credenhill, ENG, GB (2.80W,52.08N)
Station ID:	03522

Table 15: Weather station data

Centrica will use the regression equation to remove weather impact. For each month in the reporting period the actual HDD value from that period will be entered into the equation to calculate what the thermal load would have been for that HDD value in the baseline period. This will be compared against the actual measured thermal load through the heat meters.

If the difference between the actual savings and the guaranteed savings cannot be explained by the weather, then Centrica will investigate the operational performance of the heat pumps and electrode boilers (Phase 2 Works).

Centrica will correct for any impact due to weather using the agreed weather model. If the weather correction explains the higher utilisation fully then Centrica will inform the Trust and carry out a savings adjustment. No party will be responsible for the loss of savings. However, if the weather correction does not explain the higher utilisation fully, the remaining higher utilisation will be attributed to an increase in site demand. Centrica will carry out a baseline adjustment and inform the Trust.

During the design phase of the project, further analysis will be carried out to correlate heat utilisation against ambient air temperature, as this is expected to yield a stronger correlation than HDD. Therefore, the regression analysis may be updated to reflect this during the design phase of this project.

Non-routine Adjustments

There are static factors which could affect the savings from this Technology:

- Operational performance
- Site changes, including but not limited to, the following:
 - Change of use of building(s)
 - Change of operating hours of building(s)
 - Removal/addition of building(s)
 - Change in heat load(s) for space heating/DHW
 - Change in setpoint(s) for space heating/DHW

Operational Performance

The operational performance of the heat pumps and electrode boilers consists of two elements: the availability (of the heat pumps and electrode boilers) and the heat pump COPs.

Using relevant meters on the heat pumps and electrode boilers in line with IPMVP option B, Centrica will continuously monitor the electricity input and heat outputs. Centrica will calculate the COP of the heat pumps using the measured input and output data. If the heat pumps (and where applicable the electrode boilers) are available and the heat pumps are operating in line with the expected COP but there is still an unexplained underperformance this will be investigated to determine the responsibility (Centrica or Trust). Underperformance resulting from site changes outside of the control of Centrica will be the responsibility of the Trust and will be the basis for Centrica to carry out a non-routine savings adjustment.

If the heat pumps (and where applicable the electrode boilers) are available and the heat pump COPs are in line with the expected COPs (and the weather has been taken into account as described above) then the reason for any remaining under-performance will be due to changes on site outside the control of Centrica.

If a breakdown occurs which affects the energy savings guarantee, the affected plant and any independent equipment shall be deemed to be performing in accordance with their design parameters for the purposes of calculating the energy savings guarantee.

Site changes

If the actual thermal loads increase above the modelled loads, Centrica will make any non-routine savings adjustments as set out above during that period. If the weather adjustments have been carried out, the heat pumps are available, the COPs are in line with expected values and there is still a difference in heat supplied compared with expected outputs, this will be due to a Site change outside the control of Centrica and will be reported to the Trust.

For any period where a site change outside of the control of Centrica is identified, Centrica will carry out a savings adjustment (or non-routine adjustment).

6.9 **Electric steam generators¹**

Routine Adjustments

No routine adjustments have been identified which will affect the energy savings from the electric steam generators.

Non-routine Adjustments

Since the savings from this Technology will be deemed using engineering calculations, the savings will be demonstrated once installation is complete.

However, there is a static factor which could affect the savings from this Technology:

- Change in operating hours of the autoclaves
- Change in autoclave equipment

Original levels of savings will continue to be reported throughout the duration of the contract unless a specific change in the factor above is reported to Centrica. It is the responsibility of the Trust to report any static factor changes during the contract period to allow Centrica to calculate baseline adjustments where necessary.

6.10 **Cavity wall insulation¹**

Routine Adjustments

No routine adjustments have been identified which will affect the energy savings from the cavity wall insulation.

Non-routine Adjustments

Since the savings from this Technology will be deemed using engineering calculations, the savings will be demonstrated once installation is complete.

However, there is a static factor which could affect the savings from this Technology:

- Change in quantity of cavity wall insulation installed

Original levels of savings will continue to be reported throughout the duration of the contract unless a specific change in the factor above is reported to Centrica. It is the responsibility of the Trust to report any static factor changes during the contract period to allow Centrica to calculate baseline adjustments where necessary.

6.11 Loft insulation

Routine Adjustments

No routine adjustments have been identified which will affect the energy savings from the loft insulation.

Non-routine Adjustments

Since the savings from this Technology will be deemed using engineering calculations, the savings will be demonstrated once installation is complete.

However, there is a static factor which could affect the savings from this Technology:

- Change in quantity of loft insulation installed

Original levels of savings will continue to be reported throughout the duration of the contract unless a specific change in the factor above is reported to Centrica. It is the responsibility of the Trust to report any static factor changes during the contract period to allow Centrica to calculate baseline adjustments where necessary.

7. ANALYSIS PROCEDURE

This section sets out the analysis procedures, algorithms and assumptions that will be used to put into practice the methodological approaches defined above and, by doing so, calculate the energy savings performance for each Technology. These performance figures will subsequently be reported in each savings report.

The output for each Technology is a clearly defined and explained mathematical model, as set out below.

7.1 GSHP Ambient Loop Heat Network (ALHN) (phase 1)

Calculation methodology

ALHN Buildings

Gas Savings = Buildings Heat Pump/s Heat Generation (BHP HG) / Existing weighted boiler efficiency

Electricity Consumption = Buildings Heat Pump/s Electricity Consumption (BHP) + Ground Array Circulation Pumps Electricity Consumption (GA CP)

Total Savings = Gas Savings – Electricity Consumption

Where:

Heat Meters

Buildings Heat Pump/s Heat Generation = (BHP HG) Based on buildings Heat Pump/s annual Heat generation

Ground Array Heat Generation = (GA HG) Based on Ground Array annual Heat generation (for system optimisation)

Power Meters

Buildings Heat Pump/s Electricity Consumption = (BHP) Based on buildings Heat Pump/s annual electricity consumption

Ground Array Circulation Pumps Electricity Consumption = (GA CP) Based on Ground Array Circulation Pumps annual electricity consumption

Definitions

Existing buildings baseline annual fossil fuel consumption kWh p.a. (BFF)

Buildings Heat Pump/s Heat Generation = Heat metering of heat output of building heat pumps (BHP HG)

Ground Array Heat Generation = Heat metering of ground arrays (GA HG) (for system optimisation)

Buildings Heat Pump/s Electricity Consumption over sample period = Power Radar monitoring of power (BHP)

Ground Array Circulation Pumps Electricity Consumption over sample period = Power Radar monitoring of power (GA CP)

Monitoring of hourly ambient temperatures (AT)

Monitoring of monthly heating degree days to base temperature of 18oC (HDD)

Assumptions

Gas savings normalised via heating degree days (HDD)
ALHN electricity consumption normalised via heating degree days (HDD) and via ambient temperature (AT)
Baseline fossil fuel consumption half hourly gas data for 12-month period April 2018 to March 2019 - reliance data
Baseline building heating (space heating and domestic hot water) loads based on Heat Map V12 and reliance data
Existing boiler efficiencies (%) based on Heat Map V12
<u>ALHN Buildings</u>
Finance Building office 76%
Lionel Green office 80%
Charles Renton 80%
Post-Graduate 80%
Trust HQ office 80%
Longfield House A 76%
Longfield House B 76%
Natural gas means natural gas as supplied through the 'National Grid' national distribution network to meet the criteria laid down in the Gas Safety (Management) Regulations 1996 (SI No. 1996/551), with a minimum gross calorific value of 37.5 MJ/m ³ and a methane number of >= 70.

ALHN Building heating loads (space heating and domestic hot water) is provided by a combination of 10 (duty/standby) LT and HT heat pumps across 6 buildings on the ALHN.
The building heat pumps will provide 50°C and 70°C hot water for the LT and HT heat pumps to the demarcation point in each building plantroom.
HT 100kW Heat Pump - GSHP Building heating loads are converted into heat pump power by dividing by the operational COP of the heat pumps. The operational COP range of the heat pumps is 2.575 (at 0°C) to 3.040 (at 6°C) (COP +/-5% tolerance to be assumed in operation).
LT 60kW Heat Pump - GSHP Building heating loads are converted into heat pump power by dividing by the operational COP of the heat pumps. The operational COP range of the heat pumps is 2.468 (at 0°C) to 2.996 (at 6°C) (COP +/-5% tolerance to be assumed in operation).
COP data source is the Daikin Selection Software used by SHEco (Daikin distributor).
The building heat pumps are provided with heat low grade heat from the ambient loop heat network.
Heat is provided to the ambient loop from a ground array.
Pumping power is derived from the following ALHN high efficiency variable speed pump sets: <ul style="list-style-type: none"> • Ground Array 25 pump set 18.5kW VSD (duty/standby)
Heating degree days normalisation to base temperature of 18°C
POU electric water heater electricity consumption based on DHW demand and water consumption per building (to be confirmed during design phase)

Table 16: Assumptions - GSHP ALHN (phase 1)

7.2 ASHP

Calculation Methodology

ASHP Buildings

Gas Savings = Buildings Heat Pump/s Heat Generation (BHP HG) / Existing weighted boiler efficiency

Electricity Consumption = Buildings Heat Pump/s Electricity Consumption BHP + POU Water Heater Electricity Consumption²

Total Savings = Gas Savings – Electricity Consumption

Where;

Heat Meters

Buildings Heat Pump/s Heat Generation = (BHP HG) Based on buildings Heat Pump/s annual Heat generation

² Only for those buildings where new POU water heaters are installed as part of this scheme

Ground Array Heat Generation = (GA HG) Based on Ground Array annual Heat generation (for system optimisation)

Power Meters

Buildings Heat Pump/s Electricity Consumption = (BHP) Based on buildings Heat Pump/s annual electricity consumption

Ground Array Circulation Pumps Electricity Consumption = (GA CP) Based on Ground Array Circulation Pumps annual electricity consumption

Definitions

Existing buildings baseline annual fossil fuel consumption kWh p.a. (BFF)

Buildings Heat Pump/s Heat Generation = Heat metering of heat output of building heat pumps (BHP HG)

Ground Array Heat Generation = Heat metering of ground arrays (GA HG) (for system optimisation)

Buildings Heat Pump/s Electricity Consumption over sample period = Power Radar monitoring of power (BHP)

Ground Array Circulation Pumps Electricity Consumption over sample period = Power Radar monitoring of power (GA CP)

Monitoring of hourly ambient temperatures (AT)

Monitoring of monthly heating degree days to base temperature of 18°C (HDD)

Assumptions

Gas savings normalised via heating degree days (HDD)	
ASHP electricity consumption normalised via ambient temperature (AT)	
Baseline fossil fuel consumption half hourly gas data for 12-month period April 2018 to March 2019 - reliance data	
Baseline building heating (space heating and domestic hot water) loads based on Heat Map V12 and reliance data	
Existing boiler efficiencies (%) based on Heat Map V12	
<u>ASHP Buildings</u>	
Diabetics office	76%
Eign Brook Complex	76%
Acute Medical Unit	75%
Natural gas means natural gas as supplied through the 'National Grid' national distribution network to meet the criteria laid down in the Gas Safety (Management) Regulations 1996 (SI No. 1996/551), with a minimum gross calorific value of 37.5 MJ/m ³ and a methane number of >= 70.	
ASHP Building heat loads (space heating and domestic hot water, where applicable) is provided by local stand-alone air source heat pumps.	

The building heat pumps will provide 50°C and 70°C hot water for the LT and HT heat pumps to the demarcation point in each building plantroom.
ASHP Building heating loads are converted into heat pump power by dividing by the operational COP of the heat pumps. The operational COP range of the heat pumps is 1.839 (at -5°C) to 2.934 (at 15°C) (COP +/-5% tolerance to be assumed in operation). COP data source is the Daikin Selection Software used by SHEco (Daikin distributor).
Heating degree days normalisation to base temperature of 18°C
POU electric water heater electricity consumption based on DHW demand and water consumption per building (to be confirmed during design phase)

Table 17: Assumptions - ASHP (phase 1)

7.3 Solar PV

Calculation methodology

Solar PV generation = Roof 1 annual generation + Roof 2 annual generation

Assumptions

PV annual capacity degradation 0.6%
Module DC nameplate: Roof 1 Outpatients roof area – 34.8 kWpeak DC, 1 x 27.6kW-AC, Roof 2: Canteen roof area – 68.0 kWpeak DC, 2 x 25kW-AC
Average operating ambient temperature = 12.9°C
Average operating cell temperature = 18.4°C
Performance Ratio: 80%
Operating hours: 4571
Weather dataset from PVGIS TMY

Table 18: Assumptions - solar PV

7.4 LED and Controls Lighting Upgrade

Calculation methodology

Electricity savings (fitting upgrade) = (existing luminaire measured power – new luminaire measured power) x existing operating hours

Electricity savings (control savings) = luminaire power x (existing operating hours – new operating hours)

Assumptions

Existing fitting wattages as shown in Section 3
Operating times as shown in Section 3
Control savings
Presence detection: 20% (day and night)
Daylight detection: 2% (day only)

Table 19: Assumptions - LED and Controls Lighting Upgrade

7.5 AHU Fan and Motor Upgrade

Calculation methodology

Electricity saving = (existing fan power – new fan power) x operating hours

Assumptions

Existing fan power as shown in Section 3
Operating times as shown in Section 3
Upgrades are based on surveys and Panoramic Power findings
EC fan replacement savings 20%
Plug fan replacement savings 25%
VSD night set back based on 80% flowrate for 12 hours per day based on run hours

Table 20: Assumption - AHU Fan and Motor Upgrade

7.6 Local Cooling Controls Upgrade

Calculation methodology

Electricity savings = ((nominal cooling capacity (kW) / COP) x diversity factor) x (current operating times – proposed operating times)

Assumptions

Process cooling

Existing operating hours per year 8,760 hours
This system monitors the refrigerant and turns the compressor off once the coolant is to temperature. The evaporator remains operational, allowing the residual refrigerant to continue to deliver cold air and maintain the room temperature. Once the refrigerant has achieved its lowest cooling capability, the compressor is switched back on resulting with energy reduction.

Based on previous projects assumed 15% energy savings

Table 21: Assumptions - Local Cooling Controls Upgrade - process cooling

Comfort cooling

Occupancy patterns:

Office Hrs	Occupancy	Usage	Hrs Saving	
	8-18, 5 days a w	24-7, 7 days a week		Assumed 10 hours per day 5 days a week
Hrs work Week	50	168		Assumed 6 months cooling season
Months	6	6		Assumed 50% Occupancy
Hrs per yr	1,300	4,368	1,534	
% Occupancy			50%	

Extended Office Hrs	Occupancy	Usage	Hrs Saving	
	8-20, 5 days a w	24-7, 7 days a week		Assumed 12 hours per day 5 days a week
Hrs work Week	60	168		Assumed 6 months cooling season
Months	6	6		Assumed 50% Occupancy
Hrs per yr	1,560	4,368	1,404	
% Occupancy			50%	

Office Hrs Well Managed	Occupancy	Usage	Hrs Saving	
	8-18, 5 days a w	20-7, 7 days a week		Assumed 10 hours per day 5 days a week
Hrs work Week	50	140		Assumed 4 hours per day off due to well managed AC
Months	6	6		Assumed 6 months cooling season
Hrs per yr	1,300	3,640	1,170	Assumed 50% Occupancy
% Occupancy			50%	

24-7 Intermitent	Occupancy	Usage	Hrs Saving	
	12-7, 7 days a w	24-7, 7 days a week		Assumed used 12 hours out of 24 hours per day
Hrs work Week	84	168		Assumed 6 months cooling season
Months	6	6		Assumed 50% Occupancy
Hrs per yr	2,184	4,368	1,092	
% Occupancy			50%	

Assumed load factor 70%

Table 22: Assumptions - Local Cooling Controls Upgrade - comfort cooling

7.7 Mechanical Services Insulation

Calculation methodology

The current heat loss has been obtained from CIBSE Guide C Table 3.19 Heat emission from single horizontal steel pipes ($\epsilon = 0.95$) freely exposed in surroundings at 20 °C. The heat loss from insulated pipework is calculated as shown below in Figure 3.

Heat Loss from a Pipe Heat Transfer Calculations

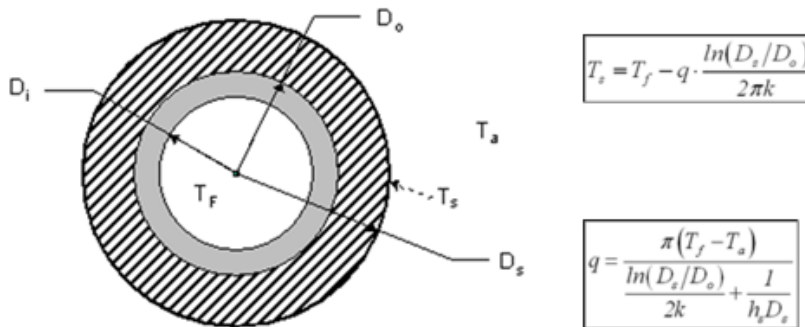


Figure 1: heat loss from a pipe heat transfer calculation

Gas saving per valve type = corrected heat loss saving per valve type x operating hours / 1000

Where:

Corrected heat loss savings per valve type = heat loss saving per valve type / boiler efficiency

Heat loss saving per valve type = heat loss saving x equivalent pipe length

Heat loss saving = heat loss (insulated pipe) – heat loss (uninsulated pipe)

Assumptions

Insulation material is 50mm x 45kg/m ³ Rockwool
Insulation covers have a thermal conductivity (k) of 0.049 W/mK (at 100°C)
Operating times of insulated services: 8,760 hours
Average seasonal heating efficiency: 75%
Equivalent lengths from CIBSE
LTHW average temperature: 75°C
Ambient Temperature: 20°C

Table 23: Assumptions - Mechanical Services Insulation

7.8 Heat pumps and electrode boilers¹

Calculation methodology

Heat pumps/electrode boiler Buildings

Gas Savings = Buildings Heat Utilisation / Existing weighted boiler efficiency

Electricity Consumption = Heat Pumps Electricity Consumption + Electrode Boilers Electricity Consumption + Parasitic Electricity Consumption

Total Savings = Gas Savings – Electricity Consumption

Where:

Heat Meters

Buildings Heat = Based on Buildings Heat Utilisation

Power Meters

Heat Pumps Electricity Consumption = Based on buildings Heat Pumps annual electricity consumption

Electrode Boilers Electricity Consumption = Based on buildings Electrode Boilers annual electricity consumption

Parasitic Electricity Consumption = Based on parasitic load annual electricity consumption

Definitions

Existing buildings baseline annual fossil fuel consumption kWh p.a. (BFF)

Buildings Heat Pumps Heat Utilisation = Heat metering of heat utilisation of building heat pumps and electrode boilers

Heat Pumps Electricity Consumption over sample period = monitoring of power

Electrode Boilers Electricity Consumption over sample period = monitoring of power

Parasitic Electricity Consumption over sample period = monitoring of power

Monitoring of hourly ambient temperatures

Monitoring of monthly heating degree days to base temperature of 18°C (HDD)

Adjusted Seasonal COP = Seasonal COP reduced by 5% to take into account the parasitic loads

Assumptions

Gas savings normalised via heating degree days (HDD) with a base temperature of 18°C
Electricity consumption normalised via heating degree days (HDD) and via ambient temperature (AT)
Baseline fossil fuel consumption gas data for 12-month period April 2021-March 2022 - reliance data
Electrode boilers are for resilience
Existing boiler efficiency (%) based on existing boiler data: 76%
Natural gas means natural gas as supplied through the 'National Grid' national distribution network to meet the criteria laid down in the Gas Safety (Management) Regulations 1996 (SI No. 1996/551), with a minimum gross calorific value of 37.5 MJ/m ³ and a methane number of ≥ 70 .
Heat pump Building heating loads (space heating and domestic hot water) is provided by a combination of Air Source and Water Source Heat Pumps
The building heat pumps will provide 83°C hot water to the demarcation point in each building plantroom.
The total modelled system SCOP is 1.981. This includes parasitic loads. The equipment COP as per manufacturer's data: 379kW Air Source Heat Pump – Heat Pump Building heating loads are converted into heat pump power by dividing by the operational COP of the heat pumps. The operational COP range of the heat pumps is 3.41 (at -5°C) to 6.98 (at 20°C) COP data source is manufacturer's datasheet

1141kW Water Source Heat Pump - Heat Pump Building heating loads are converted into heat pump power by dividing by the operational COP of the heat pumps. The operational COP range of the heat pumps is 2.95 (at 100% load) to 2.98 (at 25% load)
Heat pump modelling calculates electricity consumption using building heat utilisation / adjusted seasonal COP (includes parasitic electricity consumption)

Table 24: Assumptions - heat pumps and electrode boilers

7.1 Electric Steam Generators¹

Calculation methodology

Gas savings = (existing heat required for sterilisation) / existing boiler efficiency

Electricity consumption = existing heat required for sterilisation / new generator efficiency

Total gas savings = Gas savings – Electricity consumption

Assumptions

Existing heat required for sterilisation = 537,423 kWh
Existing boiler efficiency (%) based on existing boiler data: 76%
New electric generator efficiency (%) based on generator data: 92%

Table 25: Assumptions - electric steam generators

7.2 Cavity wall insulation¹

Calculation methodology

Gas savings = (existing heat loss – proposed heat loss) / existing boiler efficiency

Where:

Existing heat loss = number of Heating Degree Days x area to be insulated (m²) x U-value of existing element (W/m².K) x heating operational hours/day x (number of days heated / number of days in heating season)

Proposed heat loss = number of Heating Degree Days x area to be insulated (m²) x U-value of proposed element (W/m².K) x heating operational hours/day x (number of days heated / number of days in heating season)

Assumptions

Insulation material is EnergyStore SuperBead Insulation
U value of existing element: 1.50 W/m ² K
U value of proposed element: 0.51 W/m ² K
Number of Degree Days during Heating Season: 2,389
HDD region is Severn Valley with a base temperature of 18.5°C

Total Number of Days in Heating Season: 242
Heating Use (Hr/day): 24.0
Number of Days Heated during Heating season: 242
Average seasonal heating efficiency: 76%
Area to be insulated: 983m² (pathology building)
Salix Fabric Building Insulation Tool Used to calculate savings

Table 26: Assumptions - cavity wall insulation

7.3 Loft insulation¹

Calculation methodology

Gas savings = (existing heat loss – proposed heat loss) / existing boiler efficiency

Where:

Existing heat loss = number of Heating Degree Days x area to be insulated (m²) x U-value of existing element (W/m².K) x heating operational hours/day x (number of days heated / number of days in heating season)

Proposed heat loss = number of Heating Degree Days x area to be insulated (m²) x U-value of proposed element (W/m².K) x heating operational hours/day x (number of days heated / number of days in heating season)

Assumptions

Insulation material is Knauf Loft Roll 44
U value of existing element: 2.50 W/m2K
U value of proposed element: 0.13 W/m2K
Number of Degree Days during Heating Season: 2,389
HDD region is Severn Valley with a base temperature of 18.5°C
Total Number of Days in Heating Season: 242
Heating Use (Hr/day): 24.0
Number of Days Heated during Heating season: 242
Average seasonal heating efficiency: 76%
Area to be insulated: 352m2 (age care and rehab building)
Salix Fabric Building Insulation Tool Used to calculate savings

Table 27: Assumptions - loft insulation

8. ENERGY PRICES

This section specifies the energy prices that will be used to value (in financial terms) the energy savings for the duration of the contract. It also sets out how financial savings will be adjusted if energy prices change in the future.

Basic Energy Prices

Phase 1

The table below sets out the energy prices that will be used to value the energy savings attributable to the project. The figures have been extracted from the Proforma tab of "ProformaUpdate290121.xlsx".

Site	Electricity (£/kWh)	Gas (£/kWh)
Hereford County Hospital	0.1010	0.0201

Table 28: Electricity and Gas Energy Prices Phase 1

Phase 2

The table below sets out the energy prices that will be used to value the energy savings attributable to the project. These figures were advised by the Trust during a meeting on the 17/03/2023 to be part of the running cost analysis.

Site	Electricity (£/kWh) including CCL	Gas (£/kWh) including CCL
Hereford County Hospital	0.3025	0.1170

Table 29: Electricity and Gas Energy Prices Phase 2

Changes to Energy Prices

Energy prices be index linked (increased (and for the avoidance of doubt no decrease shall be made)) annually by the higher of RPI and 3.5%.

Carbon Factors

Phase 1

Since carbon savings will also be reported, the carbon factors which will be used for the purposes of reporting for this EPC are shown below in Table Table 29.

Site	Electricity (kgCO ₂ /kWh)	Gas (kgCO ₂ /kWh)
Hereford County Hospital	0.183870	0.25319

Table 30: Electricity and Gas Carbon Factors - Phase 1

Source: BEIS GHG electricity and gas carbon conversion factors ³

Phase 2

Since carbon savings will also be reported, the carbon factors which will be used for the purposes of reporting for this EPC are shown below in Table 30

Site	Electricity (kgCO ₂ /kWh)	Gas (kgCO ₂ /kWh)
Hereford County Hospital	0.19338	0.18254

Table 31: Electricity and Carbon Factors - Phase 2

Source: BEIS GHG electricity and gas carbon conversion factors ⁴

³ [BEIS GHG conversion factors 2020](#)
⁴ [BEIS GHG conversion factors 2022](#)

SCHEDULE 6

PAYMENT

PART 1

MILESTONE CERTIFICATES AND PAYMENT FOR THE WORKS

PART 1A MILESTONE CERTIFICATES AND PAYMENT FOR PHASE 1 WORKS

1. In consideration for the due and proper execution and completion of the Phase 1 Works by Centrica in accordance with the terms of this Agreement, the Authority shall pay Centrica the Phase 1 Contract Price in the sum of £4,140,915 in accordance with this Part 1 of Schedule 6 (Payment) as the same may be adjusted in accordance with the terms of this Agreement.
2. Representatives of the Authority and Centrica shall meet at least once per month during the period between the Phase 1 Commencement Date and the Phase 1 Works Completion Date in order to monitor the progress of the Phase 1 Works.
3. Lighting Measure:
 - 3.1 Payment for proportions of the Lighting Measure installed following the Phase 1 Commencement Date shall be assessed on a monthly basis (at the end of each month) based on the total percentage of work completed in the preceding month.
 - 3.2 Centrica shall provide a summary of the Lighting Measure installed at the Site in each month following the Phase 1 Commencement Date until the completion of the Lighting Measure installation at the Site and shall submit the same to the Authority at the same time as its application for payment for the Lighting Measure.
4. Centrica shall be entitled to apply for payment of the milestone payment for all other aspects of the Phase 1 Works in accordance with achievement of the relevant payment trigger set out in Appendix 1a of Appendix 1 (Milestones and Capital Values) and Appendix 2a of Appendix 2 (Milestone Payment Schedule) to this Schedule 6. Where the relevant payment trigger is the issue of a Completion Certificate, this will be provided at the same time as submitting its application for payment.
5. **Payment**
 - 5.1 No earlier than 7 (seven) days following achievement of the relevant payment trigger, Centrica shall issue an application for payment for the relevant Construction Milestone or monthly payment (a "**Payment Application**") specifying Centrica's calculation of the amount payable by the Authority to Centrica provided that any claims in respect of Compensation Events shall be payable in accordance with Clause 8 (*Extensions of Time and Compensation Events*) and shall not operate to increase the amount specified in this paragraph 5. Centrica will provide any additional information and explanation in respect of such Payment Application that the Authority may reasonably request. The date of receipt by the Authority of the Payment Application shall be the payment due date.
 - 5.2 Not later than 5 (five) Business Days after the relevant payment due date the Authority will give notice (the "**Payment Notice**") to Centrica of the sum (the "**Notified Sum**") that the Authority considers to be or to have been due at the payment due date and the basis on which that sum is calculated. It is immaterial that the Notified Sum may be zero. Subject to the issue of any Pay Less Notice pursuant to paragraph 5.4 the Authority shall pay the Notified Sum to Centrica by the final date for payment referred to in paragraph 5.5.
 - 5.3 If the Authority does not issue a Payment Notice to Centrica in accordance with paragraph 5.2, the payment to be made by the Authority to Centrica by the final date for payment shall, subject to any Pay Less Notice which may be issued in accordance with paragraph 5.4, be the amount in Centrica's application for payment submitted in accordance with paragraph 5.1.

- 5.4 No later than 5 (five) Business Days before the final date for payment, the Authority may give notice to Centrica that the Authority intends to pay less than the Notified Sum (a "**Pay Less Notice**") or the amount in Centrica's application for payment submitted in accordance with paragraph 5.1 as the case may be. It is immaterial that the amount then considered to be due may be zero. Any Pay Less Notice shall set out:
- 5.4.1 the sum that the Authority considers to be due to Centrica when the Pay Less Notice is served; and
- 5.4.2 the basis on which the sum is calculated.
- 5.5 The final date for payment of any sums referred to in this paragraph 5 shall be 30 (thirty) days after the relevant payment due date.
- 5.6 Centrica shall submit invoices in the instalments specified in the "Payment Trigger" column of the table contained in Appendix 1 (Appendix 1a) of this Part 1 of Schedule 6. The date of receipt by the Authority of Centrica's invoice shall be the payment due date. The procedure in paragraphs 5.2 to 5.5 shall apply equally to such invoices.

PART 1B MILESTONE CERTIFICATES AND PAYMENT FOR PHASE 2 WORKS

6. In consideration for the due and proper execution and completion of the Phase 2 Works by Centrica in accordance with the terms of this Agreement, the Authority shall pay Centrica the Phase 2 Contract Price in the sum of sixteen million eight hundred and fifty five thousand eight hundred and fourteen pounds excluding VAT (£16,855,814 ex VAT) in accordance with this Part 1b of Schedule 6 (Payment) as the same may be adjusted in accordance with the terms of this Agreement.
7. Representatives of the Authority and Centrica shall meet at least once per month during the period between the Phase 2 Project Commencement Date and the Phase 2 Works Completion Date in order to monitor the progress of the Phase 2 Works.
8. Centrica shall be entitled to apply for payment of the milestone payment of the Phase 2 Works in accordance with achievement of the relevant payment trigger set out in Appendix 1b (Phase 2 Milestones and Capital Values) and Appendix 2b (Phase 2 Milestone Payment Schedule) to this Schedule 6. Where the relevant payment trigger is the issue of a Completion Certificate, this will be provided at the same time as submitting its application for payment.
9. **Payment**
- 9.1 No earlier than 7 (seven) days following achievement of the relevant payment trigger, Centrica shall issue an application for payment for the relevant Construction Milestone or monthly payment (a "**Payment Application**") specifying Centrica's calculation of the amount payable by the Authority to Centrica provided that any claims in respect of Compensation Events shall be payable in accordance with Clause 8 (*Extensions of Time and Compensation Events*) and shall not operate to increase the amount specified in this paragraph 9. Centrica will provide any additional information and explanation in respect of such Payment Application that the Authority may reasonably request. The date of receipt by the Authority of the Payment Application shall be the payment due date.
- 9.2 Not later than 5 (five) Business Days after the relevant payment due date the Authority will give notice (the "**Payment Notice**") to Centrica of the sum (the "**Notified Sum**") that the Authority considers to be or to have been due at the payment due date and the basis on which that sum is calculated. It is immaterial that the Notified Sum may be zero. Subject to the issue of any Pay Less Notice pursuant to paragraph 9.4 the Authority shall pay the Notified Sum to Centrica by the final date for payment referred to in paragraph 9.5.
- 9.3 If the Authority does not issue a Payment Notice to Centrica in accordance with paragraph 9.2, the payment to be made by the Authority to Centrica by the final date for payment shall, subject to any Pay Less Notice which may be issued in accordance with paragraph 9.4, be the amount in Centrica's application for payment submitted in accordance with paragraph 10.1.

- 9.4 No later than 5 (five) Business Days before the final date for payment, the Authority may give notice to Centrica that the Authority intends to pay less than the Notified Sum (a "**Pay Less Notice**") or the amount in Centrica's application for payment submitted in accordance with paragraph 9.1 as the case may be. It is immaterial that the amount then considered to be due may be zero. Any Pay Less Notice shall set out:
- 9.4.1 the sum that the Authority considers to be due to Centrica when the Pay Less Notice is served; and
- 9.4.2 the basis on which the sum is calculated.
- 9.5 The final date for payment of any sums referred to in this paragraph 9 shall be 30 (thirty) days after the relevant payment due date.
- 9.6 Centrica shall submit invoices in the instalments specified in the "Payment Trigger" column of the table contained in Appendix 1 (Appendix 1b) of this Part 1 of Schedule 6. The date of receipt by the Authority of Centrica's invoice shall be the payment due date. The procedure in paragraphs 9.2 to 9.5 shall apply equally to such invoices.

APPENDIX 1

MILESTONES AND CAPITAL VALUES

APPENDIX 1A PHASE 1 MILESTONES AND CAPITAL VALUES

Item	Construction Milestone	Payment Basis	Payment Trigger	Total Sum payable by Authority £ (exc. VAT)
1.	Engineering Design Costs	One off payment	Execution Date	£136,982
2.	IGA Costs	One off payment	Execution Date	£98,729
3.	Legal, Insurance, Consents Fees	One off payment	Execution Date	£94,650
4.	Project & Construction Management Costs	To be paid in monthly instalments over a 4 month period	The first instalment shall be paid on the Project Commencement Date and subsequent payments shall be made on a monthly basis thereafter until all 4 instalments have been paid.	£367,412 to be paid in 4 equal instalments
5.	Framework Fee, as applicable	One Off payment	Execution Date	£34,595
6.	Lighting	Monthly payments	To be paid on a monthly basis with the amount of each monthly payment commensurate with the amount of lighting installed by Centrica in the relevant month as documented by the Completion Certificate for that month.	£715,464

Item	Construction Milestone	Payment Basis	Payment Trigger
7.	Solar PV	Milestone Payment	Milestone Payments as per Appendix 2a this Part 1a of Schedule 6
8.	AHU Fan & Motor Upgrades	Milestone Payment	Milestone Payments as per Appendix 2a of Part 1a of Schedule 6
9.	Local cooling controls upgrade	Milestone Payment	Milestone payments as per Appendix 2a of Part 1a of Schedule 6

10.	Mechanical Services Insulation	Milestone Payment	Milestone payments as per Appendix 2a of Part 1a of Schedule 6
11.	Ground/ Air-Source Heat Pumps	Milestone Payment	Milestone payments as per Appendix 2a of Part 1a of Schedule 6

APPENDIX 1B PHASE 2 MILESTONES AND CAPITAL VALUES

Item	Construction Milestone	Payment Basis	Payment Trigger	Total payable by Authority £ (exc. VAT)	Sum by £
1.	Project Approval	One off payment	Pre-Contract Agreement Signed	£355,000.00	
2.	Out to Tender	One off payment	Tenders issued for works	£269,842.50	
3.	Tenders returned	One off payment	Tenders returned and reviewed for works	£472,485.83	
4.	Orders Placed	One off payment	Orders placed for long lead items	£3,694,180.83	
5.	Designs Completed	Monthly Payments	Detailed Design	£355,045.00	
6.	Works in progress on site	Milestone payments	Milestone Payments as per Appendix 2b this Part 1b of Schedule 6	£11,345,430	
7.	Completed on site	Milestone payment	Milestone Payments as per Appendix 2b this Part 1b of Schedule	£249,910.00	

Item	Construction Milestone	Payment Basis	Payment Trigger	Total payable by Authority £ (exc. VAT)	Sum by £
8.	Final commissioning	Milestone Payment	Milestone Payments as per Appendix 2b this Part 1b of Schedule 6	£463,921	
9.	Lifecycle Cost	Monthly Application	Milestone Payments as per Appendix 2b this Part 1b of Schedule 6	£450,000	

APPENDIX 2

APPENDIX 2A PHASE 1 MILESTONE PAYMENT SCHEDULES

NOTE: Sums payable by Authority as listed below include the following:

SOLAR PV SYSTEM – MILESTONE PAYMENT SCHEDULE

Milestone	Milestone detail	Sum payable by Authority %	Sum payable by Authority £ (exc. VAT)
1.	Detailed design pack issued	25%	£30,930
2.	Delivery of solar panels to the Site	55%	£68,045
3.	Completion of performance testing (as per stage 3 of commissioning tests)	15%	£18,558
4.	Issue of Completion Certificate	5%	£6,186
	Total	100%	£123,718

AHU FANS & MOTORS UPGRADES– MILESTONE PAYMENT SCHEDULE

		Phase 1	
Milestone	Milestone detail	Sum payable by Authority %	Sum payable by Authority £ (exc. VAT)
1.	Delivery of equipment to site	70%	£196,009
2.	Issue of Taking Over Certificate	25%	£70,003
3.	Issue of Completion Certificate	5%	£14,001
	Total	100%	£280,014

CONTROLS UPGRADE (LOCAL COOLING) – Milestone Payment schedule

Milestone	Milestone detail	Sum payable by Authority %	Sum payable by Authority £ (exc. VAT)
1.	Delivery of equipment to site	70%	£50,933
2.	Issue of Taking Over Certificate	25%	£18,190
3.	Issue of Completion Certificate	5%	£3,638

	Total	100%	£72,762
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INSULATION UPGRADE (MECHANICAL SERVICES) – MILESTONE PAYMENT SCHEDULE

Milestone	Milestone detail	Sum payable by Authority %	Sum payable by Authority £ (exc. VAT)
1.	Delivery of equipment to site	70%	£26,918
2.	% complete for new LTHW distribution pipework	Covers 25% (in increments as sections of pipework are complete)	£9,613
3.	Issue of Completion Certificate	5%	£1,923
	Total	100%	£38,454

GROUND/ AIR SOURCE HEAT PUMP – AMBIENT HEAT NETWORK – MILESTONE PAYMENT SCHEDULE

Milestone	Milestone detail	Sum payable by Authority %	Sum payable by Authority £ (exc. VAT)
1.	Detailed design pack issued	30%	£653,441
2.	Delivery of equipment to site	50%	£1,089,068
3.	Issue of Taking Over Certificate	Covers 15% (in increments as sections are complete)	£326,720
4.	Issue of Completion Certificate	5%	£108,907
	Total	100%	£2,178,136

APPENDIX 2B PHASE 2 MILESTONE PAYMENT SCHEDULES

NOTE: Sums payable by Authority as listed below include the following:

Salix Milestones	Ex Vat	Inc VAT	CBS Milestone	Value	Month
Project Approval	£ 355,000	£ 426,000	Project Approval	£355,000.00	Jan-23
Out to tender	£ 269,843	£ 323,811	Out to tender	£269,842.50	Jan-23
Tenders returned	£ 472,486	£ 566,983	Tenders returned	£472,485.83	Apr-23
Order Placed	£ 3,694,180	£ 4,433,016	Order Placed for large ticket items	£3,694,180.00	Feb-23
Designs Completed	£ 355,045	£ 426,054	Detailed Design	£177,522.50	Jul-23
				£88,761.25	Jul-23
				£88,761.25	Aug-23
Works in progress on site	£10,970,340	£13,164,407	Insurance	£22,260.00	Jul-23
			Signature of Agreement	£163,090.00	Jul-23
			Welfare Cabins Physically on site	£35,550.00	Sep-23
			Cavity Wall Insulation	£6,000.00	Sep-23
				£20,806.00	Oct-23
			Loft Insulation	£2,033.00	Sep-23
				£8,700.00	Oct-23
			Heat Pumps	£1,844,390.55	Oct-23
				£1,844,390.55	Nov-23
				£1,844,390.55	Dec-23
				£1,541,636.30	Jan-24
				£1,541,636.30	Feb-24
			Autoclaves	£68,150.00	Jan-24
				£68,150.00	Feb-24
				£68,150.00	Mar-24
Helga	£49,370.00	Jul-23			
* Trust Contingency	£100,000.00	Jul-23			
	£100,000.00	Aug-23			
			£100,000.00	Sep-23	
Completed on site	£ 249,910	£ 299,892	Completed on site	£249,910.00	Dec-24
Final commissioning	£ 464,011	£ 556,813	Final commissioning	£154,670.28	Jan-25
				£154,670.28	Feb-25
				£154,670.28	Mar-25
Lifecycle Cost (From Trust	£ 450,000	£ 540,000	Lifecycle Cost	£150,000.00	Apr-24
				£150,000.00	May-24
				£150,000.00	Jun-24
* Trust contingency will be drawn down from Salix but not paid to Centrica					

PART 1

OPERATIONAL PAYMENTS

1. Interim Services Payment

- 1.1 Centrica shall, pursuant to Clause 9.2, determine the amount of the Interim Services Payment based on the proportion of those Services which Centrica performs between the Interim Services Commencement Date and the Services Commencement Date as compared to the full Services to be performed by Centrica from the Services Commencement Date.
- 1.2 Centrica shall, pursuant to Clause 9.2, determine the amount of the Phase 2 Interim Services Payment based on the proportion of those Services which Centrica performs between the Phase 2 Interim Services Commencement Date and the Phase 2 Services Commencement Date as compared to the full Services to be performed by Centrica from the Phase 2 Services Commencement Date

2. Service Payment

- 2.1 Subject to Clause 2.4, the Phase 1 Service Payment (**exc. Helga fee**) for the first Contract Year is One Hundred and Thirteen Thousand and Forty Seven pounds sterling £113,047 (**exc. VAT**) as the same may be adjusted in accordance with this Agreement and the Phase 2 Service Payment (inc. Helga fee of £49,370) for the first Contract Year is One Hundred and Sixty Three Thousand, Seven Hundred and forty four pounds sterling £163,744 (exc. VAT) as the same may be adjusted in accordance with this Agreement..
- 2.2 The Phase 1 Service Payment and the Phase 2 Service Payment shall be paid by the Authority in four equal quarterly instalments in accordance with paragraph 3 of this Part 1 of Schedule 6.
- 2.3 The Phase 1 Service Payment will be Index Linked on each anniversary of the Phase 1 Service Commencement Date and the Phase 2 Service Payment will be Index Linked on each anniversary of the relevant Phase 2 Service Commencement Date.
- 2.4 The Phase 1 Service Payment includes Centrica's fee for measurement and verification services and operation and maintenance of the Centrica Serviced Technologies provided in accordance with this Agreement. Where the Authority exercises its right under Clause 9.7 so that Centrica ceases to provide measurement and verification services, the Service Payment referred to in paragraph 2.1 shall be reduced by the applicable measurement and verification fee (Index Linked), being as at the Phase 1 Service Commencement Date, £46,687.
- 2.5 The Service Payment excludes any corrective maintenance services to repair any defect in or malfunction to a Centrica Serviced Technology which falls within limb (h) or (i) of the definition of Compensation Event and, in such cases, Centrica shall be entitled to payment of a Corrective Maintenance Fee in respect of such corrective maintenance services as determined in accordance with paragraph 5 of Schedule 4 (*Services*).

3. Invoices

- 3.1 Centrica shall submit a VAT invoice in respect of the Interim Services, on the Interim Services Commencement Date and, in respect of the Services, on the Services Commencement Date and quarterly thereafter. The VAT invoice shall include an application for payment of:
 - 3.1.1 in respect of the Interim Services, the full Interim Services Payment or, in respect of the Services, one quarter of the annual Service Payment for the relevant Contract Year;
 - 3.1.2 the amount agreed (or determined) in accordance with this Agreement as being due in respect of any Compensation Events or Changes not previously invoiced;

- 3.1.3 the Corrective Maintenance Fee for any corrective maintenance carried out by Centrica in the previous quarter and not separately invoiced in accordance with the agreement reached by the Authority and Centrica in accordance with paragraph 5 of Schedule 4; and
- 3.1.4 VAT.
- 3.2 The date of receipt by the Authority of the VAT invoice shall be the payment due date.
- 3.3 Not later than 7 (seven) days after the relevant payment due date the Authority will give a Payment Notice to Centrica of the Notified Sum that the Authority considers to be or to have been due at the payment due date and the basis on which that sum is calculated. It is immaterial that the Notified Sum may be zero. Subject to the issue of any Pay Less Notice pursuant to paragraph 3.5 the Authority shall pay the Notified Sum to Centrica by the final date for payment referred to in paragraph 3.7.
- 3.4 If the Authority does not issue a Payment Notice to Centrica in accordance with paragraph 3.3, the payment to be made by the Authority to Centrica by the final date for payment shall, subject to any Pay Less Notice which may be issued in accordance with paragraph 3.5, be the amount in Centrica's VAT invoice submitted in accordance with paragraph 3.2.
- 3.5 At least 2 (two) days before the final date for payment the Authority may give a Pay Less Notice to Centrica. It is immaterial that the amount then considered to be due may be zero.
- 3.6 Any Pay Less Notice shall set out:
 - 3.6.1 the sum that the Authority considers to be due to Centrica when the Pay Less Notice is served; and
 - 3.6.2 the basis on which the sum is calculated.
- 3.7 The final date for payment of shall be 20 (twenty) days after the relevant payment due date.

SCHEDULE 7

RELIANCE DATA

The parties note that, save where expressly agreed otherwise, any inaccuracy in the Reliance Data shall be a Compensation Event, as set out in the definition of Compensation Event and subject to and in accordance with the provisions for Clause 8 (*Extensions of Time and Compensation Events*).

1. GENERAL

Phase 1

The following tables illustrate the **electricity consumption** for the baseline year April 2018 to March 2019.

Electricity	Apr-18	May-18	Jun-18	Jul-18	Aug-18	Sep-18	Oct-18	Nov-18	Dec-18	Jan-19	Feb-19	Mar-19	Total
1415860881004	2,540	731	250	10	123	494	1,514	2,485	2,587	3,138	2,886	2,407	19,164
1421096500009	640,323	657,712	650,171	703,711	675,452	629,027	652,183	655,672	665,031	681,211	598,601	648,564	7,857,659
1416860881006	603	563	360	305	370	408	477	484	487	490	406	444	5,397
1412860881009	2,271	2,167	2,271	2,323	2,338	2,296	2,761	2,836	2,832	3,202	2,712	2,697	30,705
Elec Consumption kWh	645,737	661,174	653,052	706,349	678,283	632,224	656,936	661,477	670,938	688,041	604,605	654,111	7,912,926

Total electricity consumption does not include electricity for Stonebow Unit.

The following tables illustrate the **fossil fuel consumption** for the baseline year April 2018 to March 2019.

MPRN	Apr-18	May-18	Jun-18	Jul-18	Aug-18	Sep-18	Oct-18	Nov-18	Dec-18	Jan-19	Feb-19	Mar-19	Total
3762908	10,465	4,529	3,662	3,512	4,062	5,648	7,969	9,624	11,208	12,772	9,961	9,690	93,102
58833108	17,214	3,950	4,175	0	0	911	8,708	22,484	22,852	26,925	21,713	19,559	148,491
58833310	15,132	7,439	4,365	4,567	4,690	6,953	12,233	14,826	16,991	21,135	18,053	17,795	144,179
58833400	2,686	1,212	223	0	325	1,103	2,720	4,119	5,504	6,859	5,104	4,711	34,566
8885406304	1,303,723	930,872	643,228	635,689	709,864	901,248	1,150,019	1,435,756	1,484,628	1,735,731	1,413,712	1,378,620	13,723,090
8906076407	6,659	1,937	2,099	1,649	2,166	2,960	5,171	8,205	9,188	1,203	9,166	7,748	58,151
8925867704	19,978	6,489	3,917	5,096	6,968	7,641	20,762	24,638	25,699	30,990	27,331	25,163	204,672
9328680500	14,908	9,270	4,466	5,386	6,968	8,124	13,498	16,757	17,047	21,580	17,784	18,097	153,885
9337353104	10,185	3,445	5,571	4,847	5,341	5,908	7,544	9,076	9,344	10,679	8,349	11,588	91,877
9327355607	21,892	17,709	5,995	5,128	6,665	11,116	32,625	34,496	34,999	37,048	32,334	34,820	274,827
9329889105	5,697	3,164	0	0	0	169	4,746	14,078	14,145	15,723	13,946	11,555	83,223
9297464109	19,452	8,238	7,670	7,484	9,986	11,455	19,441	28,958	29,249	32,360	23,672	23,623	221,588
Stonebow Unit Oil	46,294	39,318	38,487	20,477	38,935	63,788	99,264	112,833	106,780	138,070	89,087	98,170	891,503
Fossil Fuel Consumption kWh	1,494,285	1,037,572	723,858	693,835	795,970	1,027,024	1,384,700	1,735,850	1,787,634	2,091,075	1,690,212	1,661,139	16,123,154

Total Fossil fuel consumption includes fuel oil for Stonebow Unit.

Phase 2

The following Table 32 illustrates the electricity consumption for the baseline year April 2021 to March 2022 based on metered data from County Hospital HH meter K13W303781.

Date	Electricity Consumption (kWh)
Apr-21	645,174
May-21	650,400
Jun-21	660,083
Jul-21	749,722
Aug-21	741,869
Sep-21	710,311
Oct-21	699,976
Nov-21	681,868
Dec-21	719,431

Jan-22	747,405
Feb-22	658,721
Mar-22	704,662

Table 32: Baseline electricity consumption - phase 2

The following Table 33 illustrates the fossil fuel consumption for the baseline year April 2021 to March 2022. For further detail on how the baseline was calculated see section 2.7.

Date	Gas Consumption (kWh)
Apr-21	1,571,958
May-21	1,297,953
Jun-21	878,265
Jul-21	920,469
Aug-21	889,824
Sep-21	881,936
Oct-21	1,154,216
Nov-21	1,581,325
Dec-21	1,752,693
Jan-22	1,950,577
Feb-22	1,494,110
Mar-22	1,630,605

Table 33: Baseline fossil fuel consumption - phase 2

2. TECHNOLOGY RELIANCE DATA

Phase 1

2.1 Ambient Loop Heat Network

2.1.1 Baseline fossil fuel consumption data for 12-month period April 2018 to March 2019.

MPRN	Apr-18	May-18	Jun-18	Jul-18	Aug-18	Sep-18	Oct-18	Nov-18	Dec-18	Jan-19	Feb-19	Mar-19	Total
3762908	10,465	4,529	3,662	3,512	4,062	5,648	7,969	9,624	11,208	12,772	9,961	9,690	93,102
58833108	17,214	3,950	4,175	0	0	911	8,708	22,484	22,852	26,925	21,713	19,559	148,491
58833310	15,132	7,439	4,365	4,567	4,690	6,953	12,233	14,826	16,991	21,135	18,053	17,795	144,179
58833400	2,686	1,212	223	0	325	1,103	2,720	4,119	5,504	6,859	5,104	4,711	34,566
8885406304	1,303,723	930,872	643,228	635,689	709,864	901,248	1,150,019	1,435,756	1,484,628	1,735,731	1,413,712	1,378,620	13,723,090
8906076407	6,659	1,937	2,099	1,649	2,166	2,960	5,171	8,205	9,188	1,203	9,166	7,748	58,151
8925867704	19,978	6,489	3,917	5,096	6,968	7,641	20,762	24,638	25,699	30,990	27,331	25,163	204,672
9328680500	14,908	9,270	4,466	5,386	6,968	8,124	13,498	16,757	17,047	21,580	17,784	18,097	153,885
9337353104	10,185	3,445	5,571	4,847	5,341	5,908	7,544	9,076	9,344	10,679	8,349	11,588	91,877
9327355607	21,892	17,709	5,995	5,128	6,665	11,116	32,625	34,496	34,999	37,048	32,334	34,820	274,827
9329889105	5,697	3,164	0	0	0	169	4,746	14,078	14,145	15,723	13,946	11,555	83,223
9297464109	19,452	8,238	7,670	7,484	9,986	11,455	19,441	28,958	29,249	32,360	23,672	23,623	221,588
Stonebow Unit Oil	46,294	39,318	38,487	20,477	38,935	63,788	99,264	112,833	106,780	138,070	89,087	98,170	891,503
Fossil Fuel Consumption kWh	1,494,285	1,037,572	723,858	693,835	795,970	1,027,024	1,384,700	1,735,850	1,787,634	2,091,075	1,690,212	1,661,139	16,123,154

2.1.2 Baseline building heating (space heating and domestic hot water) loads based on Heat map V11 and V12 based on (a) above. Heat map V11 and V12 are normalised to 5 year average HDD.

2.1.3 Existing weighted boiler efficiency:

Boiler Eff (%) ALHN Buildings

76%	Finance Building office
80%	Lionel Green office
80%	Charles Renton
80%	Post Graduate
80%	Trust HQ office
76%	Longfield House A
76%	Longfield House B
Boiler Eff (%)	ASHP Buildings

76%	Diabetics office
76%	Elgin Brook Complex
75%	Acute Medical Unit (Gas)

2.1.4 Assumptions

- (a) Gas savings normalised via heating degree days (HDD)
- (b) ALHN electricity consumption normalised via heating degree days (HDD) and via ambient temperature (AT)
- (c) ASHP electricity consumption normalised via ambient temperature (AT)
- (d) Baseline fossil fuel consumption half hourly gas data for 12-month period April 2018 to March 2019 - reliance data
- (e) Baseline building heating (space heating and domestic hot water) loads based on Heat Map V11 and V12 and reliance data
- (f) Existing weighted boiler efficiency: paragraph 2.1.3 above. Natural gas means natural gas as supplied through the 'National Grid' national distribution network to meet the criteria laid down in the Gas Safety (Management) Regulations 1996 (SI No. 1996/551), with a minimum gross calorific value of 37.5 MJ/m³ and a methane number of ≥ 70 .
- (g) ALHN Building heating loads (space heating and domestic hot water) is provided by a combination of 10 (duty/standby) LT and HT heat pumps across 6 buildings on the ALHN.
- (h) ASHP Building heat loads (space heating and domestic hot water, where applicable) is provided by local stand-alone air source heat pumps.
- (i) The building heat pumps will provide 50°C and 70°C hot water for the LT and HT heat pumps to the demarcation point in each building plantroom.
- (j) ALHN Building heating loads are converted into heat pump power by dividing by the operational COP of the heat pumps. The operational COP range of the heat pumps is to be confirmed during design phase (COP $\pm 5\%$ tolerance to be assumed in operation).

- (k) ASHP Building heating loads are converted into heat pump power by dividing by the operational COP of the heat pumps. The operational COP range of the heat pumps is 1.839 (at -5°C) to 2.934 (at 15°C) (COP +/-5% tolerance to be assumed in operation).
- (l) The building heat pumps are provided with heat low grade heat from the ambient loop heat network.
- (m) Heat is provided to the ambient loop from a ground array.
- (n) Pumping power is derived from the following ALHN high efficiency variable speed pump sets:
 - Ground Array 25 pump set 18.5kW VSD (duty/standby)
- (o) Heating degree days normalisation to base temperature of 18°C
- (p) POU electric water heater electricity consumption based on DHW demand and water consumption per building and to be confirmed during design phase.

2.2 Solar PV

- 2.2.1 Roof area for the installation is of the appropriate size to enable the Phase 1 Works
- 2.2.2 Module DC nameplate: Roof 1 Outpatients roof area – 34.8 kWpeak DC, 1 x 27.6kW-AC, Roof 2: Canteen roof area – 68.0 kWpeak DC, 2 x 25kW-AC
- 2.2.3 Average operating ambient temperature = 12.9oC
- 2.2.4 Average operating cell temperature = 18.4oC
- 2.2.5 Operating hours: 4571
- 2.2.6 PV annual capacity degradation 0.6%
- 2.2.7 Performance Ratio: 80%
- 2.2.8 Weather dataset from PVGIS TMY

2.3 LED & Control Upgrades

The assumed operating times agreed between the Parties are shown below:

Site	Building / Area	Floor	Room ref	Room type	Total annual operating hours	Day op hours inc controls	Night op hours inc controls	Total annual op hours inc controls	Existing Total Day Energy (kWh) per Annum inc controls	Existing Total Night (kWh) per Annum inc controls	Existing Total Energy (kWh) per Annum
HEREFORD HOSPITAL	STERILE SERVICES	2ND	NA	CORRIDOR	4,171.44	4,171.44	-	4,171.44	1,752.00	-	1,752.00
HEREFORD HOSPITAL	STERILE SERVICES	2ND	NA	CLEAN AREA	4,171.44	4,171.44	-	4,171.44	4,505.16	-	4,505.16
HEREFORD HOSPITAL	STERILE SERVICES	2ND	NA	ROOMS	4,171.44	4,171.44	-	4,171.44	4,730.41	-	4,730.41
HEREFORD HOSPITAL	STERILE SERVICES	2ND	NA	PLANT ROOM	4,171.44	4,171.44	-	4,171.44	725.83	-	725.83
HEREFORD HOSPITAL	STERILE SERVICES	2ND	NA	CLEAN AREA	7,300.02	7,300.02	-	7,300.02	4,905.61	-	4,905.61
HEREFORD HOSPITAL	NEURO & SCUBU	2ND	NA	TOILETS	2,920.01	2,289.29	-	2,289.29	833.30	-	833.30
HEREFORD HOSPITAL	NEURO & SCUBU	2ND	NA	ROOMS	5,840.02	4,672.01	-	4,672.01	3,532.04	-	3,532.04
HEREFORD HOSPITAL	NEURO & SCUBU	2ND	NA	CORRIDOR	5,840.02	5,840.02	-	5,840.02	4,905.61	-	4,905.61
HEREFORD HOSPITAL	NEURO & SCUBU	2ND	NA	ROOMS	5,840.02	5,840.02	-	5,840.02	5,886.74	-	5,886.74
HEREFORD HOSPITAL	NEURO & SCUBU	2ND	NA	ROOMS	5,840.02	5,840.02	-	5,840.02	3,387.21	-	3,387.21
HEREFORD HOSPITAL	CHILDRENS WARD	2ND	NA	CORRIDOR	5,840.02	5,840.02	-	5,840.02	15,697.96	-	15,697.96
HEREFORD HOSPITAL	CHILDRENS WARD	2ND	NA	CORRIDOR	5,840.02	5,840.02	-	5,840.02	1,962.25	-	1,962.25
HEREFORD HOSPITAL	CHILDRENS WARD	2ND	NA	BEDROOMS	5,840.02	5,840.02	-	5,840.02	6,774.42	-	6,774.42
HEREFORD HOSPITAL	CHILDRENS WARD	2ND	NA	ROOMS	5,840.02	5,840.02	-	5,840.02	7,358.42	-	7,358.42
HEREFORD HOSPITAL	CHILDRENS WARD	2ND	NA	ROOMS	5,840.02	5,840.02	-	5,840.02	9,811.23	-	9,811.23
HEREFORD HOSPITAL	CHILDRENS WARD	2ND	NA	TOILETS	2,920.01	2,920.01	-	2,920.01	3,188.65	-	3,188.65
HEREFORD HOSPITAL	OUT/MATERNITY	2ND	NA	CORRIDOR	5,840.02	5,840.02	-	5,840.02	13,735.72	-	13,735.72
HEREFORD HOSPITAL	OUT/MATERNITY	2ND	NA	ROOMS	5,840.02	5,840.02	-	5,840.02	41,662.67	-	41,662.67
HEREFORD HOSPITAL	OUT/MATERNITY	2ND	NA	OFFICES	5,840.02	5,840.02	-	5,840.02	4,905.61	-	4,905.61
HEREFORD HOSPITAL	OUT/MATERNITY	2ND	NA	OFFICES	5,840.02	5,840.02	-	5,840.02	9,460.83	-	9,460.83
HEREFORD HOSPITAL	CCU	1ST	NA	CORRIDOR	5,840.02	4,578.57	-	4,578.57	7,307.40	-	7,307.40
HEREFORD HOSPITAL	KITCHEN	1ST	NA	CORRIDOR	4,380.01	3,504.01	-	3,504.01	1,702.95	-	1,702.95
HEREFORD HOSPITAL	KITCHEN	1ST	NA	ROOMS	3,650.01	3,650.01	-	3,650.01	6,745.22	-	6,745.22
HEREFORD HOSPITAL	KITCHEN	1ST	NA	TOILET AND STORE	2,920.01	2,920.01	-	2,920.01	1,716.96	-	1,716.96
HEREFORD HOSPITAL	SPIRES	1ST	NA	RESTERAUNT	5,840.02	5,840.02	-	5,840.02	12,754.59	-	12,754.59
HEREFORD HOSPITAL	SPIRES	1ST	NA	RESTERAUNT	5,840.02	5,840.02	-	5,840.02	6,704.34	-	6,704.34
HEREFORD HOSPITAL	SPIRES	1ST	NA	RESTERAUNT	5,840.02	5,840.02	-	5,840.02	1,962.25	-	1,962.25
HEREFORD HOSPITAL	SPIRES	1ST	NA	RESTERAUNT	5,840.02	5,840.02	-	5,840.02	2,920.01	-	2,920.01
HEREFORD HOSPITAL	ARROW WARD	1ST	NA	CORRIDOR	5,840.02	5,840.02	-	5,840.02	7,848.98	-	7,848.98
HEREFORD HOSPITAL	ARROW WARD	1ST	NA	TOILET	2,920.01	2,920.01	-	2,920.01	1,635.20	-	1,635.20
HEREFORD HOSPITAL	ARROW WARD	1ST	NA	ROOMS	5,840.02	5,840.02	-	5,840.02	2,452.81	-	2,452.81
HEREFORD HOSPITAL	ARROW WARD	1ST	NA	ROOMS	5,840.02	5,840.02	-	5,840.02	1,226.40	-	1,226.40
HEREFORD HOSPITAL	ARROW WARD	1ST	NA	ROOMS	5,840.02	5,840.02	-	5,840.02	7,113.14	-	7,113.14
HEREFORD HOSPITAL	LUGG WARD	1ST	NA	CORRIDOR	5,840.02	5,840.02	-	5,840.02	6,867.86	-	6,867.86
HEREFORD HOSPITAL	LUGG WARD	1ST	NA	CORRIDOR	5,840.02	5,840.02	-	5,840.02	490.56	-	490.56
HEREFORD HOSPITAL	LUGG WARD	1ST	NA	ROOMS	5,840.02	5,840.02	-	5,840.02	1,471.68	-	1,471.68
HEREFORD HOSPITAL	LUGG WARD	1ST	NA	ROOMS	5,840.02	5,840.02	-	5,840.02	1,716.96	-	1,716.96
HEREFORD HOSPITAL	LUGG WARD	1ST	NA	ROOMS	5,840.02	5,840.02	-	5,840.02	9,145.47	-	9,145.47
HEREFORD HOSPITAL	LUGG WARD	1ST	NA	TOILETS	2,920.01	2,920.01	-	2,920.01	2,371.05	-	2,371.05
HEREFORD HOSPITAL	WYE WARD	1ST	NA	CORRIDOR	5,840.02	5,840.02	-	5,840.02	8,339.54	-	8,339.54
HEREFORD HOSPITAL	WYE WARD	1ST	NA	CORRIDOR	5,840.02	5,840.02	-	5,840.02	490.56	-	490.56
HEREFORD HOSPITAL	WYE WARD	1ST	NA	ROOMS	5,840.02	5,840.02	-	5,840.02	1,471.68	-	1,471.68
HEREFORD HOSPITAL	WYE WARD	1ST	NA	ROOMS	5,840.02	5,840.02	-	5,840.02	4,169.77	-	4,169.77
HEREFORD HOSPITAL	WYE WARD	1ST	NA	ROOMS	5,840.02	5,840.02	-	5,840.02	7,113.14	-	7,113.14
HEREFORD HOSPITAL	WYE WARD	1ST	NA	TOILETS	2,920.01	2,920.01	-	2,920.01	1,471.68	-	1,471.68
HEREFORD HOSPITAL	TEME WARD	1ST	NA	CORRIDOR	5,840.02	5,840.02	-	5,840.02	5,396.17	-	5,396.17
HEREFORD HOSPITAL	TEME WARD	1ST	NA	CORRIDOR	5,840.02	5,840.02	-	5,840.02	490.56	-	490.56
HEREFORD HOSPITAL	TEME WARD	1ST	NA	ROOMS	5,840.02	5,840.02	-	5,840.02	1,471.68	-	1,471.68
HEREFORD HOSPITAL	TEME WARD	1ST	NA	ROOMS	5,840.02	5,840.02	-	5,840.02	735.84	-	735.84
HEREFORD HOSPITAL	TEME WARD	1ST	NA	ROOMS	5,840.02	5,840.02	-	5,840.02	5,419.53	-	5,419.53
HEREFORD HOSPITAL	TEME WARD	1ST	NA	TOILET	2,920.01	2,920.01	-	2,920.01	1,308.16	-	1,308.16
HEREFORD HOSPITAL	FROME WARD	1ST	NA	CORRIDOR	5,840.02	5,840.02	-	5,840.02	10,792.35	-	10,792.35
HEREFORD HOSPITAL	FROME WARD	1ST	NA	CORRIDOR	5,840.02	5,840.02	-	5,840.02	490.56	-	490.56
HEREFORD HOSPITAL	FROME WARD	1ST	NA	ROOMS	5,840.02	5,840.02	-	5,840.02	4,415.05	-	4,415.05
HEREFORD HOSPITAL	FROME WARD	1ST	NA	ROOMS	5,840.02	5,840.02	-	5,840.02	1,962.25	-	1,962.25
HEREFORD HOSPITAL	FROME WARD	1ST	NA	TOILET	2,920.01	2,920.01	-	2,920.01	2,289.29	-	2,289.29
HEREFORD HOSPITAL	FROME WARD	1ST	NA	ROOMS	5,840.02	5,840.02	-	5,840.02	10,161.63	-	10,161.63
HEREFORD HOSPITAL	REDBROOK WARD	1ST	NA	CORRIDOR	5,840.02	5,840.02	-	5,840.02	6,867.86	-	6,867.86
HEREFORD HOSPITAL	REDBROOK WARD	1ST	NA	CORRIDOR	5,840.02	5,840.02	-	5,840.02	490.56	-	490.56
HEREFORD HOSPITAL	REDBROOK WARD	1ST	NA	ROOMS	5,840.02	5,840.02	-	5,840.02	1,962.25	-	1,962.25
HEREFORD HOSPITAL	REDBROOK WARD	1ST	NA	ROOMS	5,840.02	5,840.02	-	5,840.02	1,226.40	-	1,226.40
HEREFORD HOSPITAL	REDBROOK WARD	1ST	NA	ROOMS	5,840.02	5,840.02	-	5,840.02	6,435.70	-	6,435.70
HEREFORD HOSPITAL	REDBROOK WARD	1ST	NA	TOILETS	2,920.01	2,920.01	-	2,920.01	1,880.49	-	1,880.49
HEREFORD HOSPITAL	PHARMACY	1ST	NA	ALL	5,840.02	4,672.01	-	4,672.01	16,875.31	-	16,875.31
HEREFORD HOSPITAL	PHARMACY	1ST	NA	ALL	5,840.02	4,672.01	-	4,672.01	12,165.92	-	12,165.92
HEREFORD HOSPITAL	PHARMACY	1ST	NA	TOILET	2,920.01	2,920.01	-	2,920.01	1,471.68	-	1,471.68
HEREFORD HOSPITAL	MAIN ENTRANCE	GRD	NA	TOILET	5,840.02	5,840.02	-	5,840.02	1,962.25	-	1,962.25
HEREFORD HOSPITAL	MAIN ENTRANCE	GRD	NA	CORRIDOR	5,840.02	4,578.57	-	4,578.57	7,307.40	-	7,307.40
HEREFORD HOSPITAL	IMAGING	GRD	NA	CORRIDOR	5,110.01	5,110.01	-	5,110.01	13,091.86	-	13,091.86
HEREFORD HOSPITAL	IMAGING	GRD	NA	ROOMS	5,110.01	5,110.01	-	5,110.01	14,164.96	-	14,164.96
HEREFORD HOSPITAL	IMAGING	GRD	NA	ROOMS	5,110.01	5,110.01	-	5,110.01	15,238.06	-	15,238.06
HEREFORD HOSPITAL	IMAGING	GRD	NA	TOILET	2,920.01	2,920.01	-	2,920.01	2,861.61	-	2,861.61
HEREFORD HOSPITAL	IMAGING	GRD	NA	CORRIDOR	5,110.01	5,110.01	-	5,110.01	10,731.03	-	10,731.03
HEREFORD HOSPITAL	A&E EIGN SUITE	GRD	NA	ROOMS	5,840.02	5,840.02	-	5,840.02	10,547.07	-	10,547.07
HEREFORD HOSPITAL	ENDOSCOPY	GRD	NA	ROOMS	5,840.02	4,672.01	-	4,672.01	8,633.88	-	8,633.88
HEREFORD HOSPITAL	ENDOSCOPY	GRD	NA	ROOMS	5,840.02	5,840.02	-	5,840.02	18,150.77	-	18,150.77
HEREFORD HOSPITAL	ENDOSCOPY	GRD	NA	CORRIDOR	5,840.02	5,840.02	-	5,840.02	6,377.30	-	6,377.30
HEREFORD HOSPITAL	ENDOSCOPY	GRD	NA	CORRIDOR	5,840.02	5,840.02	-	5,840.02	12,509.31	-	12,509.31
HEREFORD HOSPITAL	A&E EIGN SUITE	GRD	NA	ROOMS	5,840.02	5,840.02	-	5,840.02	14,716.84	-	14,716.84
HEREFORD HOSPITAL	A&E EIGN SUITE	GRD	NA	ROOMS	5,840.02	5,840.02	-	5,840.02	42,678.84	-	42,678.84
HEREFORD HOSPITAL	FB BULIDING	GRD	NA	ALL	2,659.29	2,659.29	-	2,659.29	34,608.04	-	34,608.04
HEREFORD HOSPITAL	FB BULIDING	GRD	NA	ALL	2,659.29	2,659.29	-	2,659.29	7,754.50	-	7,754.50
HEREFORD HOSPITAL	FB BULIDING	GRD	NA	ALL	2,659.29	2,659.29	-	2,659.29	23,082.66	-	23,082.66
HEREFORD HOSPITAL	FB BULIDING	1ST	NA	OFFICES	2,659.29	2,659.29	-	2,659.29	12,030.64	-	12,030.64
HEREFORD HOSPITAL	FB BULIDING	1ST	NA	OFFICES	2,659.29	2,659.29	-	2,659.29	11,488.15	-	11,488.15
HEREFORD HOSPITAL	FB BULIDING	1ST	NA	OFFICES	2,659.29	2,659.29	-	2,659.29	13,881.51	-	13,881.51
HEREFORD HOSPITAL	MORTUARY	GRD	NA	ALL	3,285.01	3,285.01	-	3,285.01	2,483.47	-	2,483.47
HEREFORD HOSPITAL	MORTUARY	GRD	NA	ALL	3,285.01	3,285.01	-	3,285.01	3,239.02	-	3,239.02
HEREFORD HOSPITAL	MORTUARY	GRD	NA	ALL	3,285.01	3,285.01	-	3,285.01	2,575.45	-	2,575.45
HEREFORD HOSPITAL	MORTUARY	GRD	NA	ALL	3,285.01	3,285.01	-	3,285.01	1,419.12	-	1,419.12

HEREFORD HOSPITAL	PATHOLOGY	GRD	NA	ALL	5,110.01	5,110.01	-	5,110.01	22,535.16	-	22,535.16
HEREFORD HOSPITAL	PATHOLOGY	GRD	NA	ALL	5,110.01	5,110.01	-	5,110.01	16,633.10	-	16,633.10
HEREFORD HOSPITAL	WORKSHOP	GRD	NA	ALL	5,110.01	5,110.01	-	5,110.01	5,631.24	-	5,631.24
HEREFORD HOSPITAL	WORKSHOP	GRD	NA	ALL	5,110.01	5,110.01	-	5,110.01	3,433.93	-	3,433.93
HEREFORD HOSPITAL	WORKSHOP	GRD	NA	BOILER ROOM	5,110.01	5,110.01	-	5,110.01	10,669.71	-	10,669.71
HEREFORD HOSPITAL	OXFORD SUIT	GRD	NA	CORRIDOR	5,110.01	4,088.01	-	4,088.01	1,888.66	-	1,888.66
HEREFORD HOSPITAL	OXFORD SUIT	GRD	NA	CORRIDOR	5,110.01	4,088.01	-	4,088.01	11,675.36	-	11,675.36
HEREFORD HOSPITAL	OXFORD SUIT	GRD	NA	ROOMS	5,110.01	4,088.01	-	4,088.01	3,605.63	-	3,605.63
HEREFORD HOSPITAL	OXFORD SUIT	GRD	NA	ROOMS	5,110.01	5,110.01	-	5,110.01	39,919.43	-	39,919.43
HEREFORD HOSPITAL	OXFORD SUIT	GRD	NA	TOILETS & WAITING RO	2,190.01	2,190.01	-	2,190.01	3,495.25	-	3,495.25
HEREFORD HOSPITAL	PRE OPS	GRD	NA	ALL	3,545.72	3,545.72	-	3,545.72	3,829.38	-	3,829.38
HEREFORD HOSPITAL	PRE OPS	GRD	NA	ALL	3,545.72	3,545.72	-	3,545.72	8,041.70	-	8,041.70
HEREFORD HOSPITAL	SODEXHO	1ST	NA	CORRIDOR	3,545.72	2,836.58	-	2,836.58	1,667.91	-	1,667.91
HEREFORD HOSPITAL	SODEXHO	1ST	NA	ROOMS	3,545.72	3,545.72	-	3,545.72	5,758.26	-	5,758.26
HEREFORD HOSPITAL	SODEXHO	1ST	NA	ALL	3,545.72	3,545.72	-	3,545.72	6,509.95	-	6,509.95
HEREFORD HOSPITAL	POST GRAD	GRD	NA	ALL	2,867.87	2,867.87	-	2,867.87	2,661.38	-	2,661.38
HEREFORD HOSPITAL	POST GRAD	GRD	NA	ALL	2,867.87	2,867.87	-	2,867.87	4,129.73	-	4,129.73
HEREFORD HOSPITAL	POST GRAD	GRD	NA	ALL	2,867.87	2,867.87	-	2,867.87	2,409.01	-	2,409.01
HEREFORD HOSPITAL	POST GRAD	GRD	NA	ALL	2,867.87	2,867.87	-	2,867.87	2,477.84	-	2,477.84
HEREFORD HOSPITAL	VASCULAR/RELATIVES	1ST	NA	ROOMS	4,484.30	4,484.30	-	4,484.30	4,896.85	-	4,896.85
HEREFORD HOSPITAL	VASCULAR/RELATIVES	1ST	NA	ROOMS	4,484.30	4,484.30	-	4,484.30	3,013.45	-	3,013.45
HEREFORD HOSPITAL	VASCULAR/RELATIVES	1ST	NA	TOILETS	4,484.30	4,484.30	-	4,484.30	2,260.09	-	2,260.09
HEREFORD HOSPITAL	STAFF ON CALL	2ND	NA	CORRIDOR	4,588.58	4,588.58	-	4,588.58	5,451.24	-	5,451.24
HEREFORD HOSPITAL	STAFF ON CALL	2ND	NA	ROOMS	2,502.86	2,502.86	-	2,502.86	2,703.09	-	2,703.09
HEREFORD HOSPITAL	STAFF ON CALL	2ND	NA	ROOMS	2,502.86	2,502.86	-	2,502.86	6,487.42	-	6,487.42
HEREFORD HOSPITAL	STAFF ON CALL	2ND	NA	TOILETS	2,502.86	2,502.86	-	2,502.86	2,032.33	-	2,032.33
HEREFORD HOSPITAL	PLANTROOM	2ND	NA	PLANT ROOM	1,460.00	1,460.00	-	1,460.00	4,064.65	-	4,064.65
HEREFORD HOSPITAL	WOMENS HEALTH	2ND	NA	CORRIDOR	5,110.01	5,110.01	-	5,110.01	6,867.86	-	6,867.86
HEREFORD HOSPITAL	WOMENS HEALTH	2ND	NA	ROOMS	4,380.01	4,380.01	-	4,380.01	11,773.47	-	11,773.47
HEREFORD HOSPITAL	WOMENS HEALTH	2ND	NA	ROOMS	4,380.01	4,380.01	-	4,380.01	2,575.45	-	2,575.45
HEREFORD HOSPITAL	WOMENS HEALTH	2ND	NA	RECEPTION	4,380.01	4,380.01	-	4,380.01	2,575.45	-	2,575.45
HEREFORD HOSPITAL	PROFESSIONAL DEVELOPMENT ALL	NA	NA	CORRIDOR	2,607.15	2,607.15	-	2,607.15	5,162.16	-	5,162.16
HEREFORD HOSPITAL	PROFESSIONAL DEVELOPMENT ALL	NA	NA	ROOMS	2,607.15	2,607.15	-	2,607.15	14,266.32	-	14,266.32
HEREFORD HOSPITAL	PROFESSIONAL DEVELOPMENT ALL	NA	NA	ROOMS	2,607.15	2,607.15	-	2,607.15	5,988.10	-	5,988.10
HEREFORD HOSPITAL	GENERAL	ALL	NA	ALL	2,920.01	2,085.72	834.29	2,920.01	3,253.72	1,301.49	4,555.21
HEREFORD HOSPITAL	BEDSIDE LAMP	ALL	NA	BEDROOMS	2,920.01	1,460.00	-	2,920.01	7,533.62	-	15,067.24
HEREFORD HOSPITAL	TOP FLOOR PLANTROOM	3RD	NA	PLANTROOM	6,570.02	3,650.01	2,920.01	6,570.02	13,972.24	11,177.79	25,150.03

2.4 AHU Fan & Motor Upgrades

2.4.1 The assumed operating times agreed between the Parties are shown in the table below.

2.4.2 The Fan motor power ratings derived for survey are shown in the table below.

Plantroom	AHU	Type	Motor Rating kW	Running hours p.a.
Third Floor Plantroom	Zone 1 General	Supply	4	8760
Third Floor Plantroom	Zone 1 General	Extract	2.2	8760
Third Floor Plantroom	Zone 2 General	Extract	3	8760
Third Floor Plantroom	Zone 3 General	Extract	6.2	8760
Third Floor Plantroom	Zone 3 A&E Resus and Procedures	Supply	2.8	8760
Third Floor Plantroom	Zone 6 General	Supply	6.2	8760
Third Floor Plantroom	Zone 6 General	Extract	3	8760
Third Floor Plantroom	Zone 7 General	Supply	7.5	8760
Third Floor Plantroom	Zone 7 General	Extract	4.5	8760
Third Floor Plantroom	Zone 8 General	Supply	3	8760
Third Floor Plantroom	Zone 8 General	Extract	7.5	8760
Third Floor Plantroom	Zone 8 CCU	Supply	2.2	8760
Third Floor Plantroom	Zone 8 Delivery Theatre	Supply	2.2	8760
Third Floor Plantroom	Zone 8 Delivery Theatre	Extract	1.1	8760
	Endoscopy General	Supply	4	8760
	Endoscopy General	Extract	2.2	8760
	Theatre 1	Supply	2.2	8760
	Theatre 1	Extract	1.1	8760
	Theatre 2	Supply	2.2	8760
	Theatre 2	Extract	1.5	8760
	Theatre 3	Supply	2.2	8760
	Theatre 3	Extract	1.5	8760
	Theatre 4	Supply	2.2	8760
	Theatre 4	Extract	1.5	8760
Theatre 5 Compound	Theatre 5	Supply	2.2	8760
	Theatre 5	Extract	1.5	8760
Threatre 7 Undercroft	Theatre 7	Supply	2.4*	8760

Note: * denotes fan motor rating derived from CBS PowerRadar monitoring.

Plantroom	AHU	Type	Motor Rating kW	Motor Rating kW
Support Building Plantroom	Support Building	Supply	3	8760
	Support Building	Extract	1.1	8760
	SSD	Supply	5.5	8760
	SSD	Extract	3	8760
ITU Plantroom	ITU	Supply	4	8760
	ITU	Extract	3	8760
Mortuary Plantroom	Mortuary General	Supply	0.55	8760
	Mortuary General	Extract	0.55	8760
	Mortuary PM	Supply	2.2	8760
	Mortuary PM	Extract	4.5	8760
Physio AHU Plantroom	Physio	Supply	11	8760
	Physio	Extract	7.5	8760
Age Care AHU Plantroom	Age Care	Supply	4	8760
	Age Care	Extract	3	8760

2.4.3 Assumptions

- (a) Upgrades are based on surveys and Panoramic Power findings
- (b) EC fan replacement savings 20%
- (c) Plug fan replacement savings 25%
- (d) VSD night set back based on 80% flowrate for 12 hours per day based on run hours

2.5 Local Cooling Units

2.5.1 Process cooling

- (a) Existing operating hours per year 8,760 hours
- (b) This system monitors the refrigerant and turns the compressor off once the coolant is to temperature. The evaporator remains operational, allowing the residual refrigerant to continue to deliver cold air and maintain the room temperature. Once the refrigerant has achieved its lowest cooling capability, the compressor is switched back on resulting with energy reduction.
- (c) Based on previous projects assumed 15% energy savings

2.5.2 Comfort cooling

Occupancy patterns:

Office Hrs	Occupancy	Usage	Hrs Saving	
	8-18, 5 days a w	24-7, 7 days a week		Assumed 10 hours per day 5 days a week
Hrs work Week	50	168		Assumed 6 months cooling season
Months	6	6		Assumed 50% Occupancy
Hrs per yr	1,300	4,368	1,534	
% Occupancy			50%	

Extended Office Hrs	Occupancy	Usage	Hrs Saving	
	8-20, 5 days a w	24-7, 7 days a week		Assumed 12 hours per day 5 days a week
Hrs work Week	60	168		Assumed 6 months cooling season
Months	6	6		Assumed 50% Occupancy
Hrs per yr	1,560	4,368	1,404	
% Occupancy			50%	

Office Hrs Well Managed	Occupancy	Usage	Hrs Saving	
	8-18, 5 days a w	20-7, 7 days a week		Assumed 10 hours per day 5 days a week
Hrs work Week	50	140		Assumed 4 hours per day off due to well managed AC
Months	6	6		Assumed 6 months cooling season
Hrs per yr	1,300	3,640	1,170	Assumed 50% Occupancy
% Occupancy			50%	

24-7 Intermittent	Occupancy	Usage	Hrs Saving	
	12-7, 7 days a w	24-7, 7 days a week		Assumed used 12 hours out of 24 hours per day
Hrs work Week	84	168		Assumed 6 months cooling season
Months	6	6		Assumed 50% Occupancy
Hrs per yr	2,184	4,368	1,092	
% Occupancy			50%	

Assumed load factor 70%

2.6 Mechanical Services Insulation

- 2.6.1 The current heat loss has been obtained from CIBSE guide C table 3.19
- 2.6.2 Insulation material is 50mm x 45kg/m³ Rockwool
- 2.6.3 Insulation covers have a thermal conductivity (k) of 0.049 W/mK (at 100°C)
- 2.6.4 Operating times of insulated services: 8,760 hours
- 2.6.5 Average seasonal heating efficiency: 75%
- 2.6.6 Equivalent lengths from CIBSE
- 2.6.7 LTHW average temperature: 75°C
- 2.6.8 Ambient Temperature: 20°C

2.7 Heat Pumps and Electrode Boilers

2.7.1 Baseline fossil fuel consumption data for 12-month period April 2021 to March 2022.

Year	County Hospital	8885406304	kWh	1,469,043	955,079	801,026	782,351	762,724	798,835	1,147,952	1,584,725	1,641,454	1,818,644	1,543,945	1,495,279	14,801,630
2016/17																
2017/18	Main Support			1,329,735	1,069,673	804,280	788,994	833,158	926,941	1,053,910	1,491,116	1,727,747	1,704,740	1,712,025	1,788,930	15,222,149
2018/19				1,303,723	930,672	643,228	635,669	799,664	901,248	1,150,019	1,435,756	1,484,628	1,735,731	1,413,712	1,378,620	13,723,090
2019/20				1,236,779	1,082,258	685,868	775,478	778,123	802,417	1,254,502	1,514,272	1,614,904	1,578,627	1,513,571	1,510,618	14,524,415
2020/21				810,307	1,119,247	694,532	579,060	619,657	714,908	1,120,968	1,367,060	1,685,680	1,763,156	1,509,476	1,559,389	13,533,439
2021/22				1,527,289	1,261,070	853,308	894,313	864,538	856,675	1,121,417	1,536,389	1,702,888	1,895,148	1,451,653	1,584,289	15,549,157

Consumption/load	Energy (kWh)
Gas consumption provided by the Trust for 2021/22	15,549,157
Gas for Finance (Phase 1) - to be excluded from baseline	75,720
Gas for AMU - to be excluded from baseline	91,908
Gas for catering - to be excluded from baseline	147,529
Gas for Autoclaves in Path & SSD - to be excluded from baseline	707,136
Total gas consumption excluding the above	14,526,864
Gas for Phase 3 72 Bed Ward	1,477,067
Total baseline gas consumption for heating	16,003,931
Total baseline heat load	12,162,987

2.7.2 Baseline heating is based on metered monthly data normalised against the baseline weather HDD data. Heating Degree Day Data source:

Description :	Celsius-based heating degree days with a base temperature of 15.5 C
Source:	www.degreedays.net
Accuracy:	Estimates were made to account for missing data: the "% Estimated" column shows how much each figure was affected (0% is best, 100% is worst)
Station:	Hereford Credenhill, ENG, GB (2.80W,52.08N)
Station ID:	03522

2.7.3 Existing boiler efficiency 76%

2.7.4 Assumptions

- (a) Gas savings normalised via heating degree days (HDD)
- (b) Heat Pump electricity consumption normalised via heating degree days (HDD) and via ambient temperature (AT)
- (c) Baseline fossil fuel consumption gas data for 12-month period April 2021 to March 2022 - reliance data
- (d) Gas for 72 Bed Ward is a calculated figure as the building did not exist when the baseline was built. Baseline adjustments will be required if heat demand is higher or lower than expected once weather and operational performance have been verified.
- (e) The total modelled system SCOP is 1.981. This includes parasitic loads. The equipment COP as per manufacturer's data:
 - (i) 379kW Air Source Heat Pump – Heat Pump Building heating loads are converted into heat pump power by dividing by the operational COP of the heat pumps. The operational COP range of the heat pumps is 3.41 (at -5°C) to 6.98 (at 20°C)

- (ii) 1141kW Water Source Heat Pump - Heat Pump Building heating loads are converted into heat pump power by dividing by the operational COP of the heat pumps. The operational COP range of the heat pumps is 2.95 (at 100% load) to 2.98 (at 25% load)

2.8 Electric Steam Generators

- 2.8.1 Existing heat required for sterilisation = 537,423 kWh
- 2.8.2 Existing boiler efficiency (%) based on existing boiler data: 76%
- 2.8.3 New electric generator efficiency (%) based on generator data: 92%

2.9 Cavity Wall Insulation

- 2.9.1 Insulation material is EnergyStore SuperBead Insulation
- 2.9.2 U value of existing element 1.50 W/m²K
- 2.9.3 U value of proposed element 0.51 W/m²K
- 2.9.4 Number of Degree Days during Heating Season = 2,389
- 2.9.5 Total Number of Days in Heating Season = 242
- 2.9.6 Heating Use (Hr/day) = 24.0
- 2.9.7 Number of Days Heated during Heating season = 242
- 2.9.8 Average seasonal heating efficiency:76%
- 2.9.9 Area to be insulated = 983m²
- 2.9.10 Salix Fabric Building Insulation Tool Used to calculate savings

2.10 Loft Insulation

- 2.10.1 Insulation material is Knauf Loft Roll 44
- 2.10.2 U value of existing element 2.50 W/m²K
- 2.10.3 U value of proposed element 0.13 W/m²K
- 2.10.4 Number of Degree Days during Heating Season = 2,389
- 2.10.5 Total Number of Days in Heating Season = 242
- 2.10.6 Heating Use (Hr/day) = 24.0
- 2.10.7 Number of Days Heated during Heating season = 242
- 2.10.8 Average seasonal heating efficiency:76%
- 2.10.9 Area to be insulated = 352m²
- 2.10.10 Salix Fabric Building Insulation Tool Used to calculate savings

2.11 **General Assumptions & Exclusions**

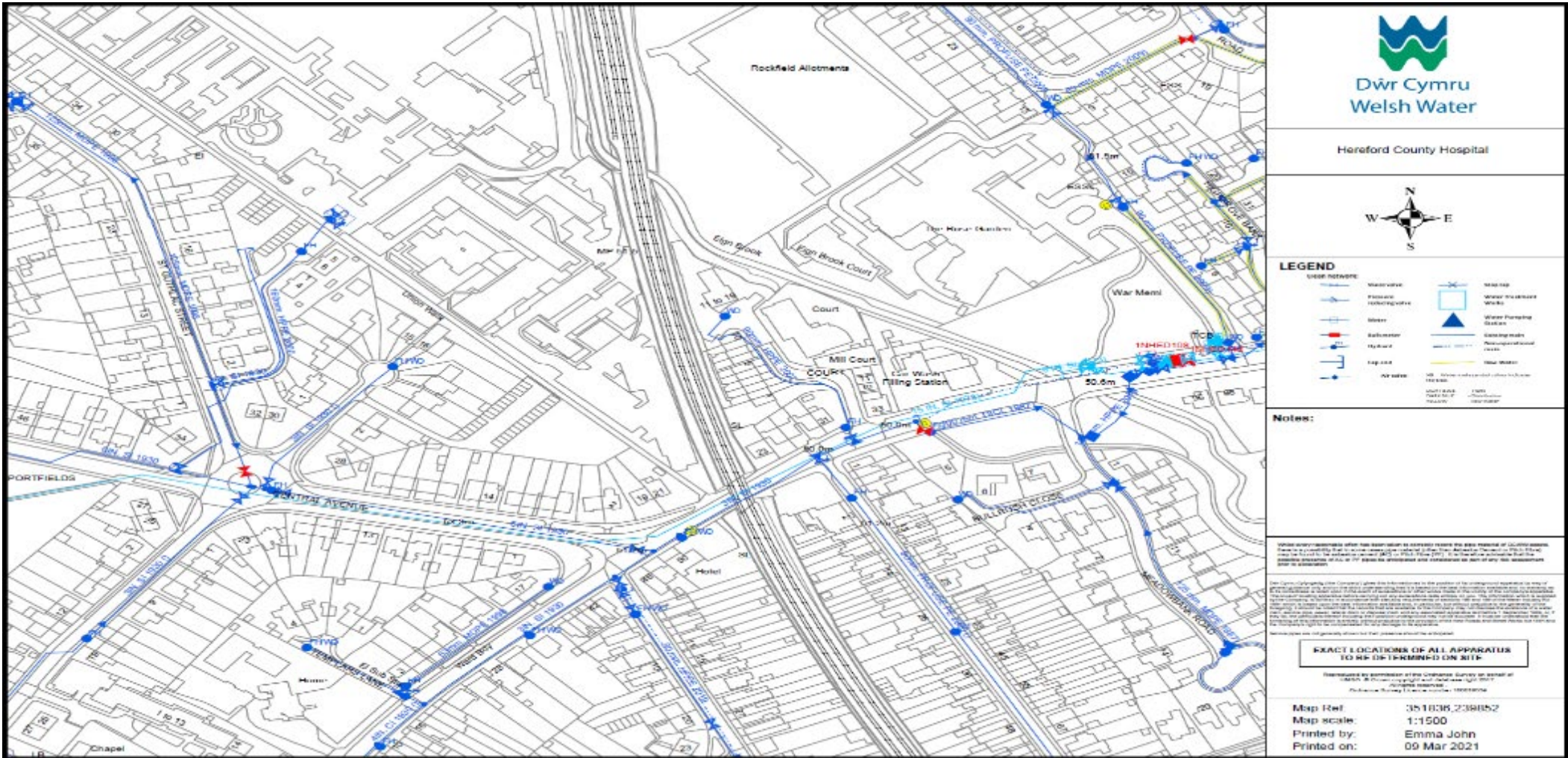
- All works to be completed in normal working hours (except AHU Upgrades, where part night working is included)
- Attendance by nominated approved persons for any local isolations or shutdowns to be provided by the Authority
- The secondary side of the Plate Heat Exchanger (PHE) is fully maintained by the Authority to support the operation of the installed Technologies
- O&M of electrical steam generators is excluded
- No allowance has been made for Asbestos
- No allowance has been made for temporary or standby supplies
- No allowance has been made for replacement interfacing infrastructure
- No import or export constraints
- No grid requirements apply beyond those applicable to all solar sites as defined by G99
- Subject to detailed design
- All information captured in the initial site visit are valid
- Free access to works, crange and set down
- Carparks & Roadways will be closed in their entirety to facilitate the Works in a phased approach
- For any units which are still under warranty, the responsibility for maintaining such warranties shall remain with the Authority
- No allowance has been made for the provision of safe access for maintenance purposes
- No allowance has been made for post works cleaning
- Centrica responsibilities are in accordance with the demarcation drawings noted in Schedule 10
- The Authority is responsible for the designed flow rates stated by Centrica
- The Authority is responsible for the designed water temperature stated by Centrica
- The Authority is responsible for the water quality and management of, providing evidence to Centrica
- The Authority shall provide all necessary power requirements locally or within one metre of Centrica works in a suitably sized isolator
- The Authority shall provide all necessary communication points and broadband connections

3. WELSH WATER EASEMENTS RELIANCE DATA

3.1 Sewer Plan



Water Plan



Hereford County Hospital



LEGEND

	Main water		Water treatment Works
	Firewater		Water Pumping Station
	Stormwater		Manhole
	Valve		Hydrant
	Hydrant		Water Meter
	Manhole		Water Main
	Water Meter		Water Main

Notes:

Water services shown on this plan are for information only. The exact location of all apparatus is to be determined on site.

Water services shown on this plan are for information only. The exact location of all apparatus is to be determined on site.

EXACT LOCATIONS OF ALL APPARATUS TO BE DETERMINED ON SITE

Map Ref: 051036, 238052
 Map scale: 1:1500
 Printed by: Emma John
 Printed on: 09 Mar 2021

SCHEDULE 8

PHASE 1 FINANCIAL MODEL

ECM	Annual electricity saving DAY (kWh)	Annual electricity saving NIGHT (kWh)	Annual increased gas consumption (kWh)	Annual Gas Saving (from displaced heat) (kWh)	Annual gas saving (kWh)	Annual additional fuel source saving (kWh)	Total annual energy saving (kWh)	Total annual fuel bill saving (£)	Total annual tCO2 saving	Capital Cost	Annual operating & maintenance costs (£)	Annual operating benefit (£)	CRC benefit (£)	CCL / FIT benefit (£)	Annual Net Saving (£)
GSHP+ ASHP Ambient Loop Heat Network	-359,419	-112,080			1,093,865		622,366	-£25,643	82	£2,500,455	£111,068			-£528	-£137,239
Solar PV	92,293	0			-		92,293	£9,325	23	£142,026	£1,979			£538	£7,884
LED & Controls Lighting Upgrades	471,419	12,402			-		483,821	£48,886	122	£821,337		£18,250		£2,821	£69,956
AHU Fan & Motor Upgrades	161,037	80,518			-		241,555	£24,407	61	£321,450				£1,408	£25,815
Chiller & Pump Controls Upgrade					-		-	£0	-	£0				£0	£0
Local Cooling Controls Upgrades	183,485	130,928			-		314,413	£31,769	80	£83,529				£1,833	£33,602
Mechanical Services Insulation	0	0			1,110,809		1,110,809	£22,338	204	£44,144				£2,255	£24,593
IGA, Legal, Insurance & Consents										£193,379				£0	£0
Helga										£34,595	£1,130				-£1,130
Total Energy and Operational Savings	548,814	111,768			2,204,674	-	2,865,257	£111,082	573	£4,140,915	£114,177	£18,250	£0	£8,327	£23,481

Baseline Energy Consumption

Hospital April 2018 - March 2019	Annual Electricity Consumption (kWh)	Annual Electricity Cost (£)	Annual Gas Consumption (kWh)	Annual Gas Cost (£)	Additional Fuel Source Consumption (kWh)	Additional Fuel Source Cost (£)	Total Energy Consumption (kWh)	Total Fuel Bill (£)	Elec CO2 emissions (t)	Gas CO2 emissions (t)	Fuel CO2 emissions (t)	Total CO2 emissions (t)
MPAN 1415860881004	19,164											
MPAN 1421096500009	7,857,659											
MPAN 1416860881006	5,397											
E13Z044845	30,705											
MPRN 3762908			93,102									
MPRN 58833108			148,491									
MPRN 58833310			144,179									
MPRN 58833400			34,566									
MPRN 8885406304			13,723,090									
MPRN 8906076407			58,151									
MPRN 8925867704			204,672									
MPRN 9328680500			153,885									
MPRN 9337353104			91,877									
MPRN 9327355607			274,827									
MPRN 9297464109			221,588									
G4K0064411601			83,223									
Hereford Hospital Baseline	7,912,926	£845,660	15,231,651	£337,229			23,144,577	£1,182,889	2,003.5	2,800.6		4,804.1

MODEL INPUTS

Carbon Factors (base year 18/19)

Natural Gas CO2 Factor
Electricity CO2 factor (grid)

kgCO2/kWh 0.183870
kgCO2/kWh 0.25319

Energy Costs (base year 18/19 - rates set by Trust)

Elec - Day/Night Split £/kWh 0.8
Hereford - Elec £/kWh 0.1010
Hereford - Gas £/kWh 0.0201

CCL Costs (base year 18/19 - rates)

CCL - Elec £/kWh 0.00583
CCL - Gas £/kWh 0.00203

PHASE 2 FINANCIAL MODEL

Hereford Energy Conservation Measures																		
ECM	Annual electricity saving DAY (kWh)	Annual electricity saving NIGHT (kWh)	Annual increased gas consumption (kWh)	Annual Gas Saving (from displaced heat) (kWh)	Annual gas saving (kWh)	Annual additional fuel source saving (kWh)	Total annual energy saving (kWh)	Total annual fuel bill saving (£)	Solix direct annual tCO2 saving*	Total annual tCO2 saving	Capital Cost	Annual operating & maintenance costs (£)	Annual operating benefit (£)	CRB benefit (£)	CC / FIT benefit (£)	Total annual operating cost (£)	Annual Net Saving (£)	Simple Payback (yrs)
ASHP - WWHP Cascading system	-5,234,812	-1,908,703			16,003,911		9,468,016	-£130,660	2,943	1,656	£16,580,075	£155,356	£0		£23,706	£106,951	-£262,309	-63.2
Heat Pumps - Design, Supply, Enablement, Installation and Commissioning											£9,581,551							
Energy Centre Build											£999,394							
Energy Centre Civils											£477,564							
District Heating Pipework											£588,379							
District Heating Civils											£314,569							
BMS											£421,062							
DNO											£1,348,924							
HV works											£679,597							
Ancillaries											£1,069,523							
Autoclaves	-469,797	-117,449			707,136		119,890	-£93,644	130	16	£215,668		£0		-£1,263	£94,907	-£94,907	-2.5
Mechanical Services Insulation- Cavity Wall					83,028		83,028	£9,328	15	15	£27,990		£0		£386	-£9,714	£9,714	2.8
Mechanical Services Insulation- Loft					63,118		63,118	£7,091	12	12	£10,811		£0		£293	-£7,385	£7,385	1.5
Trust Contingency											£300,000							
Insurance											£22,260	£7,306						-£7,306
Metga											£40,375	£1,042						-£1,042
Total Energy and Operational Savings	-5,704,609	-1,426,152			16,857,212	-	9,726,450	-£287,884	3,100	1,698	£17,295,184	£163,744	£0	£0	£23,123	£184,762	-£348,506	-89.4

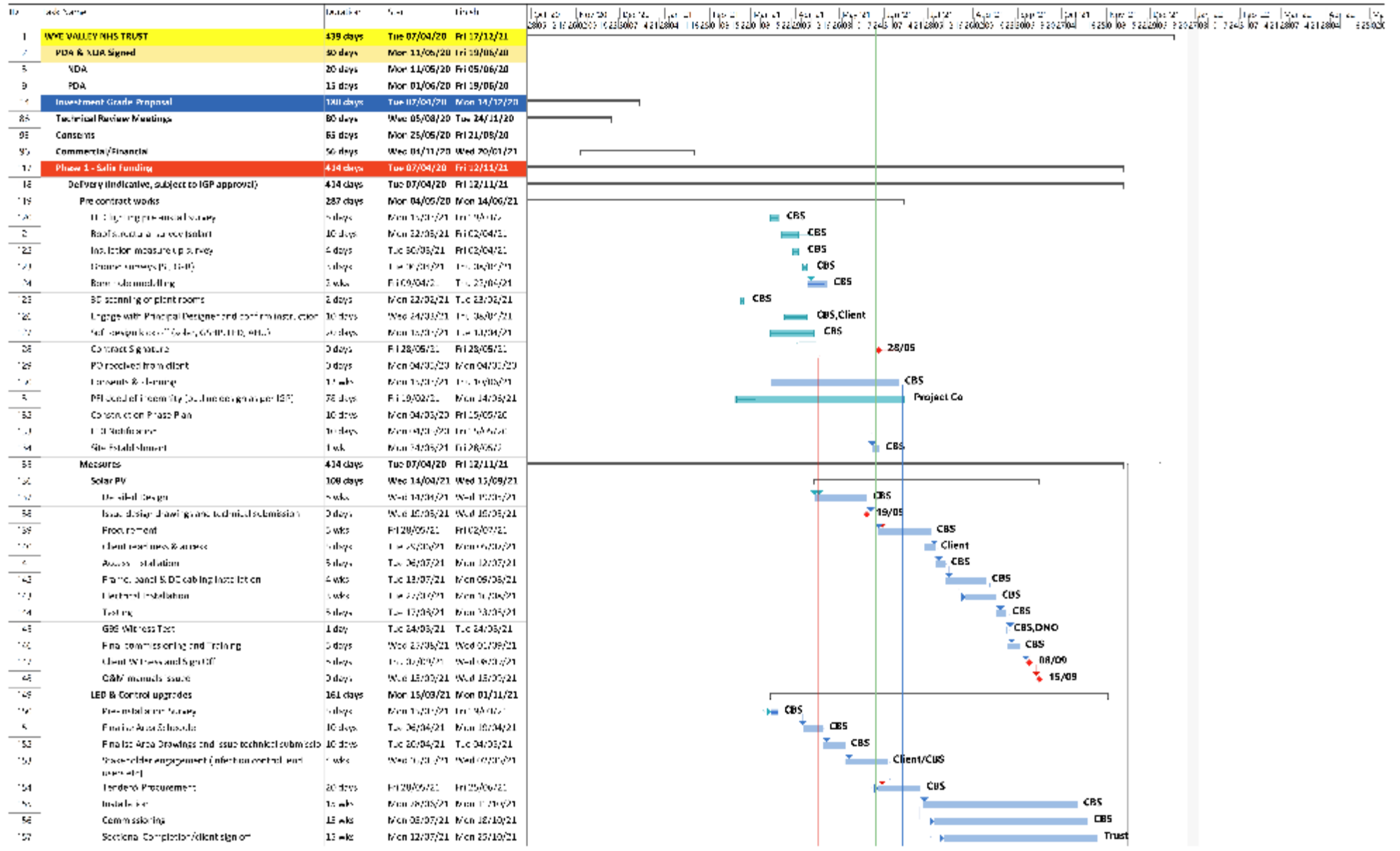
* Total carbon savings from gas offset through this project, in line with total annual carbon savings from Solix application (excludes carbon emissions from electricity)

Hospital April 2021 - March 2022	Annual Electricity Consumption (kWh)	Annual Electricity Cost (£)	Annual Gas Consumption (kWh)	Annual Gas Cost (£)	Additional Fuel Source Consumption (kWh)	Additional Fuel Source Cost (£)	Total Energy Consumption (kWh)	Total Fuel Bill (£)	Elec CO2 emissions (t)	Gas CO2 emissions (t)	Fuel CO2 emissions (t)	Total CO2 emissions (t)
MPAN 1415860881004	20,405											
MPAN 1421096500009	8,369,622											
MPAN 1416860881006	5,362											
E13Z044845	24,401											
MPRN 3762908			119,272									
MPRN 58833108			164,048									
MPRN 58833310			139,354									
MPRN 58833400			35,765									
MPRN 8885406304			17,026,224									
MPRN 8906076407			60,767									
MPRN 8925867704			279,489									
MPRN 9328680500			170,606									
MPRN 9337353104			120,396									
MPRN 9327355607			232,532									
MPRN 9297464109			104,256									
G4K00064411601												
MPRN 9368505809			522,526									
MPRN 9328680500			100,978									
Hereford Hospital Baseline	8,419,790	£2,546,986	19,076,212	£2,231,917			27,496,002	£ 4,778,903	1,628.2	3,482.2		5,110.4

MODEL INPUTS			
Carbon Factors (base year September 2022)			
Natural Gas CO2 Factor	kgCO ₂ /kWh	0.1825	
Electricity CO2 factor (grid)	kgCO ₂ /kWh	0.1934	
Energy Costs (base year 21/22 - rates set by Trust)			
Elec - Day/Night Split		0.8	
Hereford - Elec	£/kWh	0.2948	
Hereford - Gas	£/kWh	0.1124	
CCL Costs (base year 21/22 - rates)			
CCL - Elec	£/kWh	0.0078	
CCL - Gas	£/kWh	0.0047	
Source: https://www.gov.uk/government/publications/greenhouse-gas-reporting-conversion-factors-2022		Source: https://www.gov.uk/guidance/climate-change-levy-rates	

SCHEDULE 9

PART 1A PHASE 1 WORKS PROGRAMMES



PART 1B PHASE 2 WORKS PROGRAMMES

Wye Valley Phase 2 Contract Programme rev 5



ID	Task Name	Duration	Start	Finish	Predecessors	% Complete	Resource Names
1	Wye Valley Phase 2 NHS Trust	808 days	Thu 01/09/22	Fri 14/11/25		11%	
2	Project Approval	212 days	Thu 01/09/22	Mon 10/07/23		91%	
3	Funding	15 days	Thu 01/09/22	Thu 22/09/22		100%	
4	Salix application submitted	10 days	Thu 01/09/22	Wed 14/09/22		100%	Trust
5	Funding application approval	0 days	Thu 22/09/22	Thu 22/09/22	4	100%	Salix
6	Commercials	161 days	Fri 11/11/22	Mon 10/07/23	3	91%	
7	CBS to issue Supplementary Agreement to WWT	10 days	Fri 11/11/22	Thu 24/11/22	5	100%	CBS
8	Review Period	5 days	Fri 25/11/22	Thu 01/12/22	7	100%	Trust
9	Board Approval	1 day	Fri 02/12/22	Fri 02/12/22	8	100%	Trust
10	WWT Supplementary Agreement Signature	0 days	Fri 02/12/22	Fri 02/12/22	9	100%	Trust
11	CBS draft Contract Change	16 wks	Mon 05/12/22	Mon 03/04/23	10	100%	CBS
12	CBS issue Contract Change	0 days	Mon 03/04/23	Mon 03/04/23	11	100%	CBS
13	Review Period	5 days	Tue 04/04/23	Wed 12/04/23	11	0%	Trust
14	Trust Programme Management Board Approval	1 day	Wed 05/07/23	Wed 05/07/23	32	0%	Trust
15	Trust Management Board Approval	1 day	Thu 06/07/23	Thu 06/07/23	14	0%	Trust
16	Salix Change Notice Approval	1 day	Fri 07/07/23	Fri 07/07/23	15	0%	Trust
17	Trust Board Approval	1 day	Fri 07/07/23	Fri 07/07/23	15	0%	Trust
18	WWT Contract Signature	0 days	Fri 07/07/23	Fri 07/07/23	17	0%	Trust
19	CBS Contract Signature	1 day	Mon 10/07/23	Mon 10/07/23	18	0%	CBS
20	Design	143 days	Mon 05/12/22	Thu 06/07/23		57%	
21	Site Surveys	50 days	Mon 05/12/22	Mon 20/02/23	10	90%	
22	Modelling	15 days	Mon 30/01/23	Fri 17/02/23		100%	
23	Trust to issue HH Gas Data	0 days	Mon 30/01/23	Mon 30/01/23	10	100%	
24	Initial Data Assessment	5 days	Mon 30/01/23	Fri 03/02/23	23	100%	
25	Draft Model Completion	5 days	Mon 06/02/23	Fri 10/02/23	24	100%	
26	CBS Internal technical Review	2 days	Mon 13/02/23	Tue 14/02/23	25	100%	
27	Model Finalisation	3 days	Wed 15/02/23	Fri 17/02/23	26	100%	
28	Design (Heat Pumps)	143 days	Mon 05/12/22	Thu 06/07/23		44%	
29	Trust Approve Energy Centre Location	1 day	Wed 22/03/23	Wed 22/03/23	10	100%	
30	Concept Design	10 wks	Mon 05/12/22	Mon 20/02/23	10	100%	
31	Issue concept design for review	0 days	Mon 20/02/23	Mon 20/02/23	30	100%	
32	Technical Review Meeting	1 day	Fri 14/04/23	Fri 14/04/23	31	50%	
33	Technical Review Meeting 2	1 day	Mon 17/04/23	Mon 17/04/23	32	0%	
34	Client review	1 wk	Tue 18/04/23	Mon 24/04/23	33	0%	
35	Finalise Energy Centre Layout	2 wks	Thu 23/03/23	Wed 05/04/23	29	0%	
36	Detailed Design	10 wks	Tue 25/04/23	Thu 06/07/23	34,35	0%	
37	M&V	13 days	Tue 21/02/23	Thu 09/03/23	22	0%	
38	Measure Audit	5 days	Tue 21/02/23	Mon 27/02/23	31	0%	
39	Draft M&V Plan Development	5 days	Tue 28/02/23	Mon 06/03/23	38	0%	
40	Internal Review	2 days	Tue 07/03/23	Wed 08/03/23	39	0%	
41	Draft M&V Plan WWT Presentation	1 day	Thu 09/03/23	Thu 09/03/23	40	0%	
42	Procurement	80 days	Tue 25/04/23	Thu 17/08/23		0%	
43	Mechanical Services Insulation	10 days	Tue 11/07/23	Mon 24/07/23	19	0%	
44	Heat Pumps	80 days	Tue 25/04/23	Thu 17/08/23	34	0%	
45	Delivery	360 days	Fri 28/07/23	Tue 07/01/25		7%	
46	Consents & Planning	80 days	Mon 31/07/23	Mon 20/11/23	36FS-8 wks	30%	
47	Amend Construction Phase Plan	5 days	Mon 04/09/23	Fri 08/09/23	46	100%	
48	F10 Notification	1 day	Tue 21/11/23	Tue 21/11/23	46	0%	
49	DNO Connection	72 wks	Fri 28/07/23	Tue 07/01/25	34	0%	
50	Measures	422 days	Tue 21/11/23	Fri 25/07/25		0%	
51	Countv Hospital	422 days	Tue 21/11/23	Fri 25/07/25	5FS+40 days	0%	

52	Site set up	15 days	Tue 19/12/23	Tue 16/01/24		0%
53	Install foundations for welfare	5 days	Tue 19/12/23	Tue 02/01/24	46FS+4 wks	0%
54	Deliver and position welfare cabins	5 days	Wed 03/01/24	Tue 09/01/24	53	0%
55	Connect temporary supplies	5 days	Wed 10/01/24	Tue 16/01/24	54	0%
56	Mechanical Building Fabrics	130 days	Tue 23/01/24	Fri 26/07/24		0%
57	Installation	100 days	Tue 23/01/24	Fri 14/06/24	55FS+4 days	0%
58	Sectional Completion/Client Sign off	100 days	Tue 06/02/24	Fri 28/06/24	57SS+10 days	0%
59	O&M Manuals Issued	0 days	Fri 26/07/24	Fri 26/07/24	58FS+4 wks	0%
60	Electric Steam Boilers (Autoclaves)	50 days	Fri 04/04/25	Thu 12/06/25		0%
61	Pathology	35 days	Fri 04/04/25	Thu 22/05/25		0%
62	LV Supply	30 days	Fri 04/04/25	Thu 15/05/25	78	0%
63	Replace Steam Autoclave	5 days	Fri 16/05/25	Thu 22/05/25	62	0%
64	SSD	50 days	Fri 04/04/25	Thu 12/06/25		0%
65	Civils for new Transformer	10 days	Fri 04/04/25	Thu 17/04/25	78	0%
66	Deliver and install Transformer	5 days	Fri 18/04/25	Thu 24/04/25	65	0%
67	LV Supplies	20 days	Fri 25/04/25	Thu 22/05/25	66	0%
68	Install Electric Steam Boilers	15 days	Fri 23/05/25	Thu 12/06/25	67,63	0%
69	Heat Pump Measure	422 days	Tue 21/11/23	Fri 25/07/25		0%
70	Energy Centre Build	165 days	Tue 23/01/24	Mon 16/09/24		0%
71	Ground Clearance	20 days	Tue 23/01/24	Mon 19/02/24	55FS+4 days	0%
72	Install services	30 days	Tue 20/02/24	Wed 03/04/24	71	0%
73	Install new base/foundations	20 days	Thu 04/04/24	Wed 01/05/24	71,72	0%
74	Construct Energy Centre	16 wks	Thu 02/05/24	Fri 23/08/24	73	0%
75	Install small power and lighting	3 wks	Tue 27/08/24	Mon 16/09/24	74	0%
76	Heat Pumps	422 days	Tue 21/11/23	Fri 25/07/25		0%
77	Deliver and position	2 days	Tue 27/08/24	Wed 28/08/24	74	0%
78	M&E and Controls installation	150 days	Thu 29/08/24	Thu 03/04/25	77	0%
79	Commissioning	25 days	Fri 04/04/25	Thu 08/05/25	78	0%
80	District Heating Pipework	115 days	Tue 23/01/24	Fri 05/07/24		0%
81	Installation	100 days	Tue 23/01/24	Fri 14/06/24	55FS+4 days	0%
82	Testing	15 days	Mon 17/06/24	Fri 05/07/24	81	0%
83	Satellite Plant rooms	372 days	Tue 21/11/23	Fri 16/05/25		0%
84	Build package plant room off site	12 wks	Tue 21/11/23	Tue 20/02/24	46	0%
85	Deliver packaged plant rooms	2 days	Wed 21/02/24	Thu 22/02/24	84	0%
86	Mechanical installation of packaged plant rooms	200 days	Fri 23/02/24	Thu 05/12/24	85	0%
87	Electrical installation of packaged plant rooms	100 days	Fri 06/12/24	Fri 02/05/25	86	0%
88	Integrate onto existing system	10 days	Mon 05/05/25	Fri 16/05/25	87,49	0%
89	Commissioning	50 days	Mon 19/05/25	Fri 25/07/25		0%
90	Pre commissioning	25 days	Mon 19/05/25	Fri 20/06/25	88	0%

ID	Task Name	Duration	Start	Finish	Predecessors	% Complete	Resource Names
91	Commissioning	25 days	Mon 23/06/25	Fri 25/07/25	90	0%	
92	Project Close	80 days	Mon 28/07/25	Fri 14/11/25		0%	
93	Client Training	40 days	Mon 28/07/25	Fri 19/09/25	69	0%	
94	Finalise M&V Testing	45 days	Mon 28/07/25	Fri 26/09/25	69	0%	
95	Snagging Completion	30 days	Mon 22/09/25	Fri 31/10/25	93	0%	
96	Handover to Operations	10 days	Mon 03/11/25	Fri 14/11/25	95	0%	
97	Project Sign off/Handover	1 day	Mon 11/08/25	Mon 11/08/25	91FS+2 wks	0%	
98	Training	2 days	Mon 03/11/25	Tue 04/11/25	95	0%	
99	O&Ms	1 day	Tue 09/09/25	Tue 09/09/25	97FS+4 wks	0%	
100	Project Close	0 days	Tue 09/09/25	Tue 09/09/25	99	0%	

SCHEDULE 10
PHASE 1 DRAWINGS

No.	Name	Format
1.	27990-CBS-SW-ZZ-M-SC-5001_S0_P1 PROPOSED SIMPLIFIED HN SCHEMATIC	PDF
2.	27990-CBS-SW-ZZ-M-SC-5002_S0_P1 GENERIC HN FLOW DIAGRAM	PDF
3.	27990-CBS-02-BG-M-SC-4101_S3_P3 LIONEL GREEN	PDF
4.	27990-CBS-B6-ZZ-M-SC-4101_D1_P2 LONGFIELD HOUSE PLANT ROOMS	PDF
5.	27990-CBS-B6-GO-M-SC-4101_D1_P1 LONGFIELD HOUSE HEAT PUMP	PDF

PHASE 2 DRAWINGS

No.	Title
CONCEPT	
0230-RMS-EC-ZZ-DR-M-0001	Energy Centre Site Layout
0230-RMS-EC-ZZ-DR-M-0002	Energy Centre Block Layout
RMS/1033/M/S/003	Heating & Cooling Concept Schematic
0230-RMS-EC-ZZ-DR-M-0004	Heating & Cooling Concept Layout
0230-RMS-EC-ZZ-DR-E-0001	Electrical Schematic
RIBA STAGE 3	
0230-RMS-SW-ZZ-SC-M-0001	Overall Mechanical Schematic
0230-RMS-SW-ZZ-SC-M-0002	Energy Centre Schematic
0230-RMS-SW-ZZ-SC-M-0003	Phase 2 Plant Schematic
0230-RMS-SW-ZZ-SC-M-0004	Pathology & 72 Bed Ward Schematic
0230-RMS-SW-ZZ-SC-M-0005	ITU & Theatres Schematic
0230-RMS-SW-ZZ-SC-M-0006	Main Hospital & Support Schematic
0230-RMS-SH-E-0001	Electrical Load Schedule
PLANTROOM LAYOUTS	
0230-RMS-XX-ZZ-DR-M-4000	Overall Site Distribution Layout
0230-RMS-EC-ZZ-DR-M-4200	Packaged Plantroom M&E Services Layout
0230-RMS-EC-ZZ-DR-M-4201	Packaged Plantroom Location & Visualisations
0230-RMS-EC-ZZ-DR-M-4202	Package Plantroom - Mortuary & Age Care C
0230-RMS-EC-ZZ-DR-M-4203	Package Plantroom - Pathology
0230-RMS-13A-ZZ-DR-M-1301	Phase 2 - Plantroom 13a Age Care A M&E Services Layout
0230-RMS-13B-ZZ-DR-M-1311	Phase 2 - Plantroom 13b Age Care B M&E Services Layout
0230-RMS-15-ZZ-DR-M-1311	Phase 2 - Plantroom 15 ITU M&E Services Layout
0230-RMS-16-ZZ-DR-M-1601	Phase 2 - Plantroom 16 72 Bed Ward Block M&E Services Layout
0230-RMS-23-ZZ-DR-M-2301	Phase 2 - Plantroom 23 Theatres-M&E Services Layout
0230-RMS-32-ZZ-DR-M-3201	Phase 2 - Plantroom 32 Support Building-M&E Services Layout
0230-RMS-34-ZZ-DR-M-3401	Phase 2 - Plantroom 34 Plantroom B-M&E Services Layout

SCHEDULE 11
DESIGN REVIEW PROCEDURE

1. Subject to any express provision of this Agreement, Centrica shall prepare and submit revised design data to the Authority by the means to be agreed with the Authority, in DWG and PDF format and in sufficient time to allow any comments of the Authority to be incorporated prior to the relevant design documents ("**Reviewable Design Data**") being used for procurement and/or in the carrying out of the Phase 1 Works or Phase 2 Works as the case may be. Unless and until the means are otherwise agreed with the Authority, Centrica shall submit two (2) copies of each of Reviewable Design Data to the Authority. Notwithstanding the foregoing, no comment or failure to comment on the design by the Authority shall give rise to any responsibility or liability on behalf of the Authority in respect of the design of any Works.
2. Within fifteen (15) business days from the date of receipt of any Reviewable Design Data, or (if later) fifteen (15) business days from either the date or expiry of the period for submission of the same as agreed between the Parties, the Authority shall return one copy of that Reviewable Design Data to Centrica marked 'A', 'B' or 'C' provided that a document shall be marked 'B' or 'C' only where the Authority considers that it is not in accordance with this Agreement.
3. If the Authority does not respond to Reviewable Design Data in the time stated in paragraph 2, it shall be regarded as marked 'A'.
4. Where the Authority marks Reviewable Design Data 'B' or 'C', the Authority shall identify by means of a written comment why it considers that it is not in accordance with this Agreement.
5. When Centrica's Design Document is returned by the Authority:
 - 5.1 if it is marked 'A', Centrica shall carry out Works in strict accordance with that document;
 - 5.2 if it is marked 'B', Centrica may carry out the Works in accordance with that document provided that the Authority's comments are incorporated into it and an amended copy of it is promptly submitted to the Authority; or
 - 5.3 if it is marked 'C', Centrica shall take due account of the Authority's comments on it and shall either forthwith resubmit it to the Authority in amended form for comment in accordance with paragraph 1 or notify the Authority under paragraph 6.
6. Centrica shall not carry out any work in accordance with Reviewable Design Data marked 'C' and the Authority shall not be liable to pay for any work within the Works executed otherwise than in accordance with Reviewable Design Data marked 'A' or 'B'.
7. If Centrica disagrees with a comment of the Authority and considers that Reviewable Design Data in question is in accordance with this Agreement, it shall within ten (10) business days of receipt of the comment notify the Authority that it considers that compliance with the comment would give rise to a change ("**Design Change**"). Such notification shall be accompanied by a statement setting out Centrica's reasons. Upon receipt of such a notification the Authority shall within ten (10) business days either confirm or withdraw the comment and, where the comment is confirmed, Centrica shall amend and resubmit the document accordingly.
8. Provided always that:

- 8.1 confirmation or withdrawal of a comment in accordance with paragraph 7 shall not signify acceptance by the Authority that the relevant Centrica's Design Document or amended document is in accordance with this Agreement or that compliance with the Authority's comment would give rise to a Design Change;
- 8.2 where in relation to a comment by the Authority Centrica does not notify the Authority in accordance with paragraph 7, the comment in question shall not be treated as giving rise to a Design Change; and
- 8.3 neither compliance with the design submission procedure in this Schedule nor with the Authority's comments shall diminish the Centrica's obligations to ensure that Reviewable Design Data and Works are in accordance with this Agreement.

SCHEDULE 12

INSURANCE

1. The Supplier Insurances

1.1 The Supplier shall:

1.1.1 take out and maintain the policies of insurance set out in paragraph 1.2 (which for the avoidance of doubt, includes the insurances specified in paragraphs 1.2.1 to 1.2.4 inclusive) in respect of the Works (save that the Supplier shall only be obliged to have in place the insurances set out in paragraph 1.2 by the earlier of the date 30 days from the Phase 1 Commencement Date and the day prior to commencement of the Phase 1 Works or by the earlier of the date 30 days from the Phase 2 Commencement Date and the day prior to commencement of the Phase 2 Works as the context requires);

1.1.2 take out and maintain all other insurances required by Law; and

1.1.3 take out and maintain the policies of insurance set out in paragraph 1.2.3 and 1.2.4 in respect of the Services

(together, "**the Supplier Insurances**");

1.1.4 be responsible for the insurance premiums (including brokerage fees, commission, and Insurance Premium Tax at the prevailing rate) in respect of the Supplier Insurances; and

1.1.5 within five (5) Business Days of written demand, make reasonable endeavours to provide documentary evidence to the Authority that the Supplier Insurances have been taken out and are maintained.

1.2 Insurance details

1.2.1 Works Insurance (Construction All-Risks)

(a) All-risks insurance for the Works to cover loss or damage to materials, fixtures and/or equipment being used in the Works.

(b) The policy is to be issued under the joint names of the Authority, the Supplier and Subcontractor(s), consultants and suppliers and shall include a waiver of subrogation against the Authority, Mercia Healthcare Limited and its lenders under the PFI Contract.

(c) The sum insured is to be the full replacement value of either the Phase 1 Works or Phase 2 Works as the context requires.

(d) The period of the first policy will be from the later of the Phase 1 Commencement Date and the date of commencement of the Phase 1 Works to the Phase 1 Works Completion Date and the second policy will be from the later of the Phase 2 Commencement Date and the date of commencement of the Phase 2 Works to the Phase 2 Works Completion Date.

(e) The following exclusions from the insurance are permitted if required:

- Wear and Tear
- Money

- Vehicles
 - Aircraft or waterborne vessels
 - Contractors' constructional plant, tools, equipment and temporary buildings
- (f) The following extensions to the insurance policy are required:
- Maintenance (extension to cover the period up to the end of the Warranty Period)
 - Professional Fees Clause
 - Removal of Debris Clause
 - Expediting Expenses/Airfreight
 - Fire Fighting Expenses

1.2.2 Professional Indemnity

- (a) Insurance cover for the provision of inadequate or negligent services or designs to the Authority.
- (b) The limit is to be no less than £5,000,000 in the annual aggregate

The Supplier shall ensure that all professional consultants or key Sub-Contractors involved in the provision of the Services hold and maintain appropriate cover

1.2.3 Third Party Liability

- (a) Insurance cover for third party bodily injury and damage to property belonging to third parties.
- (b) The limit will no less than £25,000,000 for each and every occurrence.
- (c) The following exclusions from the insurance are permitted if required:
- Liability to Employees
 - Compulsory Motor/Airborne or Waterborne Vessels
- (d) The following extensions to the insurance policy are required:
- Cross Liabilities

1.2.4 Employers Liability

- (a) Insurance cover for injury or illness caused to employees caused by the Works.
- (b) The limit will be no less than £10,000,000 each and every occurrence.
- (c) The following extensions to the insurance policy are required:

- Indemnity to Principals
- Health & Safety at Work Act 1974

2. Authority Insurances

2.1 The Authority shall:

- 2.1.1 take out and maintain the policies of insurance set out in paragraph 2.2 in respect of the Works prior to the commencement of the Works and otherwise throughout the Term;
- 2.1.2 take out and maintain all other insurances required by Law; and
- 2.1.3 take out and maintain all risks physical loss or damage insurance in respect of the relevant Technology from the relevant Taking-Over Certificate or Completion Certificate (as the case may be) for an amount not less than the full reinstatement value of the relevant Technology

(together, the "**Authority Insurances**");
- 2.1.4 be responsible for the insurance premiums (including brokerage fees, commission, and Insurance Premium Tax at the prevailing rate) in respect of the Authority Insurances; and
- 2.1.5 within five (5) Business Days of written demand, provide documentary evidence to the Supplier that the Authority Insurances have been taken out and are maintained.

2.2 Insurance details

2.2.1 Third Party Liability

- (a) Insurance cover for third party bodily injury and damage to property belonging to third parties.
- (b) The limit will no less than £5,000,000 for each and every occurrence.
- (c) The following exclusions from the insurance are permitted if required:
 - Liability to Employees
 - Compulsory Motor/Airborne or Waterborne Vessels
- (d) The following extensions to the insurance policy are required:
 - Cross Liabilities

2.2.2 Employers Liability

- (a) Insurance cover for injury or illness caused to employees of the Authority caused by the Works.
- (b) The limit will be no less than £10,000,000 each and every occurrence.
- (c) The following extensions to the insurance policy are required:

- Indemnity to Principals
- Health & Safety at Work Act 1974

SCHEDULE 13
AUTHORITY POLICIES

NHS Wye Valley Health & Safety Policy

HS.13 Health & Safety Policy

Document Summary

This policy aims to ensure that Wye Valley NHS Trust meets its obligations to provide a safe working environment for its patients, staff and visitors. The Board of Wye Valley NHS Trust is dedicated to maintaining high standards of safety, health and welfare for all its employees. It confirms its full commitment to the effective management of health and safety and recognises its duties under the Health and Safety at Work Act 1974. Awareness of and responsibility for health and safety issues must be delegated to all levels of the organisation in order to build a positive health & safety culture.

Document Number	HS.13
Date Ratified	29 March 2018
Date Implemented	September 2017
Next Review Date	September 2020
Accountable Director	Chief Operating Officer
Policy Author	Health & Safety Officer

Important Note:

The Intranet version of this document is the only version that is maintained.

Any printed copies should therefore be viewed as ‘uncontrolled’ and, as such, may not necessarily contain the latest updates and amendments.

After the Review Date has expired, this document may not be up-to-date. Please contact the document owner to check the status after the Review Date shown above.

If you would like help to understand this document, or would like it in another format or language, please contact the document owner.

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1. SCOPE

This policy applies to all staff employed by the Trust, either directly or indirectly, and to any other person or organisation which uses Trust services or premises for any purpose. It will also apply to bank, temporary staff, volunteers, young workers, staff working from home and contractors working on Trust business. The principles of this policy shall apply to all Trust work activities, regardless of who has or is supplying or providing them.

2. INTRODUCTION

Wye Valley NHS Trust recognises the benefits of the management of health and safety at work. The Trust strives to continually improve and maintain health and safety standards, recognising its legal obligation and the close links with quality standards, staff motivation, staff welfare, cost of accidents and compliance with health and safety legislation.

The Trust will in so far as is reasonably practicable:

- Provide and maintain plant, equipment and systems of work which are safe, and without risk to health.
- Ensure safety and absence and take action to mitigate against risks to health in connection with the use, transportation, handling and storage of articles and substances.
- Provide such training, information, instruction and supervision as is necessary to ensure the health and safety of employees, patients & visitors
- Ensure work places within the Trust's control are maintained in a safe condition and that access and egress are safe and without risks.
- Make adequate provision for the welfare of employees at work and for securing a safe working environment.

Section 2 of the Health and Safety at Work Act 1974 requires employers of five or more people to have a written statement of health and safety policy. It should be their own statement, specific to their business, setting out their general policy for protecting the health and safety of their employees at work and their organisation and arrangements for putting the policy into practice. The Trust's policy must be brought to the notice of all employees and be revised whenever appropriate. Any revision should also be brought to employees' attention. There is also a duty of care placed on the Trust to safeguard the health and safety of all who enter or work for the Trust including staff, visitors, contractors, patients and volunteers.

3. STATEMENT OF INTENT

This policy applies to all employees of the Trust and also includes visitors, contractors, volunteers, students, persons undertaking work experience and patients. This is in keeping with Section 3 of the Health and Safety at Work Act 1974, which states: 'It shall be the duty of every employer to conduct his undertaking in such a way as to ensure, as far as is reasonable practicable, that persons not in his employment who may be affected thereby are not exposed to risks to their Health and safety.'

4. DEFINITIONS

RIDDOR	Reporting of Diseases, Dangerous Occurrences Regulations
DSE	Display Screen Equipment
HSE	Health and Safety Executive
BS	British Standard
RRFO	The Regulatory Reform (Fire Safety) Order 2005
MHOR	Manual Handling Operations Regulations 1992
LOLER	Lifting Operations and Lifting Equipment Regulations 1998
PUWER	Provision Use Work Equipment regulations 1998
HASWA	Health and Safety @ Work Act 1974
COSHH	Control of Substances Hazardous to Health
RA	Risk Assessments
IOSH	Institution of Occupational Safety and Health

5. DUTIES

5.1 Chief Executive

The Chief Executive has overall responsibility and accountability for health and safety within the Trust.

5.2 Chief Operating Officer

The Chief Operating Officer is the accountable director for all elements of Health & Safety.

5.3 Health & Safety Officer

The Health & Safety Officer is:

- Responsible for overseeing day-to-day management of health and safety within the Trust.
- Liaises with HSE and implements actions
- Lead contact for reporting RIDDOR incidents
- Provides assistance/advice in completing risk assessments
- Carries out Health and Safety inspections/audits
- Provides advice on health and safety matters to the exec lead
- Investigates accidents/incidents (RIDDOR)

5.4 Health & Safety Training Facilitator

The Health and Safety Training Facilitator delivers all Health and Safety Training across the Trust.

5.5 Directors, General Managers and Heads of Dept Responsible

for: Are responsible for:

1. Assessing the risks arising out of work and looking at how to minimize/ eliminate them.
2. Managers are responsible for health and safety in their particular area of responsibility. WVT (The Trust) requires Managers to be responsible for identifying hazards, making sure risk assessments are carried out and ensuring that any control measures are implemented and communicated to employees. The role includes:
 - Ensuring that all health and safety policies and procedures are implemented effectively within their departments in line with the Trust Health and Safety policy.
 - Ensuring that adequate resources are allocated to their departments to control health and safety risks.
 - Reviewing risk assessments at least annually, after an accident, or if there is any reason to believe that they are no longer valid.
 - Managers may delegate the task of carrying out risk assessments. However, they must ensure that risk assessments are completed by a trained, experienced and competent person and that the risk assessments are suitable and sufficient. This will require consultation and communication between Managers and relevant staff.
 - Preparing, implementing, monitoring and revising action plans to reduce any risks to the lowest possible level.
 - Implementing safe systems of work within their department.
 - Consulting with their staff on any changes which may affect their health and safety.
 - Ensuring that accident and incidents occurring within their department are recorded in line with the incident reporting policy.
 - Ensuring all their staff are appropriately trained and updated.
 - Embedding Health and Safety policies into practice

All Heads of Department/Ward Managers are required to accept the principles of health and safety management and the provision of health and safety information and training as part of their responsibilities.

5.6 Competent Persons

Undertake to provide health and safety assistance throughout the Trust and have the authority to cause work to cease if it contravenes agreed standards and puts staff, patients, and visitors at risk of injury.

The Trusts Competent Persons are deemed as follows:

Health and Safety	Health and Safety Officer
Quality and Safety	Patient Safety manager
Estates and Facilities	Head of Estates & Facilities
Radiological Protection	Regional Radiation Protection Service
Medical Equipment	EBME and MEL Manager
Fire Safety	Fire Officer

Health @ Work	Health @ Work Manager
Security	Local Security Management Specialist
IOSH	Department IOSH Representatives
Infection Prevention	Lead Infection Prevention Nurse

5.7 Health and Safety Representatives (IOSH)

The Health and Safety representatives' participate, in health and safety matters. The Trust shall co-operate with those representatives and provide facilities for their use when undertaking such functions as the investigation of hazards, accidents, and employee complaints, inspections of the workplace and health and safety communications.

5.8 Employees

It is the duty of every employee and any other person contracted to be within the Trust's premises while at work to:

- Exercise reasonable care and co-operation with others
- Use machinery, equipment, potentially dangerous substances, and transport or safety devices in accordance with any instruction and training given.
- Not intentionally or recklessly interfere with or misuse items provided in the interests of health, safety or welfare.
- Report to the appropriate manager any work situation, which may be considered to represent a serious and immediate danger to health and safety.
- Report to the appropriate manager any matter which may be considered to represent a shortcoming in the protection arrangements for health and safety.
- Attend training sessions as provided.
- Report incidents via the Trust Datix incident reporting system

5.9 Trust Board

The Trust Board monitors all health and safety activities, reports and adverse outcomes.

5.10 The Executive Risk Committee

The Executive Risk Committee monitors and reviews Health and Safety associated reports & Health & Safety Committee minutes.

5.11 Health and Safety Committee

Undertakes the following functions:

- The study of accident/notifiable disease statistics and trends, so that reports can be made to general managers and Executive Committee on unsafe or unhealthy conditions and practices, along with recommendations for remedial action.
- Examination of safety audit reports.
- Analysis of information and reports provided by enforcing authority inspectors, e.g. HSE and local authority inspectors.
- Consideration of reports from appointed safety representatives.
- The development, introduction and monitoring of works safety rules and safe systems of work.
- The constant appraisal of the effectiveness of safety training.

- The provision of a link with the appropriate inspectors appointed by enforcing authority.
- Reports to Executive Committee any significant areas of concern regarding health and safety.
- To continually review the health and safety process, recommend changes to practice and build on best practice.
- Monitoring Incidents and areas for trends
- Monitoring Injuries
- Ensure implementation of any rectification plans as agreed by the trust
- To ensure Health and Safety concerns are actioned and escalated as appropriate

6. HEALTH AND SAFETY PROCESS

6.1 RIDDOR (Reporting of Diseases, Dangerous Occurrences Regulations 1995)

RIDDOR is defined under the HSE definitions of RIDDOR, which can relate to a whole host of reportable incidents. All incidents reported at the Trust will be screened by the Health and Safety Officer and assessed whether they constitute a RIDDOR report or not.

To find a list of reportable incidents/other RIDDOR information please click or go to onto link below:

<http://www.hse.gov.uk/riddor/>

In recognition of its duties under the Reporting of Injuries, Diseases and Dangerous Occurrences Regulations 1995, the Trust has instituted a system for reporting of incidents and notifying the Health and Safety Executive of reportable incidents.

The Trust's Health and Safety Officer will also investigate all RIDDOR reportable incidents. This will include:

- The gathering and storing of information
- The analysing of information in conjunction with the appropriate manager
- Identifying risk control measures
- Developing action plan
- Monitor action plans
- Ensure compliance with actions
- Ensure Reports/action plans are reviewed and overseen by the appropriate committee (s)

The Trust believes that the best people to make the workplace safer are the staff and managers who work in them. This policy provides a framework to assist staff in identifying what went wrong, learn lessons and take action to reduce/prevent accidents in the future.

Through risk management, the Trust is committed to systematically identifying hazards, assessing risks and reducing those risks to the lowest possible level, so far as is reasonably practicable, to protect all those affected by the Trust's activities.

The Health and Safety Officer, staff involved and ward, team and departmental managers will investigate all RIDDOR reportable incidents/accidents. All incidents and investigations will be reported to the Health and Safety Committee and Executive Committee for review. The responsibility for implementation of action plans arising from investigations is the

departmental, team and ward managers. This is in line with the HSE guidance on accident investigation

6.2 Risk Assessment

In order to comply with health and safety legislation and to ensure best practice in controlling risks within the Trust, risk assessments will be carried out as follows:

- Annually – (generic risk assessments) taking into consideration compliance with health and safety legislation, e.g. manual handling, COSHH, Security, Lone Working, Working at Height, Sharps Injury
- As necessary – (specific risk assessments) for any activity that may present additional risk, not covered by generic assessment, to employees and others, e.g. new equipment/procedures, pregnant women, young persons.
- It will be the responsibility of the ward/department manager/IOSH representative to carry out the risk assessments for their area and report back to the Health & Safety Officer on any significant hazards/risks and control measures instigated to reduce the risk to the lowest level, so far as is reasonably practicable.

Risk assessments will be reviewed:

- annually (applies mainly to generic assessments)
- if there has been a significant change in the matter to which it relates
- if there is reason to suspect that it is no longer valid
- if there has been an accident/untoward occurrence.

The risk assessment will be carried out using the Trust's risk assessment form. Risks that cannot be reduced/eliminated should be escalated to the Divisional Director/General Manager for consideration for the risk register

Significant risks that cannot be reduced to the lowest level at department level will be entered on to the Trust's Risk Register in order to systematically analyse and prioritize health and safety risks within the Trust.

Training will be provided to those who are responsible for carrying out the risk assessments via the Trust's IOSH Trainer and Risk Assessment Trainer via Quality & Safety.

6.3 Occupational Health

The definition of work-related illness, also known as occupational ill-health, describes any illness an employee suffers because of the hazards they have been exposed to at work. There are a wide range of health risks capable of causing a variety of illness.

The protection of all employees against health hazards arising from their work or their working conditions.

The Trust provides this service to its staff via the Health @ Work Department and it includes;

- Workplace visits, when requested by appropriate manager
- Regular on-site clinics
- Employment medical assessments, e.g. sickness absence
- Return to work, support and advice

- Work Health Assessments
- Health Surveillance including lung function test's/hand surveillance
- Health Promotion
- Vaccinations
- Follow-up after sharps injury
- Assessment of protection against infectious diseases
- General Health Advice
- Counselling support
- Health @ Work will attend regular health and safety meetings at the Trust

6.3.1 Referrals

Staff who wish to access the Health @ Work service can either do this through their line manager who can refer them or self-referral by contacting Health @ Work directly on (01432) 364013

7. TRAINING

Training required to fulfil this policy will be provided in accordance with the Trust's Training Needs Analysis. Management of training will be in accordance with the Trusts Training & Development Policy.

There is a mandatory requirement to attend Health and Safety Training on an annual basis via the Education and Development Centre.

8. MONITORING COMPLIANCE WITH THIS DOCUMENT

The table below outlines the Trusts monitoring arrangements for this policy/document.

Aspect of compliance or effectiveness being monitored	Monitoring Method	Individual responsible for the monitoring	Frequency of the monitoring activity	Group/ committee which will receive the findings / monitoring report	Group / committee / individual responsible for ensuring that the actions are completed
Health and Safety Risk Assessments	Risk Assessment	IOSH Representative / Managers / Health & Safety Officer	Annual	Health and Safety Committee	Executive Risk Committee
Health and Safety Audits	Audit	IOSH Representative / Managers / Health and Safety Officer	Annual	Health and Safety Committee	Executive Risk Committee

Health and Safety Training	Attendance Reports	Education and Development Team	Monthly	Trust Executive Committee and Quality Committee	Trust Board
IOSH Training	Attendance Reports	Education and Development Team	Annually	Trust Executive Committee and Quality Committee	Trust Board

9. REFERENCES/ BIBLIOGRAPHY

Corporate Manslaughter and Corporate Homicide Act 2008

Health and Safety at Work Act 1974

Centre for Corporate Accountability (CCA)

Health and Safety Executive (HSE)

HSE guidance on accident investigation

NHSLA Risk Management Standards

COSHH 2002 standards (as amended)

10. RELATED TRUST POLICY/PROCEDURES

MF.28 Risk Management and Assurance Strategy

MF.30 Risk Management and Assurance Procedure

HS.29 Health and Safety Strategy

COSHH Policy

HS.01 Smoke Free Policy

HS.02 Display Screen Equipment

HS.03 Safe Prescribing, Handling and Administration of Cytotoxic Chemotherapy Policy

HS.04 Fire Safety Policy

HS.05 Incident Management Policy

HS.06 Safe Moving and Handling Policy

HS.06a Appendix 9 - Safe Moving and Handling - Guidelines for the Management of Bariatric Patients

HS.07 Lone Worker Policy

HS.11 Latex Policy

HS.15 Security Policy

HS.24 Management of Slips, Trips & Falls for Staff and Visitors Policy

HS.25 Medical Gas Pipeline Systems Policy

HS.29 Health and Safety Strategy

HS.30 Prevention of Violence, Abuse & Harassment of Staff and Sanction Applications Policy

HS.31 Asbestos Policy

11. EQUALITY IMPACT ASSESSMENTS

1	Name and Job Title of person completing assessment	Luan Lawson Health and Safety Officer
2	Name of service, policy or function being assessed	Health and Safety
3	What are the main objectives or aims of the service/policy/function?	This policy aims to ensure that Wye Valley NHS Trust meets its obligations to provide a safe working environment for its patients, staff and visitors. The Board of Wye Valley NHS Trust is dedicated to maintaining high standards of safety, health and welfare for all its employees. It confirms its full commitment to the effective management of health and safety and recognises its duties under the Health and Safety at Work Act 1974. Awareness of and responsibility for health and safety issues must be delegated to all levels of the organisation in order to build a positive health & safety culture.
4	Date	28 ^h September 2017

Stage 1: Initial Screening

5	What evidence is available to suggest that the proposed service/policy/function could have an impact on people from the protected characteristics? Document reasons, e.g. research, results of consultation, monitoring data and assess relevance as: <i>Not relevant or Relevant Low/Medium/High</i>	
	Protected Characteristic	Relevance
A	Race	Not Applicable
B	Religion/Spirituality	Not Applicable
C	Gender	Not Applicable
D	Disability	Not Applicable
E	Sexual Orientation	Not Applicable
F	Age	Not Applicable
G	Pregnancy/maternity	Not Applicable
H	Gender reassignment	Not Applicable
I	Marriage and Civil Partnership	Not Applicable
J	Carers	Not Applicable
Evidence		
If you assess the service/policy/function as not relevant , please proceed to section 11. If you assess the service/policy/function as relevant , continue to Stage 2, Full Equality		

Stage 2: Full Equality Impact Assessment		
6	Are there service user, public or staff concerns that the proposed service/policy/function may be discriminatory, or have an adverse impact on people from the protected characteristics?	
A	Public	Not Applicable
B	Staff	Not Applicable
If there are no concerns proceed to section 11. If there are concerns , amend service/policy/function to mitigate adverse impact, consider actions to eliminate adverse impact, or justify adverse impact		
7	Can the adverse impact be justified	
Not Applicable		
8	What changes were made to the service/policy/function as result of information gathering?	
Not Applicable		
9	What arrangements will you put in place to monitor impact of the proposed service/policy/function on individuals from the protected characteristics?	
Not Applicable		
10	List below actions you will take to address any unjustified impact and promote equality of outcome for individuals from protected characteristics. Consider actions for any procedures, services, training and projects related to the service/policy/function which have the potential to promote equality.	
	Action	Lead
		Timescales
11	Review date	
I am satisfied that this service/policy/function has been successfully equality impact assessed. Date: 29 March 2018 Author: Luan Lawson, Health and Safety Officer		
Please send the completed assessment for scrutiny to: Risk & Policy Manager, Trust HQ, County Hospital, Union Walk, Hereford. HR1 2ER.		

Committee / Group Name: Health & Safety

Please choose New Document Revised Document

<i>Type of Document</i> Policy	<i>If other state:</i>
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<i>Reason for submission</i> <input type="checkbox"/> : <input type="checkbox"/> For approval <input checked="" type="checkbox"/> For review <input checked="" type="checkbox"/> For noting
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<i>Applicable to</i> <input type="checkbox"/> : Trust wide <input checked="" type="checkbox"/> Division: <input checked="" type="checkbox"/> Surgical <input checked="" type="checkbox"/> Medical <input checked="" type="checkbox"/> Integrated Care <input checked="" type="checkbox"/> Directorate / Specialty <input checked="" type="checkbox"/> <i>give detail</i>
--

Document Title: <i>(succinct & key word first)</i>	HS.13 Health & Safety Policy		
Your Ref No:	HS.13	Version:	
Author(s) Name:	Health & Safety Officer	Designation:	
New Authors Details	Health & Safety Officer		
Date submitted:	18 May 2018		

Reason for producing the document	To ensure that Wye Valley NHS Trust meets its obligations to provide a safe working environment for its patients, staff and visitors.
References used in document production	Corporate Manslaughter and Corporate Homicide Act 2008 Health and Safety at Work Act 1974 Centre for Corporate Accountability (CCA) Health and Safety Executive (HSE) HSE guidance on accident investigation NHSLA Risk Management Standards COSHH 2002 standards (as amended)
List of contributors <i>Detail name(s) and designation of contributors or those consulted</i>	Health@Work Education Department Centre
Review of document prior to submission <i>Detail name(s) and designation</i>	Health & Safety Committee
Key Words <i>for searching on the intranet</i>	

Ongoing Training	
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For Review Committee use

only

Content checked <input checked="" type="checkbox"/>
On agenda for Meeting on: 29/03/2018

Meeting Outcome

Document for Approval:

Approved <input checked="" type="checkbox"/>	Committee Document Number assigned (<i>item number from Minutes</i>): Health & Safety Committee meeting 29 March 2018 item HSC.31.03.18 Document converted to PDF <input checked="" type="checkbox"/> Returned to Author by e-mail on Click here to enter a date.
Not approved <input type="checkbox"/>	Feedback to author: Sent by e-mail on: Click here to enter a date.

Document for Review:

Reviewed <input type="checkbox"/>	Feedback to author: Sent by e-mail on: Click here to enter a date.
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Sent to PFI Contractor <input type="checkbox"/>

Document for Noting:

Noted <input type="checkbox"/>	No further action
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For Policies only – to go to Policy Group

PDF, Word document, Meeting Minutes and Quality Assurance Checklist to be sent to Policy Group via policy@wvt.nhs.uk

Document for Approval at Policy Group:

.Approved <input type="checkbox"/>	Policy Number confirmed: Document converted to PDF (if required) <input type="checkbox"/> Returned to Author (if required) by e-mail on Click here to enter a date.
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.Not Approved

Feedback to author:

Sent by e-mail on: [Click here to enter a date](#)

Safe Working in Confined Spaces Contractor Induction

SAFE WORKING IN CONFINED SPACES – General Instructions

Site Hereford County Hospital

General

1. Confined Space working will comply with the Confined Spaces Regulations 1997 and Sodexo procedures.
2. A Confined Space is:
'A Confined Space means any place including any chamber, tank, vat, silo, pit, trench, pipe, sewer, flue, well or other similar space in which there arises a reasonably foreseeable specified risk.'
3. Examples of Confined Spaces are:
Easily identified - Closed tanks, Vessels, Sewers, Manholes, Septic Tanks, Ducts, Culverts, Pumping Chambers, Fuel Tanks, Incinerator
Not so easily identifiable - Opened Topped Tanks, Excavations, Vats, Roof spaces, Structures that become Confined Spaces during their construction, Rooms during spray painting.
4. Confined Spaces foreseeable specific risk:
 - Serious injury from fire or explosion
 - Loss of consciousness arising from an increase in body temperature
 - Loss of consciousness or asphyxiation arising from gas, fume, vapour or the lack of oxygen
 - Drowning from an increase level of liquid
 - Asphyxiation from a free flowing solid or the inability to reach a resposable environment due to entrapment from a free flowing solid
4. Confined Spaces hazards:
Access / Egress,
Communication Methods
Previous Contents (toxic, flammable or inert gases)
Residue (chemical, rust, sludge)
Contamination (from adjacent plant, processes, gas mains or surrounding land, soil or strata)
Oxygen Deficiency / Enrichment
Physical Dimensions (effects on air quality, ventilation, access egress)
Isolations to Prevent ingress of substances (liquids, gases, steam, water, raw materials)
Work to be undertaken (cleaning chemicals, sources of ignition)
External Events
Emergency Rescue arrangements
5. Wherever practicable, the need to enter confined spaces is to be avoided.
6. **ALL MANHOLES, VALVE CHAMBERS etc (see above)**, which are below ground, are classed as confined spaces and **ENTRY IS PROHIBITED**, unless a valid permit to work has been issued by the Sodexo Authorised Person Confined Spaces.
7. The Authorised Person Confined Spaces maintains a schedule of confined spaces and ensures that suitable warning signs are erected and entry points are secured.
8. Note that hazardous confined space conditions may be created by the work activity taking place, eg welding, use of solvents in a place, which might not otherwise be considered a confined space.

Permit to work procedures

Before entry

- a Obtain details of the confined space and potential hazards from the Authorised Person
- b Carry out a risk assessment and prepare a method statement for the proposed work task.
- c Ensure that operatives are trained and adequately briefed on entry procedures.
- d Obtain a permit to work from the AP, who will check and countersign the Method statement.
- e Obtain key if required from the AP office.
- f Brief operatives on the permit conditions.
- g Ensure all necessary equipment and rescue arrangements are in place.

After the work is complete

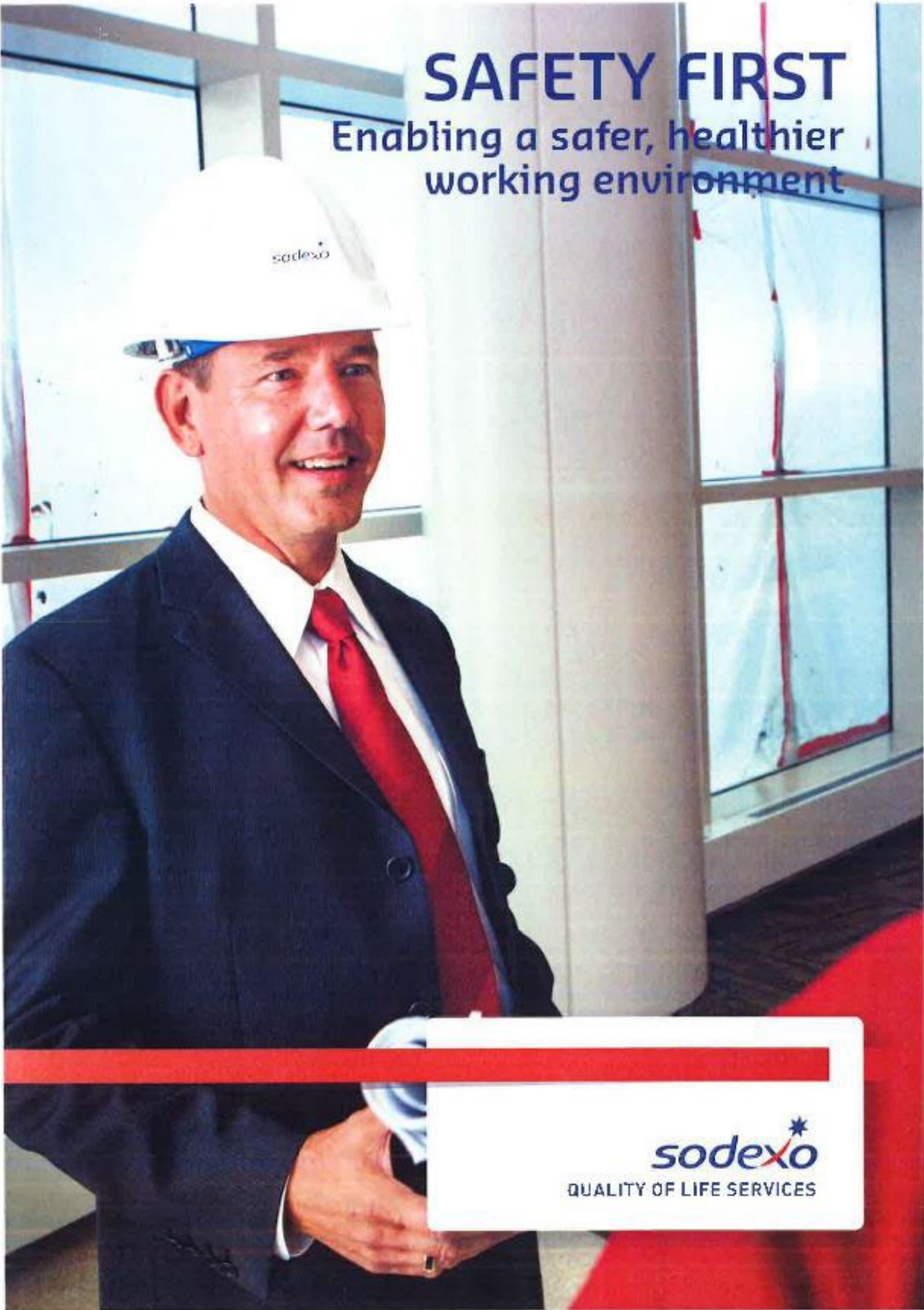
- h Make a note of any adverse conditions encountered or defects.
- i Close and lock the confined spaces.
- j Sign off and return the permit to the AP

Contact Dan Amies
Normal working hours 01432 364403
Emergency out of hours 01432 355444

Signed :

Date :

HCH Contractor Induction



SAFETY FIRST

Enabling a safer, healthier working environment

sodexo
QUALITY OF LIFE SERVICES

Contents

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1.0 FOREWORD

"The Health and Safety of our Staff, Customers and Contractors is of paramount importance to Sodexo. We sometimes fail to appreciate the consequences affecting ourselves and others as we go about our day to day work activities. Safety First aims to put Health & Safety and the Environment at the forefront of everything we do – enabling a healthier and safer working environment.

You must follow the Policies and Procedures laid down within these guidelines so that we can all work together to create and maintain a safe working environment."

Nick Thompson

Divisional Managing Director
Sodexo Technical Services



2.0 PLEASE READ CAREFULLY BEFORE COMMENCING WORK

Sodexo, who design, manage and deliver on-site service solutions and motivation solutions, is committed to achieving high standards of health and safety in its offices and operational environments, for all those within the organisation and for those affected by our work.

We will ensure that these objectives are met by using risk based business management systems for the effective planning, organisation and implementation of our arrangements for health and safety and environment.

3.0 ABOUT THESE GUIDELINES

This document is issued for guidance only and contains general safety rules. Other rules may be imposed for various specialised classes of work.

All individuals, contractors and sub-contractors will be expected to participate in Sodexo's induction to the site.

All individuals should be aware that whilst carrying out work on site you may be audited internally by the Sodexo QSE team or by external parties

4.0 SAFE SYSTEMS OF WORK/PERMIT TO WORK/ACCESS

Under most circumstances contractors will be expected to work to an agreed permit.

All works will be subject to a method statement and risk assessment. For general PPM tasks a generic risk assessment and method statement should be sufficient, however ad hoc works and/ or works which are not performed on site on a regular basis will be subject to a site specific risk assessment and method statement. (Sodexo retains the right to determine which of these are applicable).

A Safe System Of Work (SSOW) has been set up for work associated with our Directly Employed Labour (DEL) with regard to Electrical and Mechanical Services Maintenance activities. The appropriate staff have been trained and deemed competent by Sodexo Authorising Engineers (AEs) to carry out those activities they are designated. The SSOW also identifies activities they should not do and identifies where permits to work are required.

External Contractors will be expected to work within the parameters of the Sodexo SSOW as a minimum requirement and produce detailed Risk Assessments and Method Statements for review and approval by our Authorised Persons prior to any work proceeding.

There are two types of permit:

PERMIT TO WORK

- It gives permission to follow a safe system of work only after clearly defined precautions have been implemented. These will be specific to identified high risk activities

PERMIT TO ACCESS

- This gives permission to work within the areas controlled by Sodexo within the premises

All work undertaken by contractors and sub-contractors shall be with the full knowledge of the Sodexo Site Representative or nominated appointed person for that site.

YOU ARE RESPONSIBLE FOR

- Doing your job in such a way that does not put the health and safety of yourself, other employees or members of the public at risk
- Complying with all statutory requirements, codes of practice etc which apply to the work you are carrying out
- Ensuring that any appropriate training is carried out and understood before undertaking any work
- Ensuring you work to the Sodexo Safe System of Work (SSoW) and that all necessary risk assessments and method statements are in place, understood, worked to and that they have been approved by the Sodexo appointed person

YOU MUST

- Check in daily at the local reception, and be issued with your security pass which must be worn on display at all time.
- Report all incidents immediately to your immediate supervisor and the Sodexo site representative or designated point of contact
- Ensure that you wear any required Personal Protective Equipment (PPE) Please be aware that on some sites the mandatory wearing of safety boots is required. You should be informed of this prior to undertaking any works
- Maintain a high standard of housekeeping at all times
- Keep noise levels to as low as possible

OBEDI ALL SAFETY SIGNS ON SITE



Blue signs
Mandatory
You must do it



Red signs
Prohibitive
You must not do it



Yellow signs
Advisory/caution

YOU MUST NOT

- Smoke on site
- Be on site under the influence of drugs or alcohol
- Participate in unruly behaviour
- Obstruct exits, escape routes, roadways, ladders or stairs
- Bring chemicals onto site without prior approval and associated COSHH (Control of Substances Hazardous to Health) documentation
- Remove any company property from site without the appropriate written authorisation
- Park vehicles in such a position that may restrict access or egress.
- Discard any waste material on site without prior approval of the Sodexo site representative
- Disturb other occupiers of the site when undertaking your works

5.0 EMERGENCY PROCEDURES

FIRE

Fire alarm testing

The fire alarm is tested weekly. Personnel need not evacuate unless the alarm sounds continuously. You should be aware of when the weekly fire alarm testing takes place.

If the alarm sounds at any other time during the week, you must evacuate immediately.

Alarms

On hearing a continuous alarm, all personnel should evacuate immediately.

On discovering of a fire /or if a fire is reported to you:

- Shout 'FIRE, FIRE, FIRE'; to raise the alarm locally
- Raise the central alarm by breaking the glass on the nearest manual call point
- **NEVER PUT YOURSELF OR OTHERS AT RISK**
- Proceed to the nearest Fire exit and in a calm brisk manner leave the building and go to the designated evacuation assembly point

Assembly points

- Please use the fire exits and assemble in the designated areas
- Visitors, clients and contractors should be escorted to the same assembly area as their host

Evacuation procedure

- On hearing the fire evacuation alarm, leave the building by the nearest safe exit and proceed to the designated evacuation assembly point. Do not stop to collect personal belongings and do not use the lifts
- Follow instructions of the fire wardens or the designated person when leaving the building
- Remain at the evacuation assembly point and await instructions
- Do not re-enter the building for any reason until told to do so by the fire brigade, fire warden or designated person

Fire prevention

- This property is designated as 'non smoking'. Any contractor who does not comply with this site rule, will not be permitted to work on site
- Any waste generated by the contract work on site must be removed by the contractor unless prior approval to use the site disposal facilities has been given by the site's local Sodexo site representative or nominated appointed person
- Chemicals, solvents or paints must not be discarded to sewer or storm drains and must be disposed of in line with health and safety and environmental legislation
- All solvents and flammable liquids should be stored in closed containers and labelled and preferably stored within a bund or on a drip tray
- Solvents and flammable liquids can be a major fuel for fire. Use as little of such substances as is necessary to do the job and never use in areas where there is the potential for a fire to start. Solvents must not be used where there is a risk of sparks, flames or excessive heat
- A hot works permit will be required when working with naked flames, blow torches, hot tar and bitumen, using a grinder etc. This list is not exhaustive

Spillage

All spillages of chemicals or other hazardous substances must be reported immediately to the Sodexo site representative.

COSHH assessments and safety data sheets (SDS) must be provided prior to the commencement of any work.

6.0 FIRST AID

The following is a summary of procedures to follow should you require first aid assistance.

ACTION IN THE EVENT OF INJURY OR ILLNESS

- Summon assistance from the nearest first aider
- If AN AMBULANCE IS REQUIRED DIAL: (9) 999
- When the Ambulance Control Centre replies – give the following message:
AMBULANCE REQUIRED AT (see identity badge for site details)
- **GIVE DETAILS OF THE CASUALTY, THE EMERGENCY AND THE ACTION TAKEN**
- Remain with the Casualty and reassure them that assistance is coming. Do not give them any food or drink and do not attempt to move them if there is the risk of causing further injury when attempting to do so

REPORT ALL ACCIDENTS, INCIDENTS, NEAR MISSES AND ILL HEALTH TO YOUR SUPERVISOR / SITE REPRESENTATIVE. ALL ACCIDENTS MUST BE RECORDED IN THE SODEXO SITE ACCIDENT BOOK OR VIA LOCAL REPORTING SYSTEMS.

7.0 SUBSTANCES HAZARDOUS TO HEALTH

Wherever possible Sodexo avoids the use of substances that are hazardous to health, and actively seeks the least hazardous material for any particular application.

YOU MUST

- NOT bring hazardous substances onto site without prior permission
- Use hazardous substances without risk to yourself or others
- Be provided with any necessary information and training required for working with hazardous substances
- Read the label or information provided and take the precautions necessary
- Contractors must provide safety data sheets and COSHH assessments prior to using hazardous substances on site
- Site staff must be familiar with the COSHH assessments for hazardous substances that they are required to use
- If on site for more than one day chemicals must be stored in a suitable locked container
- Ensure that any hazardous substances stored or transported in company vehicles conforms to the safe transportation and storage requirements necessary to comply with legislation complete with vehicle signage

8.0 ASBESTOS

PLEASE NOTE A COPY OF THE ASBESTOS REGISTER IS AVAILABLE FROM THE SODEXO SITE REPRESENTATIVE AND MUST BE REVIEWED PRIOR TO WORKS COMMENCEMENT.

Some sites may require that the asbestos register is signed 'as seen'. For sites that have asbestos on their premises, all staff and contractors must be aware of the location and condition prior to any works being undertaken. Any material that is suspected to be asbestos and which has not been identified within the asbestos register **MUST** be immediately reported to the Sodexo site representative.

Works must not commence until the material has been inspected by an approved asbestos surveyor. Any asbestos containing materials (ACMs) that are noted to be damaged must be **IMMEDIATELY** reported to the Sodexo site representative and works must not continue. The area should be immediately vacated and access prevented by others until the ACMs are repaired or removed by an approved asbestos contractor.

9.0 WORK EQUIPMENT, PLANT AND TOOL HAZARDS

- Contractors are permitted to use only their own tools/equipment which may be inspected by Sodexo at any time
- Ensure that all plant, tools and equipment are in a safe condition to be used
- Ensure that all equipment complies with statutory requirements
- Ensure that all equipment is used for the intended purpose for which it was manufactured
- Ensure information is provided where necessary
- Co-operate with any rules and requirements placed on use of equipment by the law and your employer
- The use of battery or 110v tools only is permitted
- Ensure all power tools have a current PAT test tag that is in date
- Ensure all measuring and test equipment has a current calibration certificate
- Ensure all work equipment is of low vibration risk

10.0 MANUAL HANDLING HAZARDS

Manual Handling Regulations (1992) require that an assessment be made of all tasks in connection with possible dangers of injury to back, arms, hands, legs, feet etc. Correct manual handling should be an essential part of all tasks

SAFE LIFTING

- Choose a clear route and remove any obstacles
- Assess the load for weight, size, sharp edges, poor packaging, unstable or hazardous contents etc
- Seek help if the load is too heavy. Arrange for use of a trolley or hoist if necessary
- Break the load into smaller, lighter loads if practical
- Keep your back straight when lifting, carrying, lowering
- Keep the load close to your body
- Make sure you can see ahead and be aware of any steps, slopes or inclines along your route
- Do not twist your body
- Watch for trapped fingers when lowering loads
- Lower by bending your knees and not your back
- Be aware of your own capabilities and seek assistance if required
- Never put yourself or others at risk when attempting to manually handle a load

11.0 WORKING AT HEIGHT

The Work at Height Regulations 2005 (please note that this activity requires a Risk Assessment and may require a Permit to Work).

Every existing place of work or means of access or egress at height shall:

- Be stable and of sufficient strength and rigidity for its intended purpose.
- Where applicable, rest on a stable and sufficiently strong surface
- Be of sufficient dimensions to permit safe passage of persons and safe use of plant or material and to provide a safe working area for the intended scope of work
- Be provided with suitable and sufficient means for preventing a fall
- Possess a surface which has no gap through which persons or material could fall
- Be constructed, used and maintained in a reasonable condition.
- Remove the risk of slips / trips
- Prevent entrapment between it and adjacent structure
- Not be overloaded with equipment or materials
- Be aware of fragile surfaces and ensure that you do not work on or near such surfaces

12.0 USE OF LADDERS

- All ladders should be supplied by the contractor for use on the site.
- Ladders are for access only and not for working from for long periods. They should only be used for a minor operation that can be done safely (such as changing a light bulb)
- All ladders must be inspected regularly and have a current inspection label
- They must be positioned in a location where they will not be struck by vehicles or pedestrians and the area should be protected by suitable barriers or cones
- They must not be used where they are at risk of being pushed over or damaged
- Ladders located by windows capable of opening, doors, fire exits or emergency evacuation routes must have a person standing guard
- Pedestrians must be segregated from work areas where ladders are present
- Ladders must be erected and placed at 75 degree angle - to judge the angle use the angle indicator marked on the stiles of some ladders or the 1 in 4 rule (1 unit out for every 4 units up)
- All locking devices must also be engaged

LADDERS SHOULD ONLY BE USED IF A RISK ASSESSMENT HAS DEMONSTRATED THAT THE USE OF MORE SUITABLE EQUIPMENT IS NOT JUSTIFIED BECAUSE OF LOW RISK, AND:

- a) THE WORK WILL BE OF SHORT DURATION - TYPICALLY LESS THAN 20 MINUTES OF USE;
- b) THE SITE OR WORK AREA HAS EXISTING FEATURES WHICH CANNOT BE ALTERED

13.0 OVERHEAD WORKING

YOU MUST

- Ensure the safety of any persons involved in overhead working
- Designate a hard hat area even if persons are not at risk from falling objects
- Display warning signs around the designated area
- Cordon off any area where persons may be at risk from overhead working
- Ensure that your employer is satisfied that all necessary precautions have been taken before you commence work
- Be aware of overhead power lines

14.0 SCAFFOLDING HAZARDS

- All scaffolding on Sodexo sites must be of sound construction, properly inspected and maintained
- Scaffolding must only be erected by competent scaffolders
- All scaffolds must be inspected before use and thereafter at a frequency no greater than seven days. Scaffolds must also be inspected after poor weather conditions if located outside and after any potential damage or collision
- All completed scaffolds must display a green SCAFFTAG and should be dated and signed
- Where handrails or complete floors cannot be installed in scaffolds higher than 1.3 metres, safety harnesses must be worn
- Only competent scaffolder's are permitted to alter or disassemble a scaffold

15.0. CONFINED SPACES

- Contractors must be aware of the Site Confined Spaces Register
- A Confined Spaces Permit must be obtained from Sodexo appointed person
- Ensure only those trained and deemed competent are permitted to access and work in confined spaces with the valid confined spaces permit and with all risk assessments and method statements approved
- All persons working in confined spaces must be made aware of the potential hazards and of the correct control measures required. You must be aware of the potential risks from confined spaces such as drowning and suffocation from hazards such as presence of gas, hazardous vapours or fumes from sludge, dusts generated as a result of the work activity and excessive heat conditions etc

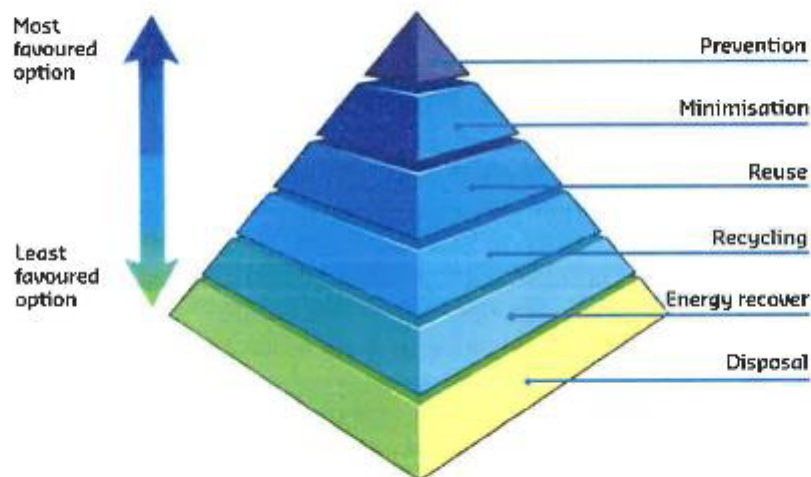
16.0 ENVIRONMENTAL AWARENESS ON SITE

- All individuals, working for or on behalf of Sodexo, must ensure that all activities are carried out in accordance with all applicable environmental legislation
- Sodexo take environmental management seriously and are currently operating a management system that is compliant with the international standard ISO14001
- All individuals must take all reasonable steps to minimise environmental risk associated with the activities they undertake

16.1 WASTE MANAGEMENT

- All Sodexo employees and contractors have a legal responsibility to ensure that all waste produced on site is stored, transported, and disposed of without harming the environment. This is called your 'Duty of Care'.
- All waste must be stored safely and securely, you must:
 - Keep all waste materials in suitable containers, which are kept in good condition.
 - Separate hazardous waste from other types of waste and keep different types of hazardous waste separately.
 - Ensure waste cannot blow away, such as covering skips or other similar containers.
 - Prevent liquid wastes and pollutants from escaping into drains, watercourses or surrounding ground.
 - Ensure storage facilities are secure against vandalism, theft and damage.
- All waste must be transported and handled by people or businesses that are authorised to do so;
 - Anyone collecting and transporting waste must be a registered carrier of controlled waste, i.e. Waste Carrier Licence.
 - Ensure that the waste is being transported to an authorised site that holds either an Environmental Permit or Exemption.
- All transferred waste must be accompanied by either a waste transfer note (non-hazardous waste) or hazardous waste consignment notes (hazardous waste) to describe the waste.
 - Waste transfer notes must be held for a minimum of two years.
 - Hazardous waste consignment notes must be held for a minimum of three years.

- All waste must be managed in the most environmentally sound manner, following the waste management hierarchy:
 - **Avoid generating the waste** by ordering exact volumes and amounts of materials;
 - **Re-use materials** where possible by reusing off-cuts and wastes on other projects and jobs on site;
 - **Recycle wastes** by providing them to recycling contractors or others who can use the waste;
 - **Energy recovery** provide wastes to facilities to burn for energy generation; and disposal as a final option.



- Contractors that generate waste on site are responsible for making arrangements to remove this from site. Under no circumstances should site waste containers be used, unless you have specific permission from the site team.
- Contractors should ensure that when hazardous waste is removed from site (for example, fluorescent light tubes, refrigerants, chemicals, paint tins etc) that a hazardous waste consignment note is completed and a copy left with the Site Team.
- Under no circumstances should hazardous waste be left on site without prior permission of the site team.

16.2 AIR EMISSIONS

- To minimise emissions to the atmosphere from site vehicles, plant machinery and other combustion equipment and engines, all Sodexo employees and Contractors must:
- Ensure all plant is serviced regularly;
- Use the appropriate fuels/mixes; and
- Switch off plant when it's not required.

16.3 WATER MANAGEMENT

- No liquid effluent of any nature is to be discharged into any drain or surface water outlet without the prior permission of the Site Manager / Supervisor.
- All individuals should be aware that site drains have been identified as red (foul water) and blue (surface water) across the site.

16.4 HAZARDOUS SUBSTANCES

- Hazardous substances, either brought to site for use, generated as a result of carrying out work or a waste that has to be removed from site, should not be stored in areas where they could reasonably be expected to be lost (either through storage or a spill).
- Hazardous substances should not be stored on soils or gravels, near surface water drains or gullies.
- If decanting of hazardous substances is required, it should only be carried out in accordance with a safe system of work, in an area where a spill can be contained and controlled and where appropriate spill equipment is available.
- You should know at all times where to access the relevant Safety Data Sheets (SDS) and COSHH assessment for hazardous substances.

16.5 ENVIRONMENTAL INCIDENTS

- All Sodexo employees and Contractors must be aware of the site Emergency Preparedness and Response Plan. If you have not received or seen a copy for this site, please contact the Site Manager or Representative.
- In the event that you become aware of an environmental incident, such as an oil or chemical spillage, you must inform the site manager / supervisor immediately. This is regardless of whether you have been involved in the incident or have observed others causing the incident.
- When faced with an environmental incident, and only if safe to do so, attempt to contain the incident by using a suitable spill kit and absorbent materials.
- Only if practical and safe to do so, isolate and stop the cause of the spillage, i.e. turning containers upright / ceasing operation of equipment.
- All environmental incidents must be reported to the Site Manager, Contracts Manager and Head of QSE.

REMEMBER...

- To observe the rules
- To be fully aware of all procedures before you commence works
- Always follow safety procedures and safe systems of work
- Report all incidents, near misses and accidents
- Behave safely – if in doubt, always ask!

ACKNOWLEDGEMENT

I have read and fully understand the contents of this document

I will ensure that I work in a safe manner at all times, bringing to the attention of my supervisor and Sodexo, any concerns relating to health and safety that I or others may be exposed to.

Employee name:

Employee signature:

Company:

Date:

Sodexo

Phoenix House
Oak Tree Lane
Mansfield
Nottinghamshire
NG18 4LF

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2221

LOP 002 Estates Management

Hereford County Hospital Visitor/Contractor Induction Sheet

Please read and understand the following site requirements.

- All visitors must sign in at Sodexo Managing Contractor (MC) Reception Desk and wear the issued visitors identification badge at all times. Visitors must sign out, return badges and leave copies of Service Reports where applicable.
- The normal office hours are 08:30 to 17:00 Monday to Friday.
- Visitors Parking is by pay and display only (contractors by prior agreement).
- Public toilets are situated at the Main Entrance, ground floor and on the first floor opposite Spireas Restaurant.
- Visitors should be aware that on hearing a continuous tone from the fire alarm sounders they should evacuate the area using the signed exit routes. Intermittent tones indicate adjacent areas are in alarm mode and visitors should prepare to evacuate if advised or should the tone change to continuous.
- Mobile phones must be switched off in all patient areas and only used external to the building.
- Patient confidentiality is imperative within the hospital and must be observed.
- This site is designated a 'No Smoking' area.
- Permits must be obtained from Sodexo prior to commencement of any work in or on confined spaces, hot work, electrical shutdowns, isolation of fire alarms, pressure vessels, medical gases and all others that apply. Method statements will be required before permits will be issued.
- Visitors/Contractors should be aware that ACM's are present on parts of this site. Plans showing those areas are located in the ACM Register.
- All Contractors must provide and wear PPE as required for the work they carry out.
- Contractors are responsible for the removal of all waste generated by them in carrying out their work activities.
- The playing of radios is prohibited.
- All hazardous spillages must be reported to the Sodexo Managing Contractor (MC) Reception Desk.
- All deliveries of goods to carry out site works will be the responsibility of the Contractor.
- All accidents and near misses must be reported to the Sodexo Managing Contractor (MC) Reception Desk.
- All equipment brought to site must have the relevant test documentation.
- Please note Sodexo Environmental Policy on reverse of this document.
- I confirm I have read and understand the above:

Company:

Visitors Name (Block Capitals):

Visitors Signature:

Date:

SODEXO UK & IRELAND HEALTH, SAFETY, ENVIRONMENTAL & QUALITY POLICY STATEMENT



Sodexo UK & Ireland recognises health, safety, environmental & quality management (HSEQ) as integral to the successful delivery of quality of life services through strong stakeholder relationships. Through this recognition the Company is committed to ensure that:

- The health, safety and welfare of all employees are safeguarded while they are at work and all risks are minimised as far as is reasonably practicable.
- Employees are consulted on matters relating to HSEQ and employees, contractors, clients, members of the public and the environment are protected from health and safety risks.
- No work is carried out by the Company or its contractors that might expose employees, clients or members of the public to health hazards without sufficient risk assessment and control measures.
- We will work towards reducing carbon emissions from our sites and travel, reduce our waste and increase recycling, reduce water consumption and our impact on the surrounding environment.
- Awareness is raised on the environmental agenda across the Company through training, performance information and publication of this policy statement.
- We extend our commitments to relevant third parties for example our clients, suppliers and sub-contractors by engaging in discussions with them about our commitments and how they can be a part in achieving them.
- We continually review and improve the mechanisms by which resources and services are procured to ensure environmental management practices are taken into consideration and encourage suppliers and contractors to improve their own environmental performance.

The Company's objectives are to:

- Pursue high standards of HSEQ management ensuring compliance with Sodexo's global health safety and environmental standards, BS OHSAS 18001:2007, BS EN ISO 14001:2015, BS EN ISO 9001:2015 and current legislative, contractual requirements and industry standards where appropriate.
- Provide a safe means of access to and from facilities where Sodexo is responsible, with safe working environment operations to prevent injury and ill health for all employees.
- Ensure chemical substances and preparations are managed to minimise risk to health, safety and the environment.
- Provide comprehensive information, training and supervision to ensure employees are competent to carry out tasks which might present risk to health and safety, or the environment.
- Establish performance metrics and workplace monitoring through regular inspections, audit and customer feedback.
- Ensure that the health, safety and welfare of employees and the company's impact on the environment is monitored and continuously improved.

The success of this policy is dependent on the cooperation of all employees who work for Sodexo. All employees have a legal duty to:

- Take reasonable precautions in safeguarding all aspects of health and safety and the environment in which we work by observing all health, safety and environmental processes and procedures.
- Alert management to any potential hazards and report all damages, accidents, incidents and near misses.

This policy will be monitored to ensure it is effective and will be regularly reviewed and revised as necessary to continually improve the effectiveness and efficiency of business processes

Sean Haley

Regional Chairman, Sodexo UK & Ireland

September 2017

HSEQ/PO_S_V2

Infection Prevention Guidelines for Contractors working within Wye Valley NHS Trust

The Trust considers the prevention of infection to be a core priority and as such all staff and visitors to the organisation have an individual responsibility to adhere to practices which ensures the prevention and control of infection to all individuals within the organisation

Key points:

- Contractors must ensure their appearance and behaviours are in accordance with the high quality standard and expectations of the Trust.
- On arrival at the healthcare setting the contractors must check with the nurse in charge if there any particular Infection Prevention issues within the ward that day.
- If a ward has a closed sign on the door please contact the Infection Prevention Team on ext: 5133 for advice

Personal appearance and behaviour:

- Contractors must maintain a good standard of Infection Prevention and Control practice whilst on site including appropriate and effective Hand Hygiene whilst moving around the site.
- Contractors must be vigilant to their behaviours and attire worn when within a clinical area.
- Contractors must wear fresh clean clothes daily & their boots must also be clean on arrival to site whilst work is carried out.
- High visibility vests and hard hats must only be worn when undertaking the works required. High visibility jackets and hard hats must not be worn when travelling to and from the works.

Hand hygiene:

- Thorough hand hygiene / washing with soap and water is the best way of preventing the spread of infection.
- Hands **must** be washed and dried thoroughly:
 - ✓ Before starting any work and also at the end of the working day
 - ✓ Before and after using the toilet / eating / drinking
 - ✓ When moving between rooms – even if they do not look or feel dirty.
- Liquid soap from wall mounted containers is the best product for routine hand washing of visibly dirty hands.
 - ✓ First wet the hands,
 - ✓ Apply soap and rub in well, covering all surfaces of the hands to create a lather Rinse well.
- Contractors must use the alcohol gel at the entrance and exit of all clinical areas prior to entering and on exiting. Alcohol hand gel can only be used on visibly clean hands. Any soiling must be removed first with hand washing. Alcohol hand gel must be applied to all surfaces of the hands, rubbed well in to the skin and then allowed to dry naturally for it to be effective.
- Hands must be dried thoroughly, using disposable paper towels from a wall mounted container.
- Any cuts or lesions must be covered with a waterproof dressing

Tools & materials:

- Tools and equipment must be completely covered on a trolley whilst transporting onto and off site for the duration of work being carried out on site.

- Tools and equipment must not be placed directly onto the floor or rested on waste bins. Plastic sheeting must be placed under any tools/ tool boxes before being placed on the floor.

General working practice:

- Contractors must have read and understood their written method statement & risk assessment which details the procedures and any mitigation required to address dust products, cleanliness issues and any other infection prevention issues identified.
- If contractors are required to enter patient isolation rooms (marked with a **blue** or **white** door card) they will need to liaise with the person in charge of the clinical area. Contractors may be asked to wear gloves and aprons as directed. Masks may also need to be worn. If necessary, healthcare staff will be able to demonstrate the appropriate technique required to apply a mask.
 - ✓ Gloves, aprons and masks are available outside each isolation room.
 - ✓ These items **must** be donned prior to entering the room..
 - ✓ These items **must** be removed prior to exiting the room and the contractor **must** wash his/her hands before leaving the room.
 - ✓ After exiting the room alcohol hand gel must be applied.

Cleaning:

- The cleaning requirements of the planned works must be clearly outlined in the contractor's method statements. These must detail the frequency of cleaning, method of cleaning and also the products used.
- The cleaning method and frequency must ensure dust dissemination and presence is minimized
- Suggested cleaning products include- Detergent wipes, Hepa filter hoover and a clean dust pan and brush
- Contractors must dispose of any waste produced in the appropriate Trust waste bins.
- Contractors are expected to clear up any debris created by the work carried out using Trust approved products. Following completion of the works, the contractor must ask the healthcare staff to request a Sodexo clinical clean for the work area.
- If contractors come across any spillages of blood, urine, faeces they must inform healthcare staff so they can be cleaned up appropriately.

Personal health:

- No contractor must work within a healthcare setting if they have suffered with diarrhoea and/ or vomiting within the previous 48 hours, or if they are feeling generally unwell. This also includes eye infections such as conjunctivitis or skin infections such as impetigo.
- Contractors must report immediately any injuries sustained whilst on site, especially any injury sustained from a 'sharps instrument'. Contractors must inform the person in charge of the injury. This incident will be entered into the ward/ department incident book. The contractor may also need to attend A&E / occupational health dependent on the injury sustained
- Medical advice about specific precautions should be taken from Occupational Health or their own GP if the contractor has or has had an infectious condition; such as Hepatitis or TB or if they have an underlying condition which may make them more susceptible to infection e.g. on steroids or if they are on antibiotics.

SIGNATURE:		DATE:	
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If you require any further advice or have any concerns related to Infection Prevention please contact the Team on 01432 355444 Ext: 5133 or 07970693456.

SAFE WORKING IN CONFINED SPACES – General Instructions

Site Hereford County Hospital

General

1. Confined Space working will comply with the Confined Spaces Regulations 1997 and Sodexo procedures.
2. A Confined Space is:
'A Confined Space means any place including any chamber, tank, vat, silo, pit, trench, pipe, sewer, flue, well or other similar space in which there arises a reasonably foreseeable specified risk.'
3. Examples of Confined Spaces are:
Easily identified - Closed tanks, Vessels, Sewers, Manholes, Septic Tanks, Ducts, Culverts, Pumping Chambers, Fuel Tanks, Incinerator
Not so easily identifiable - Opened Topped Tanks, Excavations, Vats, Roof spaces, Structures that become Confined Spaces during their construction, Rooms during spray painting.
4. Confined Spaces foreseeable specific risk:
 - Serious injury from fire or explosion
 - Loss of consciousness arising from an increase in body temperature
 - Loss of consciousness or asphyxiation arising from gas, fume, vapour or the lack of oxygen
 - Drowning from an increase level of liquid
 - Asphyxiation from a free flowing solid or the inability to reach a respirable environment due to entrapment from a free flowing solid
4. Confined Spaces hazards:
Access / Egress,
Communication Methods
Previous Contents (toxic, flammable or inert gases)
Residue (chemical, rust, sludge)
Contamination (from adjacent plant, processes, gas mains or surrounding land, soil or strata)
Oxygen Deficiency / Enrichment
Physical Dimensions (effects on air quality, ventilation, access egress)
Isolations to Prevent ingress of substances (liquids, gases, steam, water, raw materials)
Work to be undertaken (cleaning chemicals, sources of ignition)
External Events
Emergency Rescue arrangements
5. Wherever practicable, the need to enter confined spaces is to be avoided.
6. **ALL MANHOLES, VALVE CHAMBERS etc (see above)**, which are below ground, are classed as confined spaces and **ENTRY IS PROHIBITED**, unless a valid permit to work has been issued by the Sodexo Authorised Person Confined Spaces.
7. The Authorised Person Confined Spaces maintains a schedule of confined spaces and ensures that suitable warning signs are erected and entry points are secured.
8. Note that hazardous confined space conditions may be created by the work activity taking place, eg welding, use of solvents in a place, which might not otherwise be considered a confined space.

Permit to work procedures	
<u>Before entry</u>	
a	Obtain details of the confined space and potential hazards from the Authorised Person
b	Carry out a risk assessment and prepare a method statement for the proposed work task.
c	Ensure that operatives are trained and adequately briefed on entry procedures.
d	Obtain a permit to work from the AP, who will check and countersign the Method statement.
e	Obtain key if required from the AP office.
f	Brief operatives on the permit conditions.
g	Ensure all necessary equipment and rescue arrangements are in place.
<u>After the work is complete</u>	
h	Make a note of any adverse conditions encountered or defects.
i	Close and lock the confined spaces.
j	Sign off and return the permit to the AP
Contact	
Normal working hours	01432 364403
Emergency out of hours	01432 355444
Signed :	
Date :	

LOP 002 Estates Management Contractor Induction Sheet

LOP 002 Estates Management

Hereford County Hospital Visitor/Contractor Induction Sheet

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■ I confirm I have read and understand the above:

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Visitors Signature:

Date:

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Sean Haley

Regional Chairman, Sodexo UK & Ireland

September 2017

HSEQ/PO S_V2

Contractors Guidelines Infection Prevention WVT 2012 12

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- Medical advice about specific precautions should be taken from Occupational Health or their own GP if the contractor has or has had an infectious condition: such as Hepatitis or TB or if they have an underlying condition which may make them more susceptible to infection e.g. on steroids or if they are on antibiotics.

SIGNATURE:	DATE:	
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If you require any further advice or have any concerns related to Infection Prevention please contact the Team on 01432 355444 Ext: 5133 or 07970693456.

SCHEDULE 14

FINANCING

NOT USED

SCHEDULE 15

APPENDICES

Appendix 1: Investment Grade Proposal

Appendix 2: Addendum (Phase 1 works only)