M3NHF Schedule of Rates

VERSION 8

Net Zero Carbon Works

Specification



Your challenges expertly solved in partnership

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SPECIFICATION OF WORKMANSHIP AND MATERIALS

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CONTENTS

GENERAL 3
MAINTENANCE TO MICRO-GENERATION APPLIANCES 9
MICRO-GENERATION HEATING 17
MODEL ANNUAL SERVICE REPAIRS AND MAINTENANCE SPECIFICATIONS 25
SOLAR THERMAL INSTALLATIONS 26
AIR SOURCE HEAT PUMPS 29
GROUND SOURCE HEAT PUMPS 32
ELECTRIC SPACE HEATING AND HOT WATER INSTALLATIONS 35

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GENERAL

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GENERAL

Applicability

001 This initial general section applies to all subsequent sections of this Specification of Workmanship and Materials **("this Specification")**.

002 This Specification is drafted as a series of instructions that the Provider must ensure are complied with in relation to the Works. Each instruction includes all tasks necessary to comply fully with the instruction and the Schedule of Rates item(s) to which it relates.

003 The Schedule of Rates payments, as adjusted by the Provider's tendered Rates, include for carrying out all tasks required by this Specification including detailed requirements as may be described or delineated on the Client's standard detail drawings as may be appended to this Specification. No further payment is due to the Provider in respect of any such tasks beyond the payments provided for in the Schedule of Rates.

004 Specifications across several trades may be relevant to each Schedule of Rates item. The Provider must comply with all requirements of this Specification applicable to the specific type of Works to be undertaken.

005 References to Paragraphs and Sections in this Specification are to the applicable Paragraph and Section of this Specification. If any contradiction appears within the Specification sections, Schedules of Rates, the Client's Policy documents etc., the most rigorous standard takes precedent.

Standards of workmanship and Materials

006 Carry out and complete all Works as required by this Contract including:
in accordance with Law including Health and Safety Law;
in accordance with Good Industry Practice;
in accordance with the Client's Policies;
in accordance with the Client's standard drawings and details;
in accordance with any specific requirements for those Works in this Specification; and
to the satisfaction of the Client's Representative (acting reasonably).

007 To the extent that the standard of any Works has not been specified in this Contract, agree the relevant standard for the Works with the Client's Representative before their execution. Where particular Works or working methods are to be "approved by" "agreed with" or are indicated to be "subject to the approval of" the Client's Representative, give the Client's Representative adequate notice when such approval or agreement is needed and retain evidence of all approvals given, and items that have been agreed, by the Client's Representative.

008 To the extent that it is necessary to Design any aspects of the Works, in preparing those Designs the Provider hereby warrants that the services have been and will be performed with such skill, care, diligence and expedition as would be reasonably expected of a prudent experienced contractor with Design obligations having experience in carrying out projects similar in size, scope, nature, complexity and value to the services.

009 Maintain all existing lines and levels at all times and carry through new Work to the same lines and levels unless otherwise Instructed by the Client's Representative.

British Standards & Codes of Practice

010 Ensure all Works undertaken and all Materials used in those Works comply with all applicable Standards and Codes of Practice that are current at the time of their use.

011 References in this Specification of Workmanship and Materials to any materials, components, procedures, testing, inspection, certification or workmanship being in accordance with British Standards or any other referenced Standards and Codes of Practice are to be construed as references to the version current at the time the Order is undertaken.

012 Any reference to any material, component or procedure being in accordance with the British Standards or a Code of Practice is the minimum acceptable standard of Materials or workmanship.

013 Any requirement in this Specification of Workmanship and Materials to use Material or an article or follow a

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process which is defined by reference to a specified Quality Assurance Scheme, British Board of Agrément Certificate, Standard or other approval, may be met by a Material, article or process (as applicable) which has received an equivalent international standard recognised but not yet adopted in the UK.

014 A Provider offering a product or following a process on the basis of compliance with any such approval shall notify the Client's Representative of all such substitutions in advance of placing any order and will be required to provide, in English, technical or other details of the approval and its qualifying tests.

Materials

015 The Client wishes to standardise the use of Materials across its Properties. This is in order to simplify parts requirements and van stock loads, to improve its repairs processes and to reduce maintenance costs. Wherever possible, match all Materials used to materials currently used in the Properties, particularly in terms of their parts requirements and repair procedures. In this Specification the Client has set out details of its current Materials to which the Provider is required to standardise.

016 Where this Specification indicates that Materials are to be "approved by the Client's Representative", provide samples of the proposed Materials to the Client's Representative for approval. Any Materials that comply with the functionality and compatibility (including aesthetic compatibility) requirements of this Specification may be proposed. No further approval is required for any Materials listed in this Specification as being the Client's currently used Materials. The purpose of the Client's Representative's decision on the use and approval of such Materials is to ensure that they meet the Client's requirements for functionality and compatibility. The decision of the Client's Representative on this is final. No future precedence will be set by individual Client's Representatives, with exception to those authorised to do so by the Client. A 'common sense' and 'best practice' approach it is the recommended method of approval.

017 Where this Specification requires Materials to be matched to existing Materials or finishes, this match is subject to the approval of the Client's Representative.

018 Do not use any Prohibited Materials in carrying out the Works. Prohibited Materials are those materials which are generally accepted or (having regard to Good Industry Practice) are reasonably suspected of:

being harmful in themselves;
being harmful when used in a particular situation or in combination with other Materials;
becoming harmful with the passage of time; or
being damaged by or causing damage to the structure in which they are to be affixed.

Prohibited Materials also include those materials which are generally considered to be deleterious within the building design professions in the UK.

019 Materials are to be regarded as harmful if, in the context of their use in the Works (whether alone or in combination with other materials) they:

are prejudicial to health and safety;
may pose a threat to the structural stability or the physical integrity of any Property; or
could materially reduce the normal life expectancy of any part of the Property.

020 Sustainable Timber: All timber and wood derived products referred to throughout this document and which are supplied to the Client, or used Works, must be procured in accordance with all applicable Law.

021 CE/UKCA Marked Products: All products referred to throughout this document and supplied to the Client, or used in the Works, must be supplied with a Declaration of Performance (DoP) and carry the appropriate CE/UKCA conformity assessment marking.

Performance Standards on the CE/UKCA mark must comply with relevant Building Regulations as required.

The CE/UKCA mark must be fixed visibly, legibly and indelibly either to the product or to a label attached to the product. If this is not possible or not warranted, then it must be fixed to the packaging or within the accompanying documentation.

The DoP must be made available by the manufacture (this may be via a website).

022 Use, fix and apply all Materials strictly in accordance with the manufacturer's recommendations, directions or technical data sheets.

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023 Participate in joint initiatives with the Client and other contractors to establish supply chain agreements.

024 Where appropriate suggest (economically viable) amendments to this Specification where those amendments may lead to an improvement in environmental performance or sustainability.

025 Provide all information the Client's Representative reasonably requests regarding the environmental impact of the supply and use of any Materials the Provider selects for use in the Works.

~~026 **[optional clause]** This Specification incorporates the Client's Codes of Practice in respect of the following:~~

- ~~**[insert details]**~~

~~**In the event of any conflict or disparity between the requirements and obligations contained in the Codes of Practice and this Specification, the Codes of Practice will have precedence.**~~

~~027 Client's Standard Details as may be appended to this Specification are to be referred to by the Provider to amplify both this Specification and the descriptions in the Schedule of Rates. The Schedule of Rates descriptions are deemed to be fully inclusive of any requirements delineated, described or illustrated in such Client's Standard Details. It should be noted that the Client's Standard Details may contain a referencing system that relates to an alternative Client's Specification, which does not form part of this Contract, and where this type of referencing occurs it should be considered as a reference to a comparable item of equal quality and performance within this Specification and Schedule of Rates.~~

~~028 **[optional clause]** If the Provider considers that decanting elderly, vulnerable, people with disabilities and other occupiers and carers from a Property whilst intrusive Works or disruption to washing and sanitary facilities are required to be undertaken, the Provider may be required to provide (at no extra cost) the following facilities:~~

~~**Decant Mobile – Daytime Decant**~~

~~Temporary Accommodation shall conform to all applicable Standards.~~

~~If it is agreed, prior to a scheme start, that daytime facilities are required this may either be a touring caravan used outside homes between 9am and 5pm and then removed, or a mobile unit located in a fixed position supplied with at least the following:~~

- ~~External door;~~
- ~~Bedroom;~~
- ~~A toilet compartment with wc suite, wash handbasin and shower unit;~~
- ~~A flued gas fire/electric heater (note: gas is the preferred option);~~
- ~~A flued gas fire multi point water heater or electric water heater;~~
- ~~Electrical installation complying with British Standard;~~
- ~~Mattresses with fireproof removable covers (which shall be thoroughly cleaned and changed after each decant);~~
- ~~A cooking appliance and fridge;~~
- ~~Warning notice for health and safety advice to users;~~
- ~~Fire blanket (to be located by the cooking appliance);~~
- ~~1kg powder fire extinguisher (to be located by the main door);~~
- ~~Smoke Detector;~~
- ~~Carbon Monoxide Detector; and~~
- ~~User's handbook (to be used by Provider when demonstrating the mobile to new occupants).~~

~~The Provider shall also supply the following:~~

- ~~A security cabinet for two 13kg bottles of propane gas if gas is to be used (red gas bottle);~~
- ~~Entrance steps, handrails, level access ramp (maximum 1:12) to be provided for people with a disability to the satisfaction of the Client's Representative;~~
- ~~Water supply; and~~
- ~~Mains sewerage connection.~~

~~Daytime decanting must be as agreed by the Customer, the Client and the Provider including as to the hours required for the daytime facility, its location and siting. The provision of car parking by Customers of adjoining dwellings must be considered in all circumstances. The form of provision may vary in different situations.~~

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The daytime facility is not required to provide laundry and storage facilities, telephone connections or television aerials or a dedicated car parking facility.

A chemical toilet compliant with all Standards for portable chemical closets may be used where no sewer connection is feasible.

All Temporary Accommodation must conform to the Health and Safety Law, which includes installation and checking. This is the responsibility of the Provider.

The Provider must comply with any Code of Practice for the transportation, siting and commissioning of caravans published by the National Caravan Council.

The location of the day time mobile decant facility must conform to Health and Safety Law and be as agreed with the Client's Representative.

Service checks are to be carried out by suitably qualified personnel after each decant. These checks should cover:

- Electrical;
- Gas;
- Water;
- Fire prevention equipment;
- Warning Notices; and
- Steps and Handrails.

The facility is to be cleaned between each change of user.

The following notice not less than 200mm x 130mm with the heading printed in red is to be fixed in a prominent position in the Temporary Mobile Accommodation.

ADVICE TO CUSTOMERS

Ventilation

Do not obstruct the ventilators, which are fitted; your safety depends on them.

In Case of Fire

Get everyone out.
Turn off the outside gas valve
Raise the alarm and call the Fire Brigade
Do not stay behind to put the fire out yourself
Do not put yourself at risk

Fire Precautions

Children must not be left alone in the caravan.
When cooking never leave a cooker unattended
Do not use multi-adaptors.
If you smoke use metal or glass ashtrays not plastic.
Make sure cigarettes are put out properly
Do not smoke in bed.

Means of Escape

Make sure you know the location and operation of the emergency windows and doors,
Keep door and window keys handy.
Keep all escape routes clear.
If there is smoke, keep low where the air is clearer
Do not go back into the caravan.

Combustible Materials

Keep them clear of all heating and cooking appliances.

Fire Fighting Equipment

In addition to the 1kg powder fire extinguisher by the main exit door, a fire blanket is provided next to the cooker. Make yourself familiar with the instructions on your fire extinguisher and fire blanket

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~~and the fire precautions arrangements on site. Do not stay behind to put the fire out yourself. Do not put yourself at risk.~~

~~**The use of chip pans in mobiles is strictly prohibited.**~~

Permit to Work Certification

029 If it is deemed necessary by the Client's Representative for the need for a permit to be issued before any Work is undertaken on the system, the Provider shall ensure his compliance with the permit to work system as employed by the Client.

Access

030 The Provider shall ensure that he undertakes a risk assessment and provides a method statement for his means of access to allow for inspection and testing.

031 All Works shall be carried out in strict accordance with the requirements of "The Work at Height Regulations 2005".

Firestopping

032 The Provider is required to ensure that all holes for cables, pipes etc., in the structure of any Property formed or drilled by the Provider are to be fire-stopped in accordance with current BS regulations.

033 If the Provider ascertains that existing holes for cables, pipes etc in the structure of any Property have no or inadequate firestopping, this is to be reported immediately to the Client's Representative giving the detailed location of the hole or holes, including the provision of digital photographs.

PAS 2030, PAS 2031 and PAS 2035

034 The Client has adopted PAS 2030:2019 and PAS 2035: 2019 and compliance with British Standards in commissioning measures to improve the energy efficiency of their existing Properties and to undertake fuel saving improvements.

035 All Works in respect of the installation of energy efficiency measures in existing Properties are therefore to be undertaken in accordance with the requirements of PAS 2030:2019.

036 All Works in respect of retrofitting Properties for improved energy efficiency are to be undertaken in accordance with the requirements of PAS 2035:2019 in addition to PAS 2030:2019

037 The Provider or their approved Subcontractors must be registered as compliant with PAS 2030:2019 by a PAS 2031 accredited scheme provider/certification body, and provide evidence to demonstrate compliance with PAS 2030:2019. The Provider or their approved Subcontractors must be able to demonstrate compliance with PAS 2035:2019 to the approval of the Client's Representative.

038 Any person employed by the Provider or approved Subcontractor in any of the following roles:

- retrofit adviser;
- retrofit assessor;
- retrofit co-ordinator;
- retrofit designer; or
- retrofit evaluator

must have undertaken an approved accredited course approved by UKAS, and copies of their relevant certification provided to the Client's Representative when requested.

In addition, if the retrofit Works are in respect of energy efficiency and retrofitting of traditional (having solid, vapour permeable walls) or historical buildings which fall under the requirement with compliance with British Standards, the person or persons undertaking any of the roles indicated above, must hold an SQA Level 3 award in energy efficiency and retrofit of traditional buildings.

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MAINTENANCE TO MICRO-GENERATION APPLIANCES

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GENERAL REQUIREMENTS

Immediate Response Service

001 The Provider shall maintain an office at a location from which the Works may reasonably be undertaken within the response times required, during normal working hours and out of hours. The Provider shall be equipped to receive calls and orders however transmitted (telephone, radio, fax, email) and provide the Client's Representative with a single telephone number that can be published.

Provider's Conduct

002 The Client is intent on providing an expeditious, safe and efficient Maintenance and Repair Service to its Customers and consequently the Provider shall do his utmost to promote and enhance the image and reputation of the Client in this respect.

003 The Provider shall require his Staff engaged upon the Works to be properly and presentably dressed in appropriate uniforms or workwear.

004 The Provider shall ensure that his Staff shall perform their duties in an orderly and quiet manner as may be reasonable and practicable having regard to the nature of the duties being performed by them.

005 The need to maintain the highest standards of hygiene and courtesy whilst the Provider's Staff are engaged upon the Works is paramount and consideration must be given to Customers and occupiers when working in or near occupied premises. The Provider shall observe all of these provisions and also ensure that the said Staff do not cause a nuisance and or disturbance to Customers and occupiers when they are working in or near occupied premises.

006 The Client's Representative is empowered by this provision to give written notice to the Provider requiring him to remove from the Works forthwith any Staff member engaged upon the Works, if he is not satisfied in any way with the respective Staff members apparel, conduct, manner, or ability. The Provider shall on receipt of such notice comply forthwith and remove the Staff member from the Client's premises and the Staff member shall not be employed or engaged upon or in connection with the Works whilst the Contract remains in force.

007 The Client will from time to time poll its Customers, to obtain their views on the effectiveness of the service provided by the Provider and the manner adopted by his Staff when discharging their duties. The results of the poll will be taken into account when considering the needs for resourcing future repair and maintenance programmes.

Registered Provider

008 The Provider shall have and maintain throughout the Contract Period registration with the:-

(a) Microgeneration Certification Scheme (MCS) or such other body as may from time to time be approved by regulation and

(b) National Inspection Council for Electrical Installation Contracting (NICEIC) and/or Electrical Providers Association (ECA) or alternatively, the Provider may employ Staff to be approved by the Client's Representative under the Contract, who are registered with the National Inspection Council for Electrical Installation Contracting and/or Electrical Providers Association in order to undertake electrical work in connection with the Works.

009 All works shall comply with Part 'J' and 'P' Building Regulations by either obtaining Building Regulation approval or self certification by registered company.

010 In the event that the Provider's MCS or NICEIC or ECA registration becomes suspended or withdrawn for whatever reason, the Provider shall immediately notify the Client's Representative in writing giving full details of the reasons for such and the proposed or intended action and time-scale for gaining reinstatement of its registration(s). With immediate effect from the date of suspension or withdrawal of its registration(s) and until reinstatement the Provider shall, subject to approval of the Client's Representative be required to employ on a domestic sub-contract basis a suitable registered sub-contractor to undertake Works under the Contract.

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011 Should the Provider be unable within a period of two weeks to engage a suitably registered sub-contractor which meets the Client Representative's approval and or the period of suspended or withdrawn registration(s) exceeds or is likely to exceed four weeks then, the Client may at its sole discretion terminate the Provider's employment under the Contract in writing with immediate effect. Such action on the part of the Client shall constitute a valid termination in accordance with the Contract Conditions.

Existing Systems

012 The Client does not guarantee the condition or composition of fluid within wet systems. The cost of the removal of sediment and/or the re-establishment of the correct water/anti-corrosion fluid (or any other chemical) mix shall be deemed to be included in the **Schedule of Rates**, and/or the Provider's tendered **Percentage Adjustment.**

Existing Micro-Generation Installations and Appliances

013 As far as the Client is aware, its existing Micro-Generation Installations and Appliances have been installed and maintained with due regard to both the British Standards and the Regulations:-

Types of micro-generation installed can include;

- Electricity generation technologies;
  - Solar powered or pholvolataic (PV) systems
  - Micro turbines either wind or hydro
  - Heat generation technologies
  - Solar thermal hot water
  - Ground source heat pumps
  - Air source heat pumps
  - Bioenergy
  - Co-generation technologies
  - Hydrogen energy and fuel cells
  - Combined Heat and Power (CHP)

and the maintenance of which is to be undertaken by Microgeneration Certification Scheme (MCS) accredited engineers in strict accordance with the relevant manufacturer's instructions

014 The Provider in carrying out the Works shall have due regard to all the above and shall not do anything which will compromise or degrade the integrity of the Micro-generation Installations and or Appliances.

Reinstatement to be Provided by the Provider

015 The Provider will be required to cut out any chases in floors, ceilings or walls, remove and refix insulation, floorboards, panels and the like to expose pipework for maintenance, repair, exploratory or investigation purposes and on completion to reinstate affected areas, insulation and surfaces to their original condition.

016 Any exposed Work left unattended shall be protected and temporarily covered by the Provider at his own cost.

Leaks to Pipes Laid in Floors

017 The Provider shall be required to open up the floor of any Property to trace and identify the source of the leak. The Provider will drain down the system, remove the defective pipe and/or fittings and carry out the repair using capillary fittings. The system is to be recharged and left standing for 2 hours to test the repair. The Provider will make good the floor, in the case of screeded floors these shall be made good with asphalt or cement and grano compacted to completely encase the pipework subsequent to covering the pipework with an approved sleeve or wrapping tape. The floor will be allowed to dry out and the Provider will then recommission and put into use the heating system.

018 Alternatively the Provider may wish to seek dispensation from the Client's Representative to bypass the defective pipe in the floor or wall with an exposed run of pipe connected into the circuit at expedient points. The Provider should not on any account undertake this alternative without first obtaining the Client's Representative's approval.

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Maintenance and Repair Records

019 On each occasion the Provider gains access to a Property for the purpose of carrying out the Works, he shall before leaving the Property, forthwith complete forms appropriate to the type of work undertaken in the form and manner prescribed hereafter.

020 The Provider shall at his own cost, provide for each Property a sufficient quantity of forms and notices, for the purposes of recording in ink from time to time, information in respect of the Heating Installations and Heating Appliances. The format and content of the said forms and notices shall be subject to the overriding approval of the Client's Representative and where required by statute, the Health & Safety Executive.

021 The Provider shall record upon the forms and notices, general information as follows:-

(1) The address of the Property to which the form applies.
(2) Details of the respective Micro-generation Installations and or Appliances and their location in the Property, clearly indicate any Micro-generation Installations or Appliances which have not previously been contained in the Provider's and or Client's records.
(3) Any changes to previously recorded details of Micro-generation Installations and or Appliances.
(4) The name of the firm and the name and signature of the firm's employee who undertook any Work, inspection or check and the date and time of the undertaking.

022 In addition, the Provider shall record specific information upon the forms and notices as follows:-

Annual Service Log;

023 Details of all Work undertaken during the annual inspection and service.

Repairs Log;

024 Details of all Work undertaken in response to a request for day to day repairs.

Landlord's Micro-generation Safety Record;

025 Details of the routine annual inspection and service as follows:-

(i) the date on which the appliance was checked;
(ii) the address of the Property at which the appliance is installed;
(iii) the name and address of the Client responsible for the Property (or their agent) at which the appliance is installed;
(iv) a description of and the location of each appliance checked;
(v) any defect identified;
(vi) any remedial action taken;
(vii) confirmation that the routine annual service has included an examination of:-
  (a) the effectiveness of any appliance,
  (b) the appliances operation pressure and heat input,
  (c) the appliances operation so as to ensure its safe functioning and,
(viii) the name and signature of the individual carrying out the annual service and inspection; and
(ix) the registration number with which that individual or his Employer is registered, with MCS.

Actions arising from Forms and Notices

026 The forms and notices completed by the Provider shall be dealt with and the information thereon, delivered to persons in the form and manner prescribed hereafter:-

The Provider shall obtain the signature endorsement of the Customer of the respective Property upon the forms, to provide evidence that the Provider has undertaken an examination of the Micro-generation Installations or Appliances.

The original documents should be delivered to the Client's Representative within **two** working days of the visit;

The Provider should retain a copy of the documents for his own records.

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A copy only of the Landlord's Micro-generation Safety Record also signed by the individual who undertook the routine annual inspection and service, should be handed to the Customer.

However, if the Customer refuses to sign the Landlord's Micro-generation Safety Record (or the occupier at the time is a minor), the Provider should in each case, deliver the unsigned copy of the said Safety Record signed by the individual who undertook the routine annual inspection and service to the Client's Representative, together with a list of the unsigned documents in the batch of documents.

In the case of the Customer's advice notice issued to the Customer in respect of a Micro-generation Installation or Appliance owned by them or for which they are entirely responsible, copies of the said notices should be delivered to the Client's Representative with the contemporaneous batch of forms.

Service Label

027 The Provider shall at his own cost provide a durable heat resisting self-adhesive label of a type to be approved by the Client's Representative. Immediately upon completion of a routine annual inspection and service and or repair to any Micro-generation appliance and or heating system the Provider shall enter in ink upon the label information as follows:-

- Name of the firm,
- Date of the routine annual inspection and service and or repair together with details of Work undertaken
- The signature of the engineer who undertook the routine annual inspection and service and other Works.

028 Upon completion of the entries on the label the Provider shall affix the label in a prominent place on or near the appliance subject of the routine inspection and service and or repair.

Repairs Works Order

029 The Provider immediately after responding to a repair Order issued by the Client's Representative, shall provide electronically the nature of the repair undertaken, the date and time when the repair was executed or provide this data electronically

030 In addition, the Provider shall obtain the Customer's signature on the rear of the Order to indicate that the heating system and or appliance has been left in working order. The Order shall be attached to the respective account submitted by the Provider in accordance with the Contract Conditions.

Materials and Components

031 All Materials used shall comply with British Standards, current at the time and only approved replacement parts or components shall be fitted when servicing, maintaining or repairing any Micro-generation Installation or Appliance. Wherever possible Materials, replacement parts and or components fitted by the Provider shall be on a like for like basis but in any case, shall be of comparable quality and finish and be consistent with the performance requirements of the respective systems unless the defective material, part and or component was of an inferior quality to the relative British Standard in which case the Material, replacement part and or component provided by the Provider will be at least to current British Standards and be consistent with the performance requirements of the respective installation system and be subject to the Client's Representative's approval. Workmanship shall comply with the current British Standard Codes of Practice.

Annual Servicing

032 The annual inspection and servicing specifications specified hereafter are model requirements only and the Provider shall at his own cost and as part of his undertaking in respect of the Works, obtain the manufacturer's service and maintenance requirements for the respective Micro-generation Installations and Appliances and any other information which will enable the Provider to identify the full service, maintenance and repair requirements necessary to meet his obligations under the Contract and consequently enable the Client to fulfil its obligations to its Customers.

Response Maintenance

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033 Wherever the Provider undertakes any response maintenance on a Micro-generation appliance, he shall immediately thereafter examine:-

(a) the effectiveness of the appliance,

(b) its operating pressure and heat input,

(c) its operation so as to ensure its safe functioning.

Any defects disclosed by the examination should be immediately dealt with by the Provider, in accordance with the Contract Conditions.

Electrical Installations

034 The Provider must as part of the routine annual service and inspection, check and test all electrical installations and fittings associated with the Micro-generation Installations and Appliances covered by this Contract, so as to ensure their safe operation. All remedial work will comply fully with the British Standard for electrical installations.

All works shall comply with Part 'P' Building Regulations by either obtaining Building Regulation approval or self-certification by registered company.

Decorative Casings

035 The Provider shall at his own cost carry out repairs to appliances, decorative casings and finishes.

Service/Test Certificate

036 The Provider following the successful completion of the routine annual inspection and service shall provide to the Client no later than 7 days after completion of the service a certificate in a form to be agreed with the Client's Representative which must be signed by the Provider's Contracts Manager.

037 In respect of Sheltered Accommodation, Hostels, Residential Care Accommodation, Dwellings in Multiple Occupation or similar with Independent Boilers a copy of the Certificate is to be provided for display prominently within the Property and the Provider is to allow within his tendered rates for the provision of a copy of the relevant certificate to each Customer served by the independent Micro-generation appliance.

038 In respect of Sheltered Accommodation, Hostels, Residential Care Accommodation, Dwellings in Multiple Occupation or similar with Communal Boilers a copy of the certificate is to be provided for display within the communal areas of the Property and the Provider is to allow within his tendered rates for the provision of a copy of the relevant certificate to each Customer served by the Communal Micro-generation Appliance or Installation.

MATERIALS

Air Source Heat Pump

039 The Client's preference is for an externally mounted air-to-water air source heat pump (ASHP) with an internal heat store. The ASHP should be located near the home, with good air circulation and on a solid concrete base. The system should be MCS and Renewable Energy Association (REA) approved. Ideally, it should have an inverter-driven heat pump compressor.

040 All ASHP systems should be installed with underfloor heating or suitable oversized radiators to maximise system efficiency.

041 Heating zones should be independently programmable with a central controller to set the heat demands on the system.

042 All systems should have the ability to connect with solar thermal panels to create a full renewable system. External fan units must be designed to protect people from danger and prevent the ability for injury or damage. Protection measures must be agreed with the Client's Representative.

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043 Heating controls must be simple to understand and use. The system should come with at least a 3 year product and installation warranty.

044 All heating systems require an electronic time programmer with separate control for heating and hot water.

045 The programmer must be capable of running hot water and heating either separately or together, with at least two on/off periods per day.

046 Heating controls must be approved by the Client's Representative prior to finalising the heating design.

047 The Provider is required to provide a demonstration to the Client's Representative at handover on how to use the heating system.

048 If the heating and hot water system combines a number of Low and Zero Carbon Technology (LZCT) together or LZCT with gas central heating, for example, solar thermal panels with a gas boiler system, the Client will require the systems to be operated from a single electronic programmer.

049 The entire heating installation must be checked for leaks after the system has been flushed and be pressure tested in accordance with manufacturer's requirements.

050 The system must be filled with water and any trapped air removed. A Gas Safe commissioning certificate must be available at handover. Particular attention is to be paid to commissioning the heating system to ensure that it is installed and set up to perform in accordance with the design.

Solar Photovoltaic Panels

051 The Client's preference is for monocrystalline Photovoltaic (PV) panels with self cleaning glass. The panel, frame and fixings must have MCS and British Board of Agrément (BBA) approval.

052 Installations to individual Properties should be connected to the household electrical system and communal systems should be connected to the communal landlord electrical system.

053 Single phase or three phase GSM enabled Passiv Systems Compatible Elster generation meters should be installed, as appropriate.

054 The panel should have a 25 year manufacturing warranty cover. The frame, fixtures and fittings should have a 5 year product and workmanship warranty. The inverter should have a 5 year warranty cover.

055 The system should meet either G59 or G83 grid compliance criteria. All proposals must be agreed by the Client's Representative.

Solar Thermal Panels

056 The Client's preference is for MCS and Solar Keymark approved evacuated tube Solar Thermal (ST) systems. The ST system should be a pressurised closed loop system with an appropriate expansion vessel.

057 The hot water cylinder must be a twin coil system with the bottom coil used for ST and the upper coil for the primary hot water circuit. A 3kW electric immersion must be installed.

058 A temperature controller should be installed with sensors in the collector and cylinder to automate the pump.

059 The solar panels must have a 5 year product and installation warranty cover.

Combined Heat and Power Generating Boilers

060 Combined heat and power generating boilers (CHP) must convert over 90% of their fuel into electricity and useful heat.

061 CHP boilers must generate a minimum of 1kw of electricity per hour and a maximum of 24kw of thermal

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output.

Solid Fuel Biomass and Wood Burning Boilers

062 Solid fuel biomass boilers must use wood pellet fuel from an approved renewable or recycled source.

063 All solid fuel boilers must convert over 90% of their fuel into useful heat.

Guarantees, Warranties etc.,

064 The Provider is required to supply to the Client's Representative a copy of all relevant guarantees, warranties, service and maintenance manuals applicable to the products installed when requested by the Client or the Client's Representative, the cost of the provision of such guarantees, warranties etc is deemed to be included in the rates within the Schedule of Rates, other Tendered rates, and the Provider's tendered percentage adjustments.

Client's current manufacturers/suppliers/products

065 Ensure all Materials are compatible with and standardised to the Client's current products specified in the table below (listed by manufacturers, suppliers and/or brand names).

Product	Brand name	Manufacturer's details

[complete table as appropriate]

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MICRO-GENERATION HEATING

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GENERAL REQUIREMENTS

Immediate Response Service

001 The Provider shall maintain an office at a location from which the Works may reasonably be undertaken within the response times required, during normal working hours and out of hours. The Provider shall be equipped to receive calls and orders however transmitted (telephone, radio, fax, email) and provide the Client's Representative with a single telephone number that can be published.

Provider's Conduct

002 The Client is intent on providing an expeditious, safe and efficient Maintenance and Repair Service to its Customers and consequently the Provider shall do his utmost to promote and enhance the image and reputation of the Client in this respect.

003 The Provider shall require his Staff engaged upon the Works to be properly and presentably dressed in appropriate uniforms or workwear.

004 The Provider shall ensure that his Staff shall perform their duties in an orderly and quiet manner as may be reasonable and practicable having regard to the nature of the duties being performed by them.

005 The need to maintain the highest standards of hygiene and courtesy whilst the Provider's Staff are engaged upon the Works is paramount and consideration must be given to Customers and occupiers when working in or near occupied premises. The Provider shall observe all of these provisions and also ensure that the said Staff do not cause a nuisance and or disturbance to Customers and occupiers when they are working in or near occupied premises.

006 The Client's Representative is empowered by this provision to give written notice to the Provider requiring him to remove from the Works forthwith any Staff member engaged upon the Works, if he is not satisfied in any way with the respective Staff members apparel, conduct, manner, or ability. The Provider shall on receipt of such notice comply forthwith and remove the Staff member from the Client's premises and the Staff member shall not be employed or engaged upon or in connection with the Works whilst the Contract remains in force.

007 The Client will from time to time poll its Customers, to obtain their views on the effectiveness of the service provided by the Provider and the manner adopted by his Staff when discharging their duties. The results of the poll will be taken into account when considering the needs for resourcing future repair and maintenance programmes.

Registered Provider

008 The Provider shall have and maintain throughout the Contract Period registration with the:-

(a) Microgeneration Certification Scheme (MCS) or such other body as may from time to time be approved by regulation and

(b) National Inspection Council for Electrical Installation Contracting (NICEIC) and/or Electrical Providers Association (ECA) or alternatively, the Provider may employ Staff to be approved by the Client's Representative under the Contract, who are registered with the National Inspection Council for Electrical Installation Contracting and/or Electrical Providers Association in order to undertake electrical work in connection with the Works.

009 All works shall comply with Part 'J' and 'P' Building Regulations by either obtaining Building Regulation approval or self certification by registered company.

010 In the event that the Provider's MCS or NICEIC or ECA registration becomes suspended or withdrawn for whatever reason, the Provider shall immediately notify the Client's Representative in writing giving full details of the reasons for such and the proposed or intended action and time-scale for gaining reinstatement of its registration(s). With immediate effect from the date of suspension or withdrawal of its registration(s) and until reinstatement the Provider shall, subject to approval of the Client's Representative be required to employ on a domestic sub-contract basis a suitable registered sub-contractor to undertake Works under the Contract.

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011 Should the Provider be unable within a period of two weeks to engage a suitably registered sub-contractor which meets the Client Representative's approval and or the period of suspended or withdrawn registration(s) exceeds or is likely to exceed four weeks then, the Client may at its sole discretion terminate the Provider's employment under the Contract in writing with immediate effect. Such action on the part of the Client shall constitute a valid termination in accordance with the Contract Conditions.

Existing Systems

012 The Client does not guarantee the condition or composition of fluid within wet systems. The cost of the removal of sediment and/or the re-establishment of the correct water/anti-corrosion fluid (or any other chemical) mix shall be deemed to be included in the **Schedule of Rates**, and/or the Provider's tendered **Percentage Adjustment.**

Existing Micro-Generation Installations and Appliances

013 As far as the Client is aware, its existing Micro-Generation Installations and Appliances have been installed and maintained with due regard to both the British Standards and the Regulations:-

Types of micro-generation installed can include;

- Electricity generation technologies;
  - Solar powered or pholvolataic (PV) systems
  - Micro turbines either wind or hydro
- Heat generation technologies
  - Solar thermal hot water
  - Ground source heat pumps
  - Air source heat pumps
  - Bioenergy
- Co-generation technologies
  - Hydrogen energy and fuel cells
  - Combined Heat and Power (CHP)

and the maintenance of which is to be undertaken by Microgeneration Certification Scheme (MCS) accredited engineers in strict accordance with the relevant manufacturer's instructions

014 The Provider in carrying out the Works shall have due regard to all the above and shall not do anything which will compromise or degrade the integrity of the Micro-generation Installations and or Appliances.

Reinstatement to be Provided by the Provider

015 The Provider will be required to cut out any chases in floors, ceilings or walls, remove and refix insulation, floorboards, panels and the like to expose pipework for maintenance, repair, exploratory or investigation purposes and on completion to reinstate affected areas, insulation and surfaces to their original condition.

016 Any exposed Work left unattended shall be protected and temporarily covered by the Provider at his own cost.

Leaks to Pipes Laid in Floors

017 The Provider shall be required to open up the floor of any Property to trace and identify the source of the leak. The Provider will drain down the system, remove the defective pipe and/or fittings and carry out the repair using capillary fittings. The system is to be recharged and left standing for 2 hours to test the repair. The Provider will make good the floor, in the case of screeded floors these shall be made good with asphalt or cement and grano compacted to completely encase the pipework subsequent to covering the pipework with an approved sleeve or wrapping tape. The floor will be allowed to dry out and the Provider will then recommission and put into use the heating system.

018 Alternatively the Provider may wish to seek dispensation from the Client's Representative to bypass the defective pipe in the floor or wall with an exposed run of pipe connected into the circuit at expedient points. The Provider should not on any account undertake this alternative without first obtaining the Client's Representative's approval.

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Maintenance and Repair Records

019 On each occasion the Provider gains access to a Property for the purpose of carrying out the Works, he shall before leaving the Property, forthwith complete forms appropriate to the type of work undertaken in the form and manner prescribed hereafter.

020 The Provider shall at his own cost, provide for each Property a sufficient quantity of forms and notices, for the purposes of recording in ink from time to time, information in respect of the Heating Installations and Heating Appliances. The format and content of the said forms and notices shall be subject to the overriding approval of the Client's Representative and where required by statute, the Health & Safety Executive.

021 The Provider shall record upon the forms and notices, general information as follows:-

(1) The address of the Property to which the form applies.
(2) Details of the respective Micro-generation Installations and or Appliances and their location in the Property, clearly indicate any Micro-generation Installations or Appliances which have not previously been contained in the Provider's and or Client's records.
(3) Any changes to previously recorded details of Micro-generation Installations and or Appliances.
(4) The name of the firm and the name and signature of the firm's employee who undertook any Work, inspection or check and the date and time of the undertaking.

022 In addition, the Provider shall record specific information upon the forms and notices as follows:-

Annual Service Log;

023 Details of all Work undertaken during the annual inspection and service.

Repairs Log;

024 Details of all Work undertaken in response to a request for day to day repairs.

Landlord's Micro-generation Safety Record;

025 Details of the routine annual inspection and service as follows:-

(i) the date on which the appliance was checked;
(ii) the address of the Property at which the appliance is installed;
(iii) the name and address of the Client responsible for the Property (or their agent) at which the appliance is installed;
(iv) a description of and the location of each appliance checked;
(v) any defect identified;
(vi) any remedial action taken;
(vii) confirmation that the routine annual service has included an examination of:-
  (a) the effectiveness of any appliance,
  (b) the appliances operation pressure and heat input,
  (c) the appliances operation so as to ensure its safe functioning and,
(viii) the name and signature of the individual carrying out the annual service and inspection; and
(ix) the registration number with which that individual or his Employer is registered, with MCS.

Actions arising from Forms and Notices

026 The forms and notices completed by the Provider shall be dealt with and the information thereon, delivered to persons in the form and manner prescribed hereafter:-

The Provider shall obtain the signature endorsement of the Customer of the respective Property upon the forms, to provide evidence that the Provider has undertaken an examination of the Micro-generation Installations or Appliances.

The original documents should be delivered to the Client's Representative within **two** working days of the visit;

The Provider should retain a copy of the documents for his own records.

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A copy only of the Landlord's Micro-generation Safety Record also signed by the individual who undertook the routine annual inspection and service, should be handed to the Customer.

However, if the Customer refuses to sign the Landlord's Micro-generation Safety Record (or the occupier at the time is a minor), the Provider should in each case, deliver the unsigned copy of the said Safety Record signed by the individual who undertook the routine annual inspection and service to the Client's Representative, together with a list of the unsigned documents in the batch of documents.

In the case of the Customer's advice notice issued to the Customer in respect of a Micro-generation Installation or Appliance owned by them or for which they are entirely responsible, copies of the said notices should be delivered to the Client's Representative with the contemporaneous batch of forms.

Service Label

027 The Provider shall at his own cost provide a durable heat resisting self-adhesive label of a type to be approved by the Client's Representative. Immediately upon completion of a routine annual inspection and service and or repair to any Micro-generation appliance and or heating system the Provider shall enter in ink upon the label information as follows:-

- Name of the firm,
- Date of the routine annual inspection and service and or repair together with details of Work undertaken
- The signature of the engineer who undertook the routine annual inspection and service and other Works.

028 Upon completion of the entries on the label the Provider shall affix the label in a prominent place on or near the appliance subject of the routine inspection and service and or repair.

Repairs Works Order

029 The Provider immediately after responding to a repair Order issued by the Client's Representative, shall provide electronically the nature of the repair undertaken, the date and time when the repair was executed or provide this data electronically

030 In addition, the Provider shall obtain the Customer's signature on the rear of the Order to indicate that the heating system and or appliance has been left in working order. The Order shall be attached to the respective account submitted by the Provider in accordance with the Contract Conditions.

Materials and Components

031 All Materials used shall comply with British Standards, current at the time and only approved replacement parts or components shall be fitted when servicing, maintaining or repairing any Micro-generation Installation or Appliance. Wherever possible Materials, replacement parts and or components fitted by the Provider shall be on a like for like basis but in any case, shall be of comparable quality and finish and be consistent with the performance requirements of the respective systems unless the defective material, part and or component was of an inferior quality to the relative British Standard in which case the Material, replacement part and or component provided by the Provider will be at least to current British Standards and be consistent with the performance requirements of the respective installation system and be subject to the Client's Representative's approval. Workmanship shall comply with the current British Standard Codes of Practice.

Annual Servicing

032 The annual inspection and servicing specifications specified hereafter are model requirements only and the Provider shall at his own cost and as part of his undertaking in respect of the Works, obtain the manufacturer's service and maintenance requirements for the respective Micro-generation Installations and Appliances and any other information which will enable the Provider to identify the full service, maintenance and repair requirements necessary to meet his obligations under the Contract and consequently enable the Client to fulfil its obligations to its Customers.

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Response Maintenance

033 Wherever the Provider undertakes any response maintenance on a Micro-generation appliance, he shall immediately thereafter examine:-

(a) the effectiveness of the appliance,

(b) its operating pressure and heat input,

(c) its operation so as to ensure its safe functioning.

Any defects disclosed by the examination should be immediately dealt with by the Provider, in accordance with the Contract Conditions.

Electrical Installations

034 The Provider must as part of the routine annual service and inspection, check and test all electrical installations and fittings associated with the Micro-generation Installations and Appliances covered by this Contract, so as to ensure their safe operation. All remedial work will comply fully with the British Standard for electrical installations.

All works shall comply with Part 'P' Building Regulations by either obtaining Building Regulation approval or self-certification by registered company.

Decorative Casings

035 The Provider shall at his own cost carry out repairs to appliances, decorative casings and finishes.

Service/Test Certificate

036 The Provider following the successful completion of the routine annual inspection and service shall provide to the Client no later than 7 days after completion of the service a certificate in a form to be agreed with the Client's Representative which must be signed by the Provider's Contracts Manager.

037 In respect of Sheltered Accommodation, Hostels, Residential Care Accommodation, Dwellings in Multiple Occupation or similar with Independent Boilers a copy of the Certificate is to be provided for display prominently within the Property and the Provider is to allow within his tendered rates for the provision of a copy of the relevant certificate to each Customer served by the independent Micro-generation appliance.

038 In respect of Sheltered Accommodation, Hostels, Residential Care Accommodation, Dwellings in Multiple Occupation or similar with Communal Boilers a copy of the certificate is to be provided for display within the communal areas of the Property and the Provider is to allow within his tendered rates for the provision of a copy of the relevant certificate to each Customer served by the Communal Micro-generation Appliance or Installation.

MATERIALS

Air Source Heat Pump

039 The Client's preference is for an externally mounted air-to-water air source heat pump (ASHP) with an internal heat store. The ASHP should be located near the home, with good air circulation and on a solid concrete base. The system should be MCS and Renewable Energy Association (REA) approved. Ideally, it should have an inverter-driven heat pump compressor.

040 All ASHP systems should be installed with underfloor heating or suitable oversized radiators to maximise system efficiency.

041 Heating zones should be independently programmable with a central controller to set the heat demands on the system.

042 All systems should have the ability to connect with solar thermal panels to create a full renewable system. External fan units must be designed to protect people from danger and prevent the ability for injury or

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damage. Protection measures must be agreed with the Client's Representative.

043 Heating controls must be simple to understand and use. The system should come with at least a 3 year product and installation warranty.

044 All heating systems require an electronic time programmer with separate control for heating and hot water.

045 The programmer must be capable of running hot water and heating either separately or together, with at least two on/off periods per day.

046 Heating controls must be approved by the Client's Representative prior to finalising the heating design.

047 The Provider is required to provide a demonstration to the Client's Representative at handover on how to use the heating system.

048 If the heating and hot water system combines a number of Low and Zero Carbon Technology (LZCT) together or LZCT with gas central heating, for example, solar thermal panels with a gas boiler system, the Client will require the systems to be operated from a single electronic programmer.

049 The entire heating installation must be checked for leaks after the system has been flushed and be pressure tested in accordance with manufacturer's requirements.

050 The system must be filled with water and any trapped air removed. A Gas Safe commissioning certificate must be available at handover. Particular attention is to be paid to commissioning the heating system to ensure that it is installed and set up to perform in accordance with the design.

Solar Photovoltaic Panels

051 The Client's preference is for monocrystalline Photovoltaic (PV) panels with self cleaning glass. The panel, frame and fixings must have MCS and British Board of Agrément (BBA) approval.

052 Installations to individual Properties should be connected to the household electrical system and communal systems should be connected to the communal landlord electrical system.

053 Single phase or three phase GSM enabled Passiv Systems Compatible Elster generation meters should be installed, as appropriate.

054 The panel should have a 25 year manufacturing warranty cover. The frame, fixtures and fittings should have a 5 year product and workmanship warranty. The inverter should have a 5 year warranty cover.

055 The system should meet either G59 or G83 grid compliance criteria. All proposals must be agreed by the Client's Representative.

Solar Thermal Panels

056 The Client's preference is for MCS and Solar Keymark approved evacuated tube Solar Thermal (ST) systems. The ST system should be a pressurised closed loop system with an appropriate expansion vessel.

057 The hot water cylinder must be a twin coil system with the bottom coil used for ST and the upper coil for the primary hot water circuit. A 3kW electric immersion must be installed.

058 A temperature controller should be installed with sensors in the collector and cylinder to automate the pump.

059 The solar panels must have a 5 year product and installation warranty cover.

Combined Heat and Power Generating Boilers

060 Combined heat and power generating boilers (CHP) must convert over 90% of their fuel into electricity and useful heat.

061 CHP boilers must generate a minimum of 1kw of electricity per hour and a maximum of 24kw of thermal output.

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Solid Fuel Biomass and Wood Burning Boilers

062 Solid fuel biomass boilers must use wood pellet fuel from an approved renewable or recycled source.

063 All solid fuel boilers must convert over 90% of their fuel into useful heat.

Guarantees, Warranties etc.,

064 The Provider is required to supply to the Client's Representative a copy of all relevant guarantees, warranties, service and maintenance manuals applicable to the products installed when requested by the Client or the Client's Representative, the cost of the provision of such guarantees, warranties etc is deemed to be included in the rates within the Schedule of Rates, other Tendered rates, and the Provider's tendered percentage adjustments.

Client's current manufacturers/suppliers/products

065 Ensure all Materials are compatible with and standardised to the Client's current products specified in the table below (listed by manufacturers, suppliers and/or brand names).

Product	Brand name	Manufacturer's details

[complete table as appropriate]

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MODEL ANNUAL SERVICE REPAIRS AND MAINTENANCE SPECIFICATIONS

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SOLAR THERMAL INSTALLATIONS

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MODEL ANNUAL SERVICE SPECIFICATION, REPAIRS AND MAINTENANCE PARTICULAR TO ANY SOLAR THERMAL INSTALLATION,

001 The Provider shall have and maintain throughout the Contract Period registration with MCS or be a member of a class of persons approved for the time being by regulation.

002 The Provider shall undertake routine servicing, maintenance and repairs to solar thermal installations under this specification as follows:-

1) The solar thermal panel or tubes installed on or in roofs
2) The solar hydraulic pump and solar controller
3) Installation pipework
4) Solar hot water cylinders.

003 The Contract will include for the annual inspection and service as described and in accordance with the manufacturer's recommendations, replacement of all defective materials, parts and components and any additional visits, during or outside normal working hours, to maintain the whole installation in good and safe working order.

004 The Provider shall be responsible for defining the full nature of the annual inspection and service which together with the day to day response service, repairs and maintenance ordered from time to time by the Client's Representative and defined and undertaken by the Provider will ensure the safe operation at all times throughout the currency of the Contract, the Client's solar thermal panels or tubes installation and systems. The routine annual inspection and service shall be carried out in accordance with but not limited to, the recommendations of the manufacturer of the solar thermal panels or tubes installation and systems outlined hereafter.

	Solar Thermal Panels and Tubes General Requirements
1	Check general, condition of solar thermal panels or tubes installed on roof before commencing service.
2	Remove any debris, blown leaves etc that may hinder servicing and operation of solar thermal panel or tubes.
3	Cut off overhanging branches for non tree preservation order trees limiting operation of solar thermal panel or tubes.
4	Clean panels or tubes with iodised water
5	Check operation of solar hydraulic pump, overhaul pump if necessary, clean filters, change hydraulic fluids, adjust
6	Check operation of solar controller, adjust as necessary
7	Check installation pipework and cylinder/storage tank for any leaks
8	Check operation of solar thermal installation and adjust settings on controls, cylinder thermostat etc
9	Affix completed service label adjacent to cylinder.
10	Make good and clear away all debris to approved tip

Guarantees, Warranties etc.,

005 The Provider is required to supply to the Client's Representative a copy of all relevant guarantees, warranties, service and maintenance manuals applicable to the products installed when requested by the Client or the Client's Representative, the cost of the provision of such guarantees, warranties etc is deemed to be included in the rates within the Schedule of Rates, other Tendered rates, and the Provider's tendered percentage adjustments.

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Client's current manufacturers/suppliers/products

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Product	Brand name	Manufacturer's details

[complete table as appropriate]

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AIR SOURCE HEAT PUMPS

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MODEL ANNUAL SERVICE SPECIFICATION, REPAIRS AND MAINTENANCE PARTICULAR TO ANY AIR SOURCE HEAT PUMPS

001 The Provider shall have and maintain throughout the Contract Period registration with MCS or be a member of a class of persons approved for the time being by regulation.

002 The Provider shall undertake routine servicing, maintenance and repairs to air source heat pumps under this specification as follows:-

1) The air source heat pump
2) The inverter
3) Installation pipework and radiators
4) Cylinders.

003 The Contract will include for the annual inspection and service as described and in accordance with the manufacturer's recommendations, replacement of all defective materials, parts and components and any additional visits, during or outside normal working hours, to maintain the whole installation in good and safe working order.

004 The Provider shall be responsible for defining the full nature of the annual inspection and service which together with the day to day response service, repairs and maintenance ordered from time to time by the Client's Representative and defined and undertaken by the Provider will ensure the safe operation at all times throughout the currency of the Contract, the Client's air sourced heat pumps, installation and systems. The routine annual inspection and service shall be carried out in accordance with but not limited to, the recommendations of the manufacturer of the air source heat pump installation and systems outlined hereafter.

	Air Source Heat Pump General Requirements
1	Check general, condition of air source heat pump before commencing service.
2	Remove any debris, blown leaves etc that may hinder servicing and operation of air source heat pump.
3	Clean external surfaces of air source heat pump unit with iodised water.
4	Check operation of air source pump, overhaul pump if necessary, clean filters, change e filters, adjust
5	Check operation of inverter, adjust as necessary
6	Check installation pipework, radiators and cylinder/storage tank for any leaks
7	Check operation of installation and adjust settings on controls, cylinder thermostat etc
8	Affix completed service label adjacent to cylinder.
9	Make good and clear away all debris to approved tip

Guarantees, Warranties etc.,

005 The Provider is required to supply to the Client's Representative a copy of all relevant guarantees, warranties, service and maintenance manuals applicable to the products installed when requested by the Client or the Client's Representative, the cost of the provision of such guarantees, warranties etc is deemed to be included in the rates within the Schedule of Rates, other Tendered rates, and the Provider's tendered percentage adjustments.

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Client's current manufacturers/suppliers/products

006 Ensure all Materials are compatible with and standardised to the Client's current products specified in the table below (listed by manufacturers, suppliers and/or brand names).

Product	Brand name	Manufacturer's details

[complete table as appropriate]

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GROUND SOURCE HEAT PUMPS

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MODEL ANNUAL SERVICE SPECIFICATION, REPAIRS AND MAINTENANCE PARTICULAR TO ANY GROUND SOURCE HEAT PUMPS

001 The Provider shall have and maintain throughout the Contract Period registration with MCS or be a member of a class of persons approved for the time being by regulation.

002 The Provider shall undertake routine servicing, maintenance and repairs to ground source heat pumps under this specification as follows:-

1) The ground source heat pump
2) The inverter
3) Installation pipework and radiators
4) Cylinders.

003 The Contract will include for the annual inspection and service as described and in accordance with the manufacturer's recommendations, replacement of all defective materials, parts and components and any additional visits, during or outside normal working hours, to maintain the whole installation in good and safe working order.

004 The Provider shall be responsible for defining the full nature of the annual inspection and service which together with the day to day response service, repairs and maintenance ordered from time to time by the Client's Representative and defined and undertaken by the Provider will ensure the safe operation at all times throughout the currency of the Contract, the Client's ground source heat pumps, installation and systems. The routine annual inspection and service shall be carried out in accordance with but not limited to, the recommendations of the manufacturer of the ground source heat pump installation and systems outlined hereafter.

	Ground Source Heat Pump General Requirements
1	Check general, condition of ground source heat pump before commencing service.
2	Remove any debris, blown leaves etc that may hinder servicing and operation of ground source heat pump.
3	Clean external surfaces of ground source heat pump unit with iodised water.
4	Check operation of ground source pump, overhaul pump if necessary, clean filters, change e filters, adjust
5	Check operation of inverter, adjust as necessary
6	Check installation pipework, radiators and cylinder/storage tank for any leaks
7	Check operation of installation and adjust settings on controls, cylinder thermostat etc
8	Affix completed service label adjacent to cylinder.
9	Make good and clear away all debris to approved tip

Guarantees, Warranties etc.,

005 The Provider is required to supply to the Client's Representative a copy of all relevant guarantees, warranties, service and maintenance manuals applicable to the products installed when requested by the Client or the Client's Representative, the cost of the provision of such guarantees, warranties etc is deemed to be included in the rates within the Schedule of Rates, other Tendered rates, and the Provider's tendered percentage adjustments.

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Client's current manufacturers/suppliers/products

006 Ensure all Materials are compatible with and standardised to the Client's current products specified in the table below (listed by manufacturers, suppliers and/or brand names).

Product	Brand name	Manufacturer's details

[complete table as appropriate]

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ELECTRIC SPACE HEATING AND HOT WATER INSTALLATIONS

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ELECTRIC SPACE HEATING AND HOT WATER INSTALLATIONS

General Requirements

Provider's Conduct

001 The Client is intent on providing an expeditious, safe and efficient maintenance service to its Customers and consequently the Provider shall do his utmost to promote and enhance the image and reputation of the Client in this respect.

002 The Provider shall require his Staff engaged upon the Works to be properly and presentably dressed in appropriate uniforms or workwear.

003 The Provider shall ensure that his Staff shall perform their duties in an orderly and quiet manner as may be reasonable and practicable having regard to the nature of the duties being performed by them.

004 The need to maintain the highest standards of hygiene and courtesy whilst the Provider's Staff are engaged upon the Works is paramount and in particular consideration must be given to Customers and other occupiers when working in or near occupied premises, the Provider shall observe all of these provisions and also ensure that the said Staff do not cause a nuisance and or disturbance to Customers and other occupiers when they are working in or near occupied premises.

005 The Client is empowered by this provision to give written notice to the Provider requiring him to remove from the Works forthwith any Staff engaged upon the Works, if he is not satisfied in any way with the respective Staff member's apparel, conduct, manner, or ability. The Provider shall on receipt of such notice comply forthwith and remove the Staff member from the Client's Property and the Staff member shall not be employed or engaged upon or in connection with the Works whilst the Contract remains in force.

006 The Client will from time to time poll its Customers' to obtain their views on the effectiveness of the service provided by the Provider and the manner adopted by his Staff when discharging their duties. The results of the poll will be taken into account when considering the needs for resourcing future repair and maintenance programmes.

Registered Provider

007 The Provider shall have and maintain throughout the Contract Period registration with the:-

> National Inspection Council for Electrical Installation Contracting (NICEIC) and/or Electrical Contractors Association (ECA) or alternatively, the Provider may employ a Sub-contractor, to be approved by the Client's Representative under the Contract, who is registered with the National Inspection Council for Electrical Installation Contracting and/or Electrical Contractors Association in order to undertake the Works, or be registered with an approved electrical licence to practise system, an example of which is Sparksafe.

008 In the event that the Provider's NICEIC or ECA registration becomes suspended or withdrawn or has any conditions attached for whatever reason, the Provider shall immediately notify the Client's Representative in writing giving full details of the reasons for such and the proposed or intended action and timescale for gaining reinstatement of its registration(s). With immediate effect from the date of suspension or withdrawal of its registration(s) and until reinstatement. The Provider shall, subject to approval of the Client's Representative, be required to employ on a domestic sub-contract basis a suitable registered Sub-contractor to undertake Works under the Contract.

009 Should the Provider be unable within a period of two weeks to engage a suitably registered Sub-contractor which meets the Client's approval and or the period of suspended or withdrawn registration(s) exceeds or is likely to exceed four weeks then, the Client may at its sole discretion terminate the Providers employment under the Contract in writing with immediate effect. Such action on the part of the Client shall constitute a valid termination in accordance with the Contract Conditions.

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Electrical Installations

010 The Provider must as part of the installation of a new electrical heating installation, check and test all electrical installations and fittings in the dwelling, to ensure their safe operation. All remedial work will comply fully with the British Standards for electrical installations.

PERFORMANCE SPECIFICATION FOR ELECTRICAL SPACE HEATING AND HOT WATER INSTALLATIONS

SPECIAL CONDITIONS

Special Conditions

001 The following special conditions apply to the new electrical heating and hot water services installations:

002 The Provider shall be NICEIC or ECA registered or be registered with an approved electrical licence to practise system such as Sparksafe. Installation, testing and commissioning the electrical works is to be in accordance with the British Standard - the Requirements for Electrical Installations, ensuring compliance with design and performance requirements to provide a safe well insulated, earth protected system of supplying the anticipated maximum demand. Good workmanship is expected from skilled (electrical) or instructed (electrical) persons and proper materials shall be used in the erection of the electrical installation.

003 The Provider shall provide a full list of the Staff who will be involved in the Contract prior to the commencement date. This list shall include the Staff member's names, career history, qualifications, etc.

004 This information shall be updated as and when required throughout the duration of the Contract.

005 **The Provider should note that following completion of the works, a 24 hour, 7 days/week, including Public Holidays, emergency call-out service shall be provided for the duration of the 12 months Defects Liability Period.** The emergency call-out number shall be provided on a sticker placed inside the space heater appliance enclosure.

006 The Provider is to provide written notification of all emergency call-outs giving details of faults/defects and response times which should be countersigned by the Customer.

Provider Design

007 The Providers carries the Design responsibilities for the new electrical heating and hot water services installations.

008 All local space heaters must comply with a minimum efficiency standard under Lot 20 of the Energy Efficiency Director (2015/1188).

009 The Provider will be required to provide a statement of skills, knowledge and experience, which will cover:

Membership of a relevant professional body.

Familiarity with the construction processes in the circumstances of the project and the impact of Design on Health and Safety.

Awareness of relevant Health and Safety and fire safety legislation and appropriate risk assessment methods.

The Health and Safety practices of the designer for Design Work carried out.

The people to be employed to carry out the Work, their skills and training, this is likely to include external resources where necessary and is to be reviewed in association with the Design requirements.

Technical facilities to support the Design, particularly in the circumstances of the project.

The method of communicating Design decisions.

How information and instructions will be communicated to the Customers. Ideally this should be provided by a person with specific training, e.g. City and Guilds in Energy Advice.

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This information shall be forwarded to the Client's Representative.

010 INSTALL AND MAINTAIN REPLACEMENT ELECTRIC SPACE HEATING AND HOT WATER SYSTEM

Replacement operations will be as follows and to include all labour and materials necessary for the completion of the installation

Design

The Provider shall carry out an initial survey of each dwelling and prepare and submit the Design information required for the replacement of the electric space heating and hot water system in compliance with the Clients Specification.

The Provider shall submit a completed "Survey Schedule and Cost Estimate" to the Client's Representative for clearance and approval.

The Provider shall carry out all necessary Customer consultation.

The Provider shall obtain all necessary statutory approvals; for the works (including the payment all necessary fees and administration charges in connection therewith).

Removal of Existing System

The Provider shall include for the disconnection of all existing Client and or Customer installed heating appliances, associated equipment and switches; removal of all existing electrical cables, conduits, redundant consumer units where applicable; remove/seal off as necessary all redundant pipe work thereto; remove fireplace hearth and surround, build up chamber opening, core ball and sweep flue; supply and insert permanent ventilator and extend and make good plaster, skirting to match existing. The hot water cylinder, combination unit or hot water unit redundant hot water cold water pipe work, immersion heaters, insulation and support stool where applicable are also to be removed.

Replacement installation

The Provider shall supply temporary heat (two 3 Kilowatt electric panel or radiator type heaters having time and temperature control); for the complete duration of the Works and maintain Customer's mains electricity supply, mains water supply and bathroom facilities at end of each working day.

The Provider will also ensure that Customer's Property and possessions are protected in the Property and cleaned at the end of each working day and on completion of all of the Works.

The Provider shall supply and install a complete electric space heating and hot water system all in accordance with the Client's specification; including any alterations to existing and all new domestic hot and cold water pipe work where applicable.

The Provider shall provide a tiled fire surround and hearth in accordance with F30 (3) Code of Practice for Electric Fires, with an electric inset focal fire provided, including dedicated electrical circuit and flexible cable connection to the fire from a DP switch concealed within the fabric of the Property.

The Provider shall supply and install in all habitable rooms an electric space heating appliance to provide the calculated heat output required in each Property type, including grounds to stud walls where required. Rear halls and porches are not deemed to be a habitable room.

The control of space heating and hot water systems shall be provided with time and temperature control in accordance with the Client's Specification including all electrical circuits and all final connections to each item of control equipment etc;

Supply and install new hot water storage system, complete with factory fitted foam insulation where applicable, 2 No 3kW immersion heaters, cylinder stool including new dedicated day rate electrical circuit having a heating boost switch and final flexible cable connection to the immersion heater and a new dedicated off peak rate electrical circuit and a final flexible cable connection.

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The Provider shall Design, install and test all electrical circuits in accordance with the British Standard for space heating appliances and hot water heaters.

The Provider shall provide all labels where necessary.

All equipotential bonding and supplementary equipotential bonding shall be completed in accordance with British Standard

The Provider shall make good/replace where necessary any insulation to exposed pipe work in the roof space and all necessary new insulation to pipelines in accordance with the Client's Specification.

Completion

On completion of the replacement electric space heating and hot water system the Provider shall check and adjust the operation of all electric space heating equipment and appliances, controls and safety switches etc.,

The Provider must on completion of the installation and before being energised inspect and test all electrical circuits installed in compliance with the British Standard and following satisfactory completion of tests; and upload unto the Client's IT system an Electrical Installation Certificate (EIC) on completion of the works.

All test instruments shall be provided by the Provider who shall note the instruments seral numbers on the Electrical Installation Certificate

The Provider shall give the Client's Representative and the Customer sufficient information for all of the equipment installed, including all operational and maintenance instructions, controls and any other details so that each Property can be operated and maintained in an energy efficient manner to use no more power than is reasonable in the circumstances.

Without comprising health and safety requirements, the instructions should explain to the Customer how to operate the off peak heaters and day rate heaters efficiency: These should include how to make adjustments to the timing, temperature and flow control settings.

The Provider shall provide an information pack supplied in an A4 clear plastic envelope and containing a copy of the central heating system's manufacturers operational instructions/booklets for each major component.

The Provider shall notify in writing to the local Building Authority and the Client's Representative confirming that all fixed building services have been properly commissioned not more than five days after completion of the commissioning work.

A Health & Safety File shall be provided in accordance with the current CDM (Construction Design Management) Regulations and uploaded unto the Client's IT system on the completion of the Works.

Manufacturer's Warranty

The Work will also include the provision of a manufacturer certificate providing evidence of a warranty for each electric space heating appliance installed by the Provider.

The warranty guarantees the repair of all defects to the boiler at no cost to the Client (including the cost for all parts, labour and any other charges) for a period of 5 years from the date of installation of the appliances.

The warranty shall be given by the manufacturer directly to the Client and the manufacturer will agree that from the commencement date to the end of the warranty period of the warranty, labour to carry out any repairs is provided by the Provider but is transferable to the Client's new service provider either after the end date of this Contract or upon termination of the Contract.

The Client will undertake to have the warranted space heating appliances installed under this Contract.

The Client will undertake to have the warranted space heating appliances serviced at five yearly intervals either under this contract or a subsequent contract.

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Provider's Space Heating and Hot Water Warranty

The Work will also include the provision of a warranty for each electric space heating and hot water system installed by the Provider and this warranty must provide for the following features:

The warranty guarantees the repair of all defects and any Customer's misunderstanding and abuse to the electric space heating and hot water system at no cost to the Client (including the cost of all parts, labour and any other charges) for a period of 12 months from the date of installation of the system.

Five Yearly Servicing and Routine and Responsive Maintenance Service

For the avoidance of doubt, the electric space heating and hot water system installed under this part of the service, with immediate effect, is repaired by the Provider under the routine and responsive maintenance service of this Contract, however while the electric space heating and hot water system is under the Provider's 12 month warranty, no payment will be made for the installation under the routine and response maintenance service during this time.

As part of the Providers routine and responsive maintenance service of this Contract the Provider is responsible for obtaining all parts and recovering all associated labour costs or any other expenses, directly from the space heating appliance manufacturer under the space heating appliance manufacturer's warranty.

DESIGN PROCESS

Design Criteria

011 The Design criteria for the electric space heating and hot water systems shall be as follows:

012 Electric space heating systems shall be Designed to achieve and maintain the following minimum room temperatures when the ambient external temperature is -4°c, and the air change rate is as detailed below.

Habitable Room	**Room Temperature**	**Air**
Living Room	21°c	1.5
Dining Room	21°c	1.5
Kitchen/Dining Room	21°c	2
Bed Sitting Room	21°c	1.5
Circulating spaces	18°c	1.5
Bathrooms	23°c	3
WC's	23°c	2
Kitchens	18°c	2
Bedrooms	18°c	N/A
Mobility (Standard)	21°c throughout	As rooms above

Where extract fans are fitted the Provider shall allow for 60 l/s for Kitchens with an extract fan or 30//s with a cooker hood and 15 l/s for Bathrooms

A rear hall or porch are not deemed to be a habitable room.

ELECTRIC SPACE HEATING SYSTEMS

Standard: To TEHVA DOM 8: Guide to the design of electric space heating systems and current Domestic Building Services Compliance Guide

HEATING APPLIANCE TYPES:

For Electric Economy 7 off peak tariff appliances with automatic control of input charge; with local temperature and time control to take the maximum advantage of the Economy 7 off peak tariff.

For Electric Direct Acting appliances with local temperature and time control; designed to operate from the day rate electricity tariff.

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For Electric Direct Acting fan heater appliance with local time control designed to operate from the day rate electricity tariff, where an electric Economy 7 off peak tariff appliance cannot be installed.

ELECTRIC SPACE HEATING APPLIANCE	ROOM
FOR ECONOMY 7 OFF PEAK TARIFF	LIVING ROOM
	KITCHEN
	DINING ROOM
	KITCHEN/DINING
	HALL
	MAIN BEDROOM (MOBILITY)
	BATHROOM (WHERE FEASIBILE)
FOR DIRECT ACTING DAY RATE TARIFF	ALL OTHER BEDROOMS
FOR DIRECT ACTING DAY RATE TARIFF (FAN HEATER)	KITCHEN
	BATHROOM

Where an electric Economy 7 off peak tariff appliance cannot be installed in the Kitchen or Bathroom; a wall mounted electric direct acting day rate fan heater rated at 2kW shall be installed

ELECTRIC HOT WATER SYSTEMS

Standard: To TEHVA DOM 9: guide to electric hot water heating systems
Type: Open vented cylinder from a cold water cistern located in the roof space or an open vented combination unit hot water storage system or hot storage type unit installed primarily within the dwelling; complete with 2 No. 3kW electric immersion heaters.

It is usual to provide hot water requirements to TEHVA DOM9: Guide to the Design of Electric Hot Water Heating Systems with a hot water storage capacity of 210 litres where technically and practically feasible. However, due to limited space requirements smaller quantities of hot water may be an overriding factor to be considered for the size of cylinder to be provided.

OCCUPANCY	CYLINDER CAPACITY
2 PERSONS	120 Litres 144 Litres 210 Litres
3 PERSONS	144 Litres 210 Litres
4/5 PERSONS	144Litres 210 Litres

013 With regard to heat loss calculations, these shall be in accordance with the Chartered Institute of Building Services Engineers Environmental Guide A and TEHVA DOM8: Guide to the Design of Electric Space Heating Systems taking into account the following:

- the heat loss of the structure;
- the air infiltration loss;
- the effectiveness of heat losses to the room;
- the heating period;
- the thermal mass of the structure (i.e. if it is timber framed or building block construction);
- the approximate percentage of direct acting required for both economic considerations; and accurate control

The Provider shall allow for upgrading the thickness of loft insulation to a minimum depth of 270mm.

Space heating appliances can be placed away from windows and the inconvenience caused by curtaining and are then best sited on an internal wall adjacent an external wall, where possible, in order to minimise "back losses"

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A 10% contingency shall be allowed on the total system Design to allow for general heating losses.

It shall be assumed that adjacent properties are heated to 10°c for heat loss calculation purposes.

014 All heat loss calculations shall be forwarded as part of the Design Information to the Client's Representative.

Initial Survey

015 Following Instruction, the Provider shall include for an initial survey of the Property. Access arrangements shall be made direct with the Customer.

016 The initial survey for new installations will be for the purposes of determining the:

- Information for heat loss calculations, i.e. room/window dimensions, wall construction, number of external walls.
- Layout of space heating appliances, cabling routes, etc.
- Location of hot water storage cylinder/combination unit/hot water unit.
- Size and adequacy of incoming water main.
- Position of incoming mains water stopcock.
- Existing electrical earth arrangements .
- Number and location of extract fans.
- Existing loft insulation thickness.
- Any evidence of condensation problems.
- Window type: frame material, glazing type, condition and if draught proofed.
- Wall insulation thickness, if any.
- Any other roof insulation and its thickness, e.g. flat roofs.

Continuity of Services

017 The Provider will leave the properties with all services in proper working order at the end of each working day. Under no circumstances shall Customers be without the use of these services and facilities overnight.

018 Ensure that an alternative form of heating is available for the Customer during the period of works. The alternative form of heating will be two portable electric panel heaters of 3kw output with time and temperature control.

Elderly and Persons with a Disability Property

019 Special care and consideration must be given to all the above Property. Property for Persons with a disability will require on site consultation and agreement.

Electrical Supplies

020 Under **no circumstances** must work be started in any Property that is not fitted with all services and meters.

021 All electrical Work must be carried out by skilled (electrical) persons, who must issue current Electrical Installation Certificates (EIC) for each individual installation.

022 No installation shall be started until the earth arrangements have been tested and proved satisfactory. Therefore, before Work of any nature proceeds in the property the electrical installation must be tested. Should it fail reference should be made to the Client.

023 No installation will be accepted for payment unless such certificate is provided. Equally a note must be made on the certificate that all bonding has been completed in accordance with the British Standard for electrical installations.

024 The Provider is to inspect the loft space of the Property and establish the depth of insulation existing, if below the minimum requirements of 270mm, the Provider is to allow for upgrading the insulation to this minimum depth. The cost of upgrading the insulation will be reimbursed at the rates in the Schedule of Rates, these rates are deemed to include the cost of moving and reinstating any Customer content stored in the loft.

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Design Information

025 The Provider shall submit details of the initial survey.

1. A schematic working drawing layout of the Property on each floor identifying heater positions and sizes together with proposed, cabling routes and consumer unit sizes and layout. The location of the cylinder shall also be included on the drawing together with cold water services and domestic hot water services.
2. Heat loss calculations.

026 The Provider will require written agreement to the design proposals from the Client's Representative before site works can start.

027 Failure of the Provider to provide working drawings, schedules and calculations may lead to additional time and costs being incurred by the Client which shall be passed on to the Provider to bear.

028 The approval by the Client's Representative of such drawings, schedules and calculations covers only the general principles of the work concerned and does not absolve the Provider from carrying out the Works in accordance with the Specification and good engineering practice.

029 The Client's Representative shall have the right to change the Provider's Design with no financial implications to the Client. The Provider is to comply with all Customer requirements with regard to space heating appliances location in each room at no financial implication to the Client. The Provider is to explain the full extent of the Works i.e. space heating appliances positions, controls, and all other electrical services contained within the Contract to the Customer and then request the Customer to sign the Customer agreement form. The Customer agreement form shall be produced by the Provider and submitted to the Client's Representative for approval at the pre-contract meeting.

Regulations and Standards

030 The Design and installation of new electrical heating and hot water service systems shall comply with all appropriate Regulations, British Standards and Codes of Practice.

031 The Works shall also be in accordance with the manufacturer's instructions and current Building Regulations

032 With regard to implementation of the Works, the Provider shall also take into account the following Health and Safety Regulations:

- Management of Health and Safety at Work Regulations 1999
- Reporting of Injuries, Diseases and Dangerous Occurrences Regulations (RIDDOR) 2013
- Manual Handling Operations Regulations 1992 as amended 2002
- The Control of Substances Harmful to Health Regulations 2002 (COSHH)
-
- The Provision and Use of Work Equipment Regulations 1998 (PUWER)
- Electricity at Work Regulations 1989
- Construction (Health, Safety and Welfare) Regulations 1998

033 Electrical works shall be in accordance with the British Standards for electrical installations.

STANDARD SPECIFICATION

General Preamble

034 Where Properties are occupied during the works the Provider shall take all reasonable steps to ensure that inconvenience and disturbance to the occupiers is minimised.

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035 Once work commences in a Property it must be continuous without interruption until completion.

036 The Provider is to allow for protection of all fixtures and fittings including carpets. Move, take up, reinstall and replace all furniture, fittings and fixtures as may be necessary to execute the works. Re-position items of furniture and appliances at the end of each working day whether Work is completed or not.

037 The Provider must protect and maintain existing services at all times, inform the Customers prior to disconnection and adaptation Works, which are to be for the minimum period possible. No services are to be left disconnected overnight.

038 The Provider is to make good to all adjacent structures and surfaces disturbed during the Works, whether specifically mentioned or not. Any damage caused by carelessness or want of skill on **the part of the Provider shall be immediately made good at the Providers expense**.

039 All carpets, floor coverings, underlay, hardboard, floorboards, etc., (excluding laminated wood flooring) is to be properly and professionally re-fitted on completion of the installation.

040 Materials or tools must not be stored within the Property, including communal areas or gardens.

PERFORMANCE SPECIFICATION

Storage, Panel and other Heaters-Generally

041 The Provider shall Design for and install storage, fan, convector, panel or other types of heaters from the one manufacturer.

042 Space heating appliances shall be sized by the Provider to suit. All space heating appliances are to be fitted according to manufacturer's instructions and fixings and fittings shall be used to facilitate easy removal for repair.

043 All space heating appliances shall carry a minimum **five year's manufacturer's warranty** with a minimum five year parts and labour warranty and this shall be arranged to run from the date of the completion certificate. The Provider is to provide a space heater appliance installation record secured to the inside of the casing giving the Provider's name and address and the date of installation.

044 ELECTRIC SPACE HEATING APPLIANCE FOR ECONOMY 7 TARIFF
Standard: To British Standard
Approvals: BEAB/EMC/CE Mark
Type: Economy 7 Tariff Appliance
Economical Use: Electrical energy utilising the best of stored and direct acting heating technologies

Electric Heating Systems	New and Replacement Systems		Supplementary information
Economy 7 Tariff Appliance	Charge Control	Automatic control of input charge	Charge control is the ability to detect the internal temperature and adjust the charging of the heater accordingly
	Temperature and Time Control	Temperature and Time control by adjusting the rate of heat release from the appliance, using a thermostatically controlled method	

Mounting: To be securely fixed to wall in accordance with the Manufacturer's fixing instructions with floor fixing feet
Electrical Supply: 230/240V/1ph/50Hz.

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045 ELECTRIC SPACE HEATING APPLIANCE FOR DIRECT ACTING DAY RATE TARIFF
Standard: To British Standard
Approvals: BEAB/EMC CE Mark
Type: Direct Acting Electric Appliance utilising best heating technology

Electric Heating Systems	New and Replacement Systems		
Electric Day Rate Tariff Appliance	Local time and temperature control	Time control by a programmable Time switch integrated into the appliance or a separate time switch Individual temperature control by integrated thermostats or by separate room thermostats or programmable room thermostats	Appliances provide instantaneous heat

Mounting: To be securely fixed to wall in accordance with Manufacturer's fixing instructions
Electrical Supply: 230/240V/1ph/50Hz.

046 ELECTRIC DIRECT ACTING DAY RATE FOCAL INSET FIRE
Standard: To British Standard
Approval: BEAB/ CE mark. Type: Direct Acting Electric Inset Fire, to fit chimney opening
Construction: Chassis and surround to be metallic with black/brass or black finish suitable for full recess
Heater Type: Fan Convection
Max Heat Output: 2kW
Coal Bed: One piece with switchable choice for flame effect independent of heat source
Sound: Fan noise suppressed to 50 decibel maximum when in operation.
Lights: LED bulbs for long life and low energy consumption
Controls: ON/OFF switch with multiple heat settings and thermostat control
Fixing: To be securely fixed to the hearth or surround as Code of Practice F30 (3) Tiled Insets and Hearths for Electric Fire Installations
Electrical Supply: 230/240V/1ph/50Hz.

047 ELECTRIC DIRECT ACTING DAY RATE FAN HEATER
Standard: To British Standard
Approvals: BEAB/ CE Mark
Type: Electric Direct Acting Day Rate
Construction: Double insulated plastic case.
Moulded in flame retardant self-extinguishing grade nylon
Heater Type: Fan Convection
Max Heat Output: 2kW with energy saving function to reduce output to 1kW once room is warm
Colour/Finish: White finish and grille
Controls: Thermal overload and thermal fuse link protection against overheating
Local Time Control: Running timer with auto shut off set to 30 minute operation
Switching: Ceiling pull core operation with red neon lamp to indicate status
Rating: IPX2
Fixing: To be securely fixed to wall in accordance with the Manufacturer's fixing instructions
Electrical Supply: 230/240V/1ph/50Hz.

048 PORTABLE ELECTRIC PANEL HEATER (FOR TEMPORARY HEAT):
Standard: To British Standard
Approvals: BEAB/ CE Mark.
Type: Direct Acting Electric Portable Convector panel supplied with feet, cable and plug.
Heater: 2kW output
Colour/Finish: White/Graphic grey

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Controls: Thermostat control, heat selector switch and thermal cut off switch.
Rating: IPX2
Operation: Heater to be used strictly in accordance with the Manufacturer's important safety advice and **MUST NOT BE USED** in a Bathroom.
Electrical Supply: 230/240V/1ph/50Hz

049 DIRECT HOT WATER STORAGE CYLINDERS (ELECTRIC HEATING):
Standard: To British Standard, Grade 3.
Hot Water Capacity: To TEHVA DOM 9: Guide to the design of electric heating hot water systems
Insulation: Factory applied as Clause 419.
Accessories: Anti corrosion aluminium anode,
2No. BSP screwed connections for side entry immersion heaters.

050 FACTORY APPLIED INSULATION TO CYLINDER:
Insulation: To comply with Building Regulations Approved Documents Part L.
Type: CFC free foam factory applied insulation to the sides and top of cylinder; NOT bottom Thickness: 50mm for new and replacement cylinders.

051 DIRECT INSULATED COMBINATION UNITS (ELECTRIC HEATING):
Standard: To British Standard, Grade 3
Hot Water Capacity: To TEHVA DOM 8: Guide to the design of electric hot water heating, where the cylinder is supplied as a complete assembly; cold water storage cistern, 227 Litres capacity.
Insulation: Hot water cylinder: Factory applied.
Cold water cistern: Insulation jacket.
Accessories: Anti-corrosion aluminium anode, 2 No BSP connections for side entry immersion heaters as Clause 051, supported at the required levels on an open type purpose made rust-proof mild steel frame with base and levelling screws.
There should be sufficient space for access to and removal of immersion heaters, and replacing the ball valve; the supporting structure should give adequate distribution of the load.

052 IMMERSION HEATERS:
Standard: To British Standard, and BEAB approved.
Type: Single element alloy sheathed.
Loading: 3KW.
Element length: 355mm.
Mounting: Side entry (2No. per cylinder).
Thermostat: Safety rod thermostat to British Standard having a secondary re-settable thermostat button fitted.
Thermostat Settings: Recommended 65 deg. C. for lower side entry unit 55 deg. C. for upper side entry unit.
Exceptional circumstances: Special combination units may require a bottom entry unit with length tailored to situation.

Guarantees, Warranties etc.,

053 The Provider is required to supply to the Client's Representative a copy of all relevant guarantees, warranties, service and maintenance manuals applicable to the products installed when requested by the Client or the Client's Representative, the cost of the provision of such guarantees, warranties etc is deemed to be included in the rates within the Schedule of Rates, other Tendered rates, and the Provider's tendered percentage adjustments.

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Client's current manufacturers/suppliers/products

054 Ensure all Materials are compatible with and standardised to the Client's current products specified in the table below (listed by manufacturers, suppliers and/or brand names).

Product	Brand Name	Manufacturer's Details

[complete table as appropriate]

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