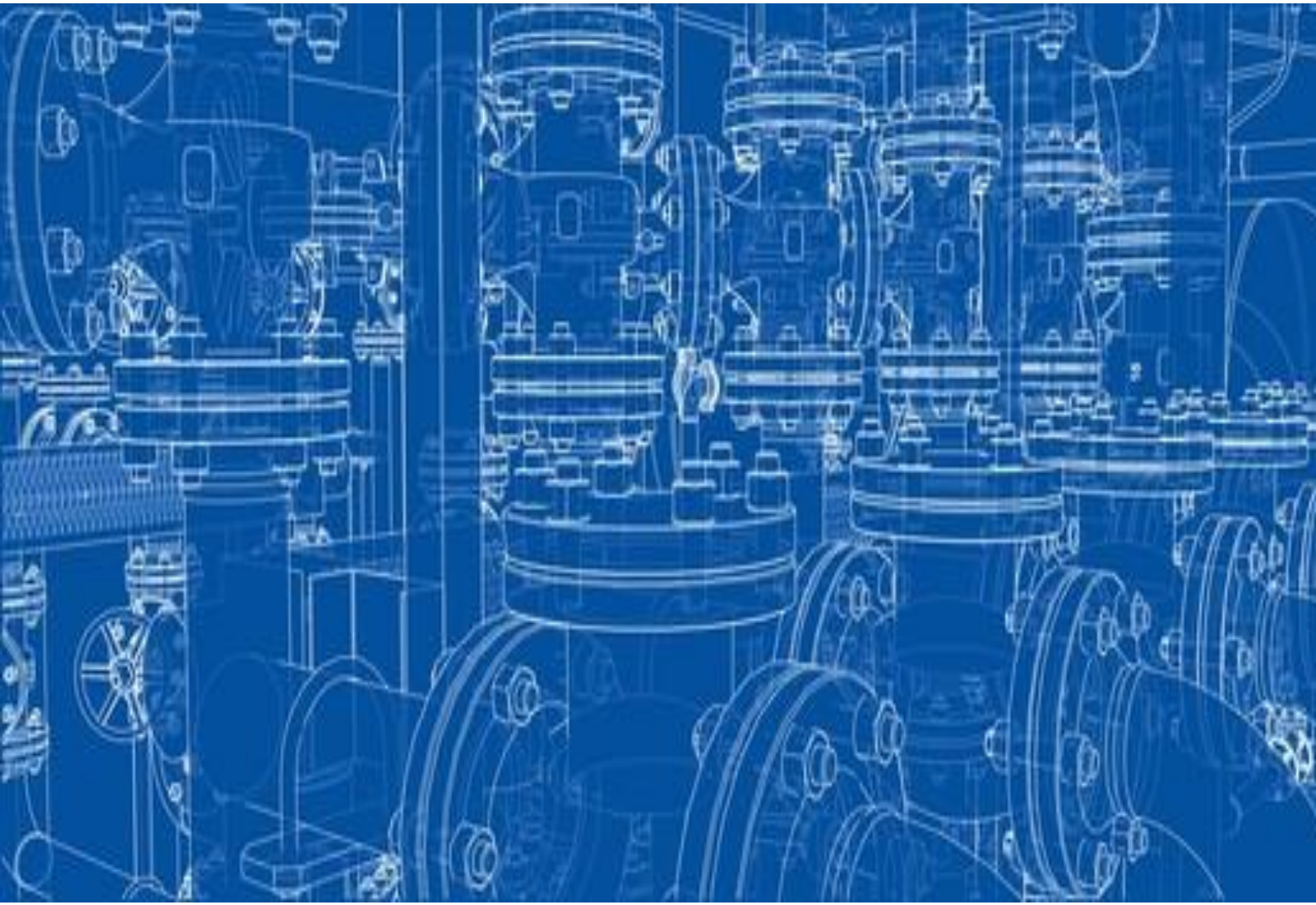
NHS Property Services

TECHNICAL SPECIFICATION (TS-20-AST)

NHSPS Asset Standardisation - Preferred Assets

January 2025 / Version 3.1

This document is a reference guide to the preferred manufacturers and models, or specific safety and performance criteria, that should be met when specifying key M&E or building assets for use in within the NHSPS Estate. This is a live document so please submit any feedback and suggestions to the Hard FM Expertise Team.



Version History

Version Number	Author	Date	Description of Change
0.1	Principal Technical Services Manager	01/03/2022	Initial document drafted.
1.1	Principal Technical Services Manager	09/09/2022	Update of BMS Section.
1.2	Principal Technical Services Manager	04/11/2022	Update of Calorifier and Gas Fired Water Heater sections.
1.3	Principal Technical Services Manager	02/12/2022	Addition of Electrical Wiring Accessories Section.
1.4	Principal Technical Services Manager	16/12/2022	Addition of 6.8 Valves Thermostatic Radiator Valves and update of Surge Protection Device Information.
1.6	Technical Standards Manager	01/02/2023	Document updated as per Document Version Control document.
2.2	Infrastructure Asset Manager	30/05/2023	Document renamed to meet IAM and Hard FM naming convention.
2.3	Infrastructure Asset Manager	01/03/2024	Addition of the following sections: Access Control Systems Air Conditioning and Air Source Heat Pumps Air Handling Units and Associated Terminal Units BMS and Associated Control Assets Calorifiers Centralised & Self-testing Emergency Lighting Systems Cold Water Storage Tanks Domestic Water Services Pipework Electrical Wiring Accessories Emergency Refuge Alarm Systems Energy Efficient Lighting & Equipment EV Charging Units Fire & Security Roller Shutters Fire Alarm Systems Fire Doorsets Fire Suppression Systems Gas Fired Boilers Gas Fired Water Heaters Generator Control Panels Generator Sets Goods & Passenger Lifts Ground Source Heat Pumps Intruder Alarm Systems LV Distribution Equipment Medical Gas Anaesthetic Gas Scavenging System Medical Gas Area Valve Service Units Medical Gas Vacuum Plant Medical Gases Manifolds (Including ESM's and ERM's) Passive Fire & Smoke Protection Systems Photovoltaic Systems Plate Heat Exchangers Pool Equipment & Systems

			Pumps Safety & Security Ironmongery Specialist Water Treatment Surge Protection Devices Valves - Level, Gate, Globe, Balancing, Differential Valves - Pressure Relief Valves and Temperature Pressure Relief Valves Valves - Thermostatic Mixing Valves or Taps (TMV and TMT) Valves - Thermostatic Radiator Valves (TRV)
3.0	Infrastructure Asset Manager	15/05/2024	Document updated as per Document Version Control document.
3.1	Infrastructure Asset Manager	01/01/2025	Further details added to most sections, NHSPS Standard Building Specification links embedded accordingly, NHSPS Energy Performance Specification links embedded accordingly. Addition of the following sections: Filtration Systems (Air, Water, Compressed Air) Nurse-call Alarm Staff & Patient Alarm

Review History

Version Number	Date	Reviewer
0.2	16/03/2022	Technical Standards Manager
1.5	31/01/2023	Technical Standards Manager
2.4		Policy & Process Manager
3.0	13/02/2025	Policy & Process Manager

Approved for Release

Version Number	Date	Approver
1.0	24/03/2022	Head of Technical Services
2.0	01/02/2023	Head of Hard FM Expertise
3.0	18/07/2024	Head of Hard FM Expertise

Document Review

This document is a working document and therefore will be continually reviewed and updated based on the requirements of the organisation.
It will also be periodically reviewed on an annual basis.

Contents

1 Authors and contributors

The Author of this document is the Principal Technical Services Manager.

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2 Aim

This document is a reference guide to the preferred manufacturers and models, or where there is no specific desire to use certain makes or models, we have outlined the minimum standards or accreditation requirements of key Mechanical and Electrical Assets and their installation, for use within NHSPS properties. The NHSPS selection of preferred manufacturers and models is often completed following a multi-layered review, where value for money, reliability, efficiency, technical support and parts availability via NHS supply chains, are all evaluated and accounted for.

It is not a mandatory requirement to exclusively use the Assets identified within this document, as circumstances may dictate an alternative is more suitable or available, but variation from those Assets and systems outlined will need to be reviewed and agreed prior to use or installation.

3 Terminology

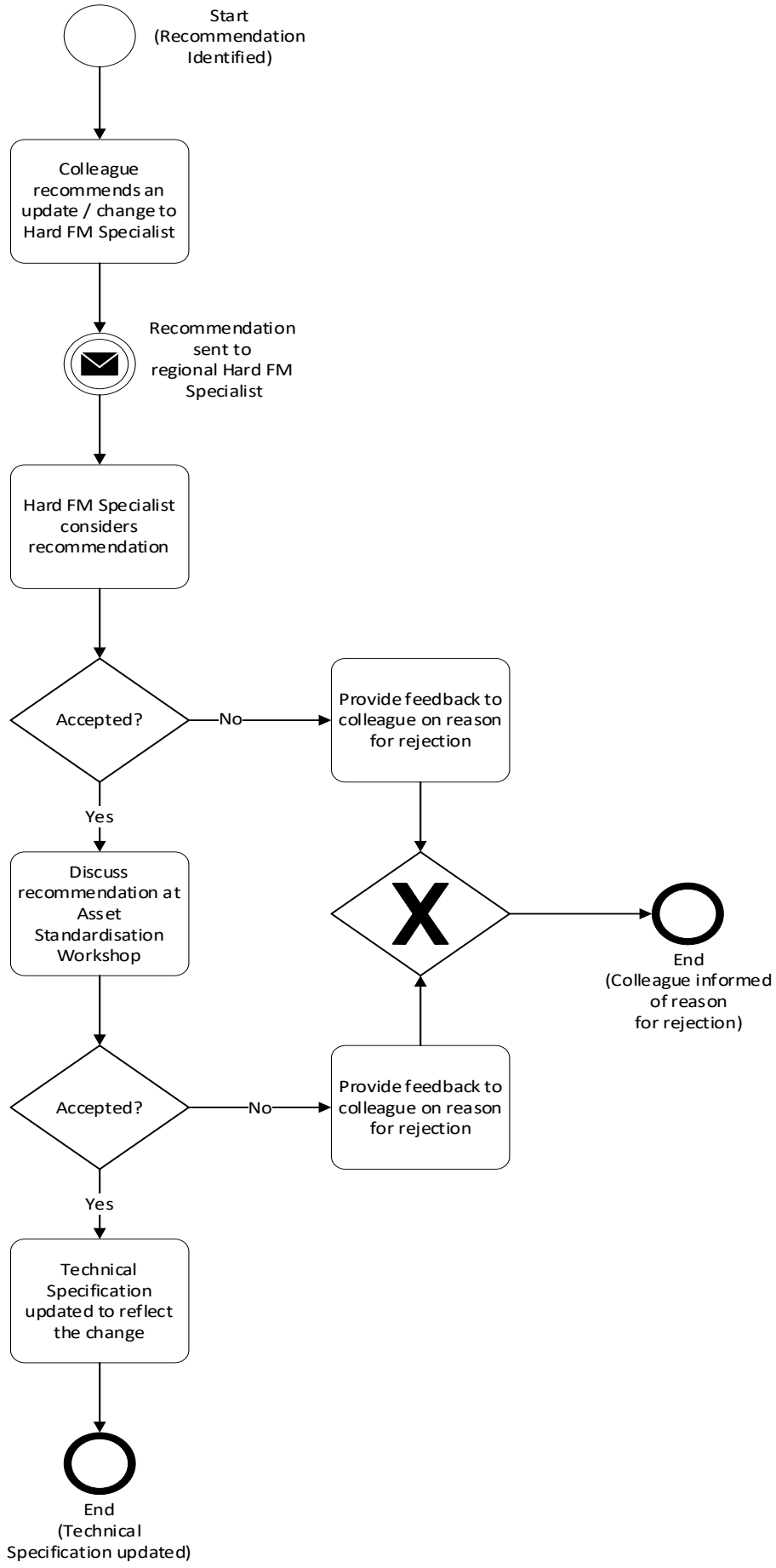
Term	Definition
BMS	Building Management System
NHSPS	NHS Property Services
SME	Subject Matter Expert

4 Related Documents

The following document is related to this technical subject:

- TS-06-FIRE – Fire Alarm Systems – Fire Alarm Specification.
- TS-06-FDOOR – Fire Doors Specification.
- TG-03-Water – NHSPS Water Management Guidance.
- TG-05-Elec – NHSPS Electrical Management Guidance.
- TG-14–MGPS – NHSPS Medical Gases Pipeline Systems Guidance.
- TG-16-F-Gas – NHSPS Fluorinated Gas Systems Guidance.
- TG-21-Comb – NHSPS Combustion Guidance.
- TG-22-Vent – NHSPS Ventilation Management Guidance.
- TG-23-Pools – NHSPS Hydrotherapy & Birthing Pools Guidance.
- Energy & Environment – Performance Standards Specification.
- NHSPS Standard Health Design Standards.
- NHSPS Building Management System Strategy.

5 Recommendation Process



6 Asset Types

6.1 Access Control Systems

Should be specified as being open protocol system architecture, as to allow easy access by our suppliers to programming for systems additions and changes. They should be made by one of the following manufacturers, as these offer products and installations that have been proven as the most reliable, sound quality and value, and well supported via both the NHSPS and wider NHS supply chains.

Preferred Manufacturer	Application	Rationale
Honeywell	Digital programmable access control system	* Industry recognised. * Availability. * Functionality. * Reliability.
Johnson Controls	Digital programmable access control system	* Industry recognised. * Availability. * Functionality. * Reliability.
Paxton	Digital programmable access control system	* Industry recognised. * Availability. * Functionality. * Reliability.

6.2 Air Conditioning and Air Source Heat Pumps

Should be made by one of the following manufacturers, as these offer products that have been proven as the most reliable, easiest to maintain and well supported via both the NHSPS and wider NHS supply chains. These suppliers are also leading the market on pump technology innovation to increase refrigeration and heat extraction efficiencies, recyclability of components and parts, as well as improved environmental control.

Installation and Asset data recording guidance is provided in TG-16-FGas - Fluorinated Gas Systems. This is a link to the Performance Standards Specification for checking both the minimum and stretch energy performance targets for Assets, Asset and System components (fan motors, motor control inverters, thermal insulation, etc.) and key building fabric: 21144 - Specification Performance Standards Document v1.18.xlsx

Designers, project consultants, and installers must refer to the Heat Pump Specification database as published by the Energy Networks Association (link https://www.energynetworks.org/assets/images/Publications/2023/ena-heat-pump-database.xls?1711467723), for correct sizing, ratings, and type selection.

Preferred Manufacturer	Application	Rationale
Daikin	VRV, Split Systems, Heat Pumps Preferred for use in all NHSPS Buildings	* Ease of maintenance. * Availability of spares. * Good technical support. * Favourable lifecycle cost. * Preferred customer accreditation. * Energy efficient.
Mitsubishi	VRV, Split Systems, Heat Pumps Preferred for use in all NHSPS Buildings	* Ease of maintenance. * Availability of spares. * Good technical support. * Favourable lifecycle cost. * Preferred customer accreditation. * Energy efficient. * Trusted.
Fujitsu	VRV, Split Systems, Heat Pumps Preferred for use in all NHSPS Buildings	* Ease of maintenance. * Availability of spares. * Good technical support. * Favourable lifecycle cost. * Preferred customer accreditation. * Energy efficient. * Trusted.
Trane	Central Chiller Plant. Preferred for use in all NHSPS Buildings	* Ease of maintenance. * Availability of spares. * Good technical support. * Favourable lifecycle cost. * Preferred customer accreditation. * Energy efficient. * Trusted.
McQuay (Daikin)	Central Chiller Plant. Preferred for use in all NHSPS Buildings	* Ease of maintenance. * Availability of spares. * Good technical support. * Favourable lifecycle cost. * Energy efficient. * Trusted.
Carrier	Central Chiller Plant. Preferred for use in all NHSPS Buildings	* Ease of maintenance. * Availability of spares. * Good technical support. * Favourable lifecycle cost. * Preferred customer accreditation. * Energy efficient. * Trusted.

6.3 Air Handling Units and Associated Terminal Units

Newly specified Air Handling Units (AHUs) should incorporate a form of heat recovery from the extracted air, to help boost efficiency and pre-tempering prior to the main heating coil. The most common types of heat recovery are: thermal wheel; plate heat exchanger; or run around circuit. All condensation moisture is to be collected via free-flowing constant fall trays, traps and drainage pipework that prevents any pooling, where u-bend vapour/odour traps are made of glass or acrylic to enable viewing of the colour or state of the condense water. All fan motors (supply & extract) should have a minimum efficiency rating of IE4, but IE5 would be preferred.

As outlined in NHSPS Technical Guidance TG-22-Vent - General and Specialist Ventilation, for general office and clinical consultation type spaces, a general AHU should supply and extract air at a rate to achieve a minimum of 6 air changes per hour, in each room or area the system serves.

For specialist ventilation AHUs and systems, the minimum performance criteria for flow rates, noise and air changes is set out in the current HTM 03-01 part A, where the areas the system serves dictating the respective performance parameters. Any variation to the current HTM AHU or system performance specifications will need recording as a derogation and agreeing with NHSPS and the system users, before acceptance or handover is completed.

These should be wholly made or assembled by one of the following manufacturers and chosen per application and space available, as these ensure products and components meet certain hygiene and healthcare standards and are proven as the most reliable, easiest to clean and maintain, and well supported via both the NHSPS and wider NHS supply chains.

This is a link to the Performance Standards Specification for checking both the minimum and stretch energy performance targets for Assets, Asset and System components (fan motors, motor control inverters, thermal insulation, etc.) and key building fabric: 21144 - Specification Performance Standards Document v1.18.xlsx

Preferred Manufacturer	Application	Rationale
AHS	Internal and external packaged or modular Air Handling Units used for General and Critical ventilation	* Healthcare hygiene standards. * Industry recognised. * Availability. * Functionality. * Reliability. * Energy efficient.
Dalair	Internal and external packaged or modular Air Handling Units used for General and Critical ventilation	* Healthcare hygiene standards. * Industry recognised. * Availability. * Functionality. * Reliability. * Energy efficient.
Medexs	Internal and external packaged or modular Air Handling Units used for General and Critical ventilation	* Healthcare hygiene standards. * Industry recognised. * Availability. * Functionality. * Reliability. * Energy efficient.

6.4 BMS and Associated Control Assets

Any installed BMS controllers and outstations should be BACnet compatible and open protocol, as well as incorporated into the NHSPS networked BMS control system and connected to the monitoring bureau. The setup and key operating parameters for any installed BMS systems are documented in the Technical Guidance document NHS Property Services BMS Strategy.

BMS control output devices should be selected from the following manufacturers, as these offer products that have been proven as the most reliable, easiest to maintain and well supported via both the NHSPS and wider NHS supply chains.

Protocol and Preferred Manufacturer	Application	Rationale
BACnet open Protocol	Preferred for use in all NHSPS Buildings. Required to have remote connectivity and be BACnet enabled to connect to IQ Vision – system does not have to be Trend	* Wide range of partners. * Cost competitiveness * Backwards compatibility * Industry recognised. * Parts availability. * Functionality. * Reliability. * Open protocol. * Remote connectivity.
Belimo Actuators	Preferred for use in all NHSPS Buildings unless unable due to infrastructure constraints.	* Industry recognised component. * Availability. * Functionality.
Siemens Actuators	Preferred for use in all NHSPS Buildings unless unable due to infrastructure constraints.	* Industry recognised component. * Availability. * Functionality.
Schneider Actuators	Preferred for use in all NHSPS Buildings unless unable due to infrastructure constraints.	* Industry recognised component. * Availability. * Functionality.

6.5 Building Insulation & Thermal Protection (incl. windows)

When undertaking refurbishment or replacement works on our buildings fabric and structure, you should refer to the guidance as set out in the NHSPS Schedule of Standards and Minimum Design Requirements: 241025 NHS PS Standard Health Design Standards V17 Including Appendicies - Final

Should be made to meet the minimum performance specification as set out below, to ensure our buildings are energy efficient by design and build, as well as contributing towards the NHS England target of being net carbon zero by 2040, and well supported via both the NHSPS and wider NHS supply chains.

This is a link to the Performance Standards Specification for checking both the minimum and stretch energy performance targets for Assets, Asset and System components (fan motors, motor control inverters, thermal insulation, etc.) and key building fabric: 21144 - Specification Performance Standards Document v1.18.xlsx

Minimum Performance	Application	Rationale
Minimum energy performance for: Double glazed windows = 1.6W/m²K Triple glazed windows = 1.0W/m²K Doors = 1.4W/m²K	Window and glazed door units	* Complies with the Building Regulations AD L2 2021. * Availability. * Energy efficient.
Minimum energy performance for: Wall insulation = 1.6W/m²K	Stud and structural wall insulation	* Complies with the Building Regulations AD L2 2021. * Availability. * Energy efficient.
Minimum energy performance for: Pitched roof installations = 0.18W/m²K Flat roof installations = 0.18W/m²K	Pitched and Flat roof installations	* Complies with the Building Regulations AD L2 2021. * Availability. * Energy efficient.
Minimum energy performance for: Floor installations = 0.25W/m²K	Building floor installations	* Complies with the Building Regulations AD L2 2021. * Availability. * Energy efficient.

6.6 Calorifiers

Must.

- Be HTM Compliant, e.g. Lining that is resistant to bacteriological growth, inspection hatches, suitably sized drain off located as close to the bottom of the vessel as possible, convex base to cylinder.
- Have renewable fuel source capability, i.e. be dual-coil, utilising both an electrically heated coil as main source of heat with a secondary source such as Solar Thermal, electric immersion, etc.
- Capable of pasteurisation to at least >60°C for one hour and maintain HTM Compliant temperatures when operating on electric immersion only, as per section 11.2 in the NHSPS Water Management Guidance TG-03 (TG-03-Water).

Preferred Manufacturer	Application	Rationale
McDonald	Preferred for use in all NHSPS Buildings unless unable due to infrastructure constraints.	* Ease of maintenance. * Availability of spares. * Good technical support. * Energy Efficient.
Ormandy Rycroft	Preferred for use in all NHSPS Buildings unless unable due to infrastructure constraints.	* Ease of maintenance. * Availability of spares. * Good technical support. * Favourable lifecycle cost. * Energy Efficient.
Hamworthy Powerstock	Preferred for use in all NHSPS Buildings that do not require to be HTM compliant, unless unable due to infrastructure constraints. NB. Does not have a drain off at the lowest point on the vessel	* Available in Glass lined option * Ease of maintenance. * Availability of spares. * Favourable lifecycle cost. * Energy Efficient.

6.7 Centralised & Self-testing Emergency Lighting Systems

New Centralised & Self-testing EML systems and panels should be specified as being open protocol system architecture where possible, as to allow easy access by our suppliers to programming for systems additions and changes.

Self-testing systems should include compatibility with Dali and MyMesh lighting control platforms and architecture.

Minimum Specification and Accreditation	Application	Rationale
System design and install to comply with LG 2 BS 5266-1. Standalone fully automatic self-testing emergency lighting in accordance with ATS type PERC classification, as classified by BS EN 62034. Luminaires and signs incorporate self-contained emergency lighting operation with built-in standalone self-testing in accordance with ATS type S, as classified by BS EN 62034. Luminaires and signs automatically carry out testing in excess of the requirements of BS EN 1838/BS 5266 Part 7. To include a Nominal Test Cycle – To ensure that adjacent units do not test simultaneously	Centralised & Self-testing Emergency Lighting Systems	* Industry recognised. * Availability. * Functionality. * Reliability. * NHS supply chain support.

6.8 Cold Water Storage Tanks

Should be made by one of the following manufacturers, as these offer products that have been proven as the most reliable, healthcare compliant for water cleanliness, easiest to clean and maintain, and well supported via both the, manufacturer, NHSPS and wider NHS supply chains.

Preferred Manufacturer	Application	Rationale
Braithwaites	Cold Water Storage Tanks	* Comply with UK water supply regulations 1999. * WRAS Approved. * Industry recognised. * Functionality. * Tanks are certified to ISO 9001, 14001 and 45001 for quality, environment and safety.
Balmoral	Cold Water Storage Tanks	* Comply with UK water supply regulations 1999. * WRAS Approved. * Industry recognised. * Functionality. * Tanks are certified to ISO 9001, 14001 and 45001 for quality, environment and safety.

6.9 Domestic Water Services Pipework

The use of EPDM (Ethylene Propylene Diene Monomer) flexible braided rubber hoses shall be prohibited in the installation of new domestic water facilities including WRAS approved items. This applies to flexible hoses from mixed domestic water supplies as well as to separate hot and cold-water systems and feeds, as detailed in section 9.2 of the NHSPS Water Management Guidance TG-03 (TG-03-Water).

All final Domestic Water Services outlet connection pipework in NHSPS buildings shall be made in solid copper pipework.

Minimum Specification and Accreditation	Application	Rationale
The manufacturers pipework and fittings must be WRAS approved.	Preferred for use in all NHSPS Buildings.	Water Regulations compliant and water hygiene tested.

6.10 Electrical Wiring Accessories

Should be made by one of the following manufacturers, as these offer products that have been proven as the most reliable, most robust in design, and being well supported via both the NHSPS and wider NHS supply chains and most Electrical wholesalers.

Small power and lighting Distribution Boards and Power Distribution Units are to be designed and made so that they remain IP2X rated with the door open and first cover removed. This is to aid maintenance inspections and singular MCB and RCBO replacement, without the need to isolate the entire supply and board, thus minimising disruption to our customers.

Components	Preferred Manufacturer	Application	Rationale
Wiring Accessories such as – Sockets, Switches, Fused Spurs etc	MK	Preferred for use in all NHSPS Buildings.	* Industry recognised. * Availability. * Functionality. * Reliability. * Extensive support / purchasing network.
Wiring Accessories such as – Sockets, Switches, Fused Spurs etc	Schneider	Preferred for use in all NHSPS Buildings.	* Industry recognised. * Availability. * Functionality. * Reliability. * Extensive support / purchasing network.
Wiring Accessories such as – Sockets, Switches, Fused Spurs etc	Crabtree	Preferred for use in all NHSPS Buildings.	* Industry recognised. * Availability. * Functionality. * Reliability. * Extensive support / purchasing network.

6.11 Emergency Refuge Alarm Systems

New Emergency Refuge Alarm systems and panels should be specified as being open protocol system architecture, as to allow easy access by our suppliers to programming for systems additions and changes.

They should also be made and installed by a manufacturer or installer who is accredited to the bodies outlined below, as these are the minimum standards for these Assets and are recognised as providing the best aftercare and installation support, easiest to maintain, and well supported via both the NHSPS and wider NHS supply chains.

Minimum Specification and Accreditation	Application	Rationale
3rd Party Accredited i.e. Fire Industry Association (FIA), British Approvals for Fire Equipment (BAFE), Loss Prevention Certification Board (LPCB), Association for Specialist Fire Protection (ASFP)	Emergency Refuge Alarm Systems	* Industry recognised. * Availability. * Functionality. * Reliability. * Open Protocol.

6.12 Energy Efficient Lighting & Electrical Equipment

The NHSPS preferred supplier for supplying LED Lighting and installations is currently Energy Efficient Savings Group (EESG), with the Energy & Environment Team being key contract holders.

Other LED Lighting accessories are available from Electrical wholesalers and have various different specifications, but the NHSPS minimum standard for all new lighting installations is 100 Lumens per Watt of power used in the circuit, and the installation must comply with LG2 Lighting Guide 2 for Healthcare Premises. Motion sensors should be specified for lighting control in high traffic or low use areas, such as corridors, WC's, storerooms/cupboards.

The following manufacturer and installer are believed to offer products that have been proven as the most reliable, offer best value, and are well supported via both the NHSPS and wider NHS supply chains.

Preferred Manufacturer / Supplier	Application	Rationale
EESG	LED Lighting replacements. Emergency Lighting control and self-test systems.	* National NHSPS Supplier.

6.13 EV Charging Units

The NHSPS preferred supplier for supplying EV Charging Units and installations is currently Flowbird Smart City UK Ltd, with the Energy & Environment Team being key contract holders.

Other EV Charging Units are available from Electrical wholesalers, however, to enable a consistent product, operation and maintenance system across the estate any new EV charge points being installed should be provided through Flowbird. This will mean there is a consistent method of access, tariffs and ability to manage use data, as well as consistent maintenance and fault recording.

Refer to the EV Charging Strategy for more details *(being developed and awaiting sign off/approval*), but all EV chargers are to be supplied via an Open PEN (or O-PEN) protected Distribution Board or within the EV charging unit, as well as having a Type 1 or Type 2 Surge Protector with associated arrester cabling in-line on the electrical supply.

Preferred Manufacturer	Application	Rationale
Flowbird Smart City UK	Public and NHSPS EV Charging Units supply and install	* National Supplier.

6.14 Fire & Security Roller Shutters

They should also be made by a manufacturer whose product lines meet or exceed the standards outlined below, as these are the minimum standards for these Assets and are recognised as providing the best aftercare and installation support, easiest to maintain, and well supported via both the NHSPS and wider NHS supply chains.

Minimum Specification and Accreditation	Application	Rationale
BS EN: 16034: 2014 BS EN: 13241-1: 2003 LPS 1175 Security Protection	Fire Roller Shutters	* Industry recognised. * Insurance recommended. * Functionality. * Reliability. * Tested for fire protection.

6.15 Fire Alarm Systems

New Fire Alarm systems and panels should be specified as being open protocol system architecture, as to allow easy access by our suppliers to programming for systems additions and changes. Where our TS-06-FIRE Fire Alarm System specification states, should be connected to a GSM ready alarm monitoring and signalling device, which is connected to the NHSPS alarm monitoring centre, in a manner that meets BS 5839:1, as set out in section 18 of the TS-06-FIRE specification.

The NHSPS standard for fire alarm protection levels in our premises is outlined in the table below, an extract of section 8.2 as set out in section 18 of the TS-06-FIRE specification. Other key system selection criteria and installation standards apply, these are set out in sections 8 – 18 of TS-06-FIRE Fire Alarm Specification document (TS-06-FIRE - Fire Alarm Systems - Fire Alarm Specification).

8.2 Fire Alarm System Requirements by Property Type

		Tiering Definition (Appendix 1)					
		Tier 1	Tier 2	Tier 3	Vacant Property	Warehouse/ Storage	Temporary Property
Alarm Categorisation	L1	X					
	L2		X	X	X	X	X
	L3		X	X	X	X	
	L4						
	L5						
	P1					X	
	P2					X	
	M						
ARC		X	RA	RA	X	X	
Printer		RA	RA	RA			RA

Notes
RA – Requirement to be determined by a Risk Assessment

6.16 Fire Doorsets

They should also be made and installed by a manufacturer whose products are accredited with meeting or exceeding the standards outlined below, as these are the minimum standards for these Assets and are recognised as providing the best aftercare and installation support, easiest to maintain, and well supported via both the NHSPS and wider NHS supply chains.

NHSPS Technical Specification TS-08-FDOOR Fire Doors applies (TS-08-FDOOR - Fire Doors Specification).

Minimum Specification and Accreditation	Application	Rationale
BS: 8214: 2016 Timber Based Fire Door Assemblies - Code of Practice	Fire Doorset replacement, repair and installation	Door manufacturer's name and reference to the relevant Primary Test Evidence or Global Fire Resistance Assessment (GFRA)/ 3rd Party Accredited Manufacturers whose products have successfully been through fire testing to BS: 476 and/ or EN: 1634 and have a 3rd Party Accredited UKAS Report. Primary Test Evidence derives from a Fire Test by a named manufacturer at a UKAS Accredited Laboratory Where no specific Primary Test Evidence is available- referene may be made to a Global Fire Resistance Assessment (GFRA) aka A Product Assessment whereby analysis is mde of a series of test results and a professional judgement made by a qualified Fire Consultant. Assessments are statements of expert opinion based on observed test performance.

6.17 Fire Suppression Systems

Fire Suppression systems installed within the NHSPS estate should use one of the following fire suppressant mediums, as they are more environmentally safe and safe for building users in the event of discharge: CO2, FM200, Inergen, Foam.

They should also be made and installed by a manufacturer or installer who is accredited to the bodies outlined below, as these are the minimum standards for these Assets and are recognised as providing the best aftercare and installation support, easiest to maintain, and well supported via both the NHSPS and wider NHS supply chains. .

Minimum Specification and Accreditation	Application	Rationale
3rd Party Accredited i.e. Fire Industry Association (FIA), British Approvals for Fire Equipment (BAFE), Loss Prevention Certification Board (LPCB), Association for Specialist Fire Protection (ASFP)	Gaseous, liquid, foam and chemical Fire Suppression Systems	* Industry recognised. * Insurance recommended. * Functionality. * Reliability. * Availability. * Tested for fire protection.

6.18 Gas Fired Boilers

Replacement of single or multiple gas boiler Assets on a like-for-like basis should now be considered as the last option, favouring other emerging greener heating technologies, or for very specific operational reasons. If a gas boiler or boilers are specified for a new build property, refurbishment project, or reactive boiler Asset replacement, then they must meet the following criteria and be made by one of the following manufacturers in the table below, as these offer products that have been proven as the most reliable, easiest to maintain and well supported via both the NHSPS and wider NHS supply chains:

- Gas boilers must be hydrogen (H^2) ready
- They must have a maximum NOx emissions rating of 27mg/kWh to meet BREEAM requirements, with a stretch NOx emissions rating of 24mg/kWh

This is a link to the Performance Standards Specification for checking minimum and stretch performance targets for Assets and key building fabric: 21144 - Specification Performance Standards Document v1.18.xlsx

Preferred Manufacturer	Minimum Required Efficiency	Application	Rationale
Remeha	96%	Preferred for use in all NHSPS Buildings unless unable due to infrastructure constraints.	* Ease of maintenance. * Availability of spares. * Good technical support. * Widely used within NHSPS with positive feedback. * Favourable lifecycle cost. * Energy Efficient.
Hoval	96%	Preferred for use in all NHSPS Buildings unless unable due to infrastructure constraints.	* Ease of maintenance. * Availability of spares. * Good technical support. * Favourable lifecycle cost. * Energy Efficient.
Strebel	96%	Preferred for use in all NHSPS Buildings unless unable due to infrastructure constraints.	* Ease of maintenance. * Availability of spares. * Good technical support. * Favourable lifecycle cost. * Energy Efficient.
Vaillant	96%	Preferred for domestic sized installation of less than 35kW	* Ease of maintenance. * Availability of spares. * Good technical support. * Favourable lifecycle cost. * Energy Efficient.
Worcester Bosch	96%	Preferred for domestic sized installation of less than 35 kW	* Ease of maintenance. * Availability of spares. * Good technical support. * Favourable lifecycle cost. * Energy Efficient.

6.19 Gas Fired Water Heaters

To support NHS England in achieving net zero carbon by 2040, NHSPS's standard approach when replacing Direct Gas Fired Water Heating Plant is to move to an appropriately sized Dual Coiled Calorifier with Electrical Immersion Heater(s) – Section 6.6 of the NHSPS Water Management Guidance TG-03 (TG-03-Water). Any Calorifier specified must be able to pasteurise when required and maintain HTM Compliant temperatures when operating on electric immersion only.

Confirmation should be provided by the designer / Installer that the building electrical system and the DNO incoming supply has sufficient electrical capacity to support the increase in electrical load when moving from Gas fired to Duel Coiled with Electrical Immersions.

This is a link to the Performance Standards Specification for checking minimum and stretch performance targets for Assets and key building fabric: 21144 - Specification Performance Standards Document v1.18.xlsx

Preferred Manufacturer	Application	Rationale
A O Smith	Preferred for use in all NHSPS Buildings unless unable due to infrastructure constraints.	* Ease of maintenance. * Availability of spares. * Good technical support. * Favourable lifecycle cost. * Energy Efficient. * Dual coil option. * Low thermal loss. * High Heat recovery.
Andrews	Preferred for use in all NHSPS Buildings unless unable due to infrastructure constraints.	* Ease of maintenance. * Availability of spares. * Good technical support. * Favourable lifecycle cost. * Energy Efficient. * Dual coil option. * Low thermal loss. * High Heat recovery.
Rinnai wall hung	Preferred for use in all NHSPS Buildings unless unable due to infrastructure constraints. These can be susceptible to hard water	* Ease of maintenance. * Availability of spares. * Good technical support. * Favourable lifecycle cost. * Energy Efficient. * Low thermal loss. * High Heat recovery.

6.20 Generator Control Panels

Should be made by one of the following manufacturers, as these offer products that have been proven as the most reliable, easiest to maintain and well supported via both the NHSPS and wider NHS supply chains.

Preferred Manufacturer	Application	Rationale
Deep Sea Electronics	Generator Control Panels	* Industry recognised. * Availability. * Functionality. * Reliability. * Energy efficient. * Compatible with Trend.

6.21 Generator Sets

Should be made by one of the following manufacturers, as these offer products that have been proven as the most reliable, easiest to maintain and well supported via both the NHSPS and wider NHS supply chains. These suppliers are also leading the market in generator engine and alternator technology innovation to increase generation efficiencies, recyclability of components and parts, as well as investing in alternate prime mover and permanent magnet alternator technologies.

Preferred Manufacturer	Application	Rationale
Dorman	Critical Power Support	* Industry recognised. * Availability. * Functionality. * Reliability. * Fuel Efficient.
SDMO	Critical Power Support	* Industry recognised. * Availability. * Functionality. * Reliability. * Fuel Efficient.
Perkins	Critical Power Support	* Industry recognised. * Availability. * Functionality. * Reliability. * Fuel Efficient. * Packaged Generator Sets.
Cummins	Critical Power Support	* Industry recognised. * Availability. * Functionality. * Reliability. * Fuel Efficient. * All sized power output Generator Sets.

6.22 Goods & Passenger Lifts

The design and manufacture of lifts for use in healthcare premises should comply with Section 2 of HTM 08-02.

Should be made by one of the following manufacturers, as these offer products that have been proven as the most reliable and offer the best value, most readily maintained by various suppliers, and well supported via both the NHSPS and wider NHS supply chains.

Manufacturer	Application	Rationale
Jacksons, Schindler and KONE	Machine Roomless Lift (MRL) - Goods and Passenger Lifts	* Industry recognised. * Availability. * Functionality. * Reliability. * Energy efficient. * Up to 5 or 6 floors.
Schindler	Traction – Goods and Passenger Lifts	* Industry recognised. * Availability. * Reliability. * Energy efficient. * 20+ floors.
Otis	Traction – Goods and Passenger Lifts	* Industry recognised. * Availability. * Reliability. * Energy efficient. * 20+ floors.
KONE	Traction – Goods and Passenger Lifts	* Industry recognised. * Availability. * Reliability. * Energy efficient. * 20+ floors.
Stannah	Traction – Goods and Passenger Lifts	* Industry recognised. * Availability. * Reliability. * Energy efficient. * 20+ floors.
Schindler	Hydraulic – Goods and Passenger Lifts	* Industry recognised. * Minimal structural reinforcement requirements. * Load/weight capacity. * Reliability. * Direct or in-direct acting. * Up to 8 floors.
Otis	Hydraulic – Goods and Passenger Lifts	* Industry recognised. * Minimal structural reinforcement requirements. * Load/weight capacity. * Reliability. * Direct or in-direct acting. * Up to 8 floors.
Thyssen-Krupp	Hydraulic – Goods and Passenger Lifts	* Industry recognised. * Minimal structural reinforcement requirements. * Load/weight capacity. * Reliability. * Direct or in-direct acting. * Up to 8 floors.

6.23 Ground Source Heat Pumps

Should be made by one of the following manufacturers, as these offer products that have been proven as the most reliable, healthcare compliant for water cleanliness, easiest to clean and maintain, and well supported via both the NHSPS and wider NHS supply chains.

This is a link to the Performance Standards Specification for checking both the minimum and stretch energy performance targets for Assets, Asset and System components (fan motors, motor control inverters, thermal insulation, etc.) and key building fabric: 21144 - Specification Performance Standards Document v1.18.xlsx

Designers, project consultants, and installers must refer to the Heat Pump Specification database as published by the Energy Networks Association (link https://www.energynetworks.org/assets/images/Publications/2023/ena-heat-pump-database.xls?1711467723), for correct sizing, ratings, and type selection.

Preferred Manufacturer	Application	Rationale
Daikin	VRV, Split Systems, Heat Pumps Preferred for use in all NHSPS Buildings	* Ease of maintenance. * Availability of spares. * Good technical support. * Favourable lifecycle cost. * Preferred customer accreditation. * Energy efficient. * Trusted.
Stiebel Eltron	Ground Source Heat Pumps Preferred for use in all NHSPS Buildings	* Ease of maintenance. * Availability of spares. * Good technical support. * Favourable lifecycle cost. * Preferred customer accreditation. * Energy efficient. * Trusted.
Kensa	Ground Source Heat Pumps Preferred for use in all NHSPS Buildings	* Ease of maintenance. * Availability of spares. * Good technical support. * Favourable lifecycle cost. * Preferred customer accreditation. * Energy efficient. * Trusted.
Nibe	Ground Source Heat Pumps Preferred for use in all NHSPS Buildings	* Ease of maintenance. * Availability of spares. * Good technical support. * Favourable lifecycle cost. * Preferred customer accreditation. * Energy efficient. * Trusted.
Valliant	Ground Source Heat Pumps Preferred for use in all NHSPS Buildings	* Ease of maintenance. * Availability of spares. * Good technical support. * Favourable lifecycle cost. * Preferred customer accreditation. * Energy efficient. * Trusted.

6.24 Intruder Alarm Systems

Should be designed to provide the required level of protection outlined below for the relevant property types. The alarm should be made to the following standards where it includes battery backup, open protocol architecture and remote alarm monitoring.

Must have 12 hours battery backup (grades 1-3, grade 4 = 24 hours), open protocol architecture, Dual-com remote dial ready (remote alarm monitoring BS EN 50518), (transmission system EN 50136).

Minimum Specification and Accreditation	Application	Rationale
BS EN 50131 specifies four grades of Intruder Alarm Systems – grades 1 to 4. The grades are based on the level of security and protection required for different types of properties, with Grade 1 being the least sophisticated and Grade 4 being the most advanced.	Grade 1: Suitable for low-risk properties such as small homes or apartments in low-risk areas. Grade 2: Suitable for medium-risk properties such as small retail shops or small businesses. Grade 3: Suitable for high-risk properties such as large retail stores, warehouses or factories. Grade 4: Suitable for very high-risk properties such as banks, museums or government buildings.	* Minimum standard detection, activation and operation. * Standard for installation and for input/output devices.

6.25 LV Distribution Equipment

Should be made by one of the following manufacturers, as these offer products that have been proven as the most reliable, easiest to maintain and well supported via both the NHSPS and wider NHS supply chains.

Components	Preferred Manufacturer	Application	Rationale
Distribution board -	Schneider, ABB, Eaton, Hager	Preferred for use in all NHSPS Buildings.	* Enhanced IP ratings. * Industry recognised. * Availability. * Functionality. * Reliability. * Extensive support / purchasing network.
MCCB – withdrawable type	Schneider, ABB, Eaton, Hager	Preferred for use in all NHSPS Buildings.	* Industry recognised. * Availability. * Functionality. * Reliability. * Extensive support / purchasing network.
ACB – withdrawable type	Schneider, ABB, Eaton, Hager	Preferred for use in all NHSPS Buildings.	* Industry recognised. * Availability. * Functionality. * Reliability. * Extensive support / purchasing network.

6.26 Medical Gas Anaesthetic Gas Scavenging System

All Medical Gas Pipeline Systems for supply and vacuum must be installed using medical grade copper pipework, as this is finished and cleaned to meet enhanced hygiene standards, which is shipped and supplied with sealed ends to maintain internal cleanliness. The NHSPS Technical Guidance TG-14-MGPS - Medical Gas PipeWork Systems outlines the control, testing and commissioning requirements for Medical Gas Pipeline Systems installed within the NHSPS property portfolio.

Should be made by one of the following manufacturers, as these offer products that have been proven as the most reliable, healthcare compliant to HTM 02 standards, and well supported via both the NHSPS and wider NHS supply chains.

Preferred Manufacturer	Application	Rationale
Beacon Medaes	Anaesthetic Gas Scavenging System	* Industry recognised. * Availability. * Quiet operation. * Reliability. * Energy efficient.
GCE Mediline	Anaesthetic Gas Scavenging System	* Industry recognised. * Availability. * Quiet operation. * Reliability. * Energy efficient.
Algas	Anaesthetic Gas Scavenging System	* Industry recognised. * Availability. * Quiet operation. * Reliability. * Energy efficient.

6.27 Medical Gas Area Valve Service Units

All Medical Gas Pipeline Systems for supply and vacuum must be installed using medical grade copper pipework, as this is finished and cleaned to meet enhanced hygiene standards, which is shipped and supplied with sealed ends to maintain internal cleanliness. The NHSPS Technical Guidance TG-14-MGPS - Medical Gas PipeWork Systems outlines the control, testing and commissioning requirements for Medical Gas Pipeline Systems installed within the NHSPS property portfolio.

Should be made by one of the following manufacturers, as these offer products that have been proven as the most reliable, healthcare compliant to HTM 02 standards, and well supported via both the NHSPS and wider NHS supply chains.

Preferred Manufacturer	Application	Rationale
Beacon Medaes	MGPS Area Valve Service Units	* Industry recognised. * Availability. * Robust and rebuildable. * Reliability.
GCE Mediline	MGPS Area Valve Service Units	* Industry recognised. * Availability. * Robust and rebuildable. * Reliability.
Algas	MGPS Area Valve Service Units	* Industry recognised. * Availability. * Robust and rebuildable. * Reliability.

6.28 Medical Gas Vacuum Plant

All Medical Gas Pipeline Systems for supply and vacuum must be installed using medical grade copper pipework, as this is finished and cleaned to meet enhanced hygiene standards, which is shipped and supplied with sealed ends to maintain internal cleanliness. The NHSPS Technical Guidance TG-14-MGPS - Medical Gas PipeWork Systems outlines the control, testing and commissioning requirements for Medical Gas Pipeline Systems installed within the NHSPS property portfolio.

Should be made by one of the following manufacturers, as these offer products that have been proven as the most reliable, healthcare compliant to HTM 02 standards, and well supported via both the NHSPS and wider NHS supply chains.

Preferred Manufacturer	Application	Rationale
Algas	Medical Vacuum Plant and in-line collectors	* Industry recognised. * Availability. * Duplex and Triplex systems. * Reliability. * Energy efficient.
Beacon Medaes	Medical Vacuum Plant and in-line collectors	* Industry recognised. * Availability. * Duplex and Triplex systems. * Reliability. * Energy efficient.
Millenium Medical Products	Medical Vacuum Plant and in-line collectors	* Industry recognised. * Availability. * Duplex and Triplex systems. * Reliability. * Energy efficient.

6.29 Medical Gases Manifolds (Including ESM's and ERM's)

All Medical Gas Pipeline Systems for supply and vacuum must be installed using medical grade copper pipework, as this is finished and cleaned to meet enhanced hygiene standards, which is shipped and supplied with sealed ends to maintain internal cleanliness. The NHSPS Technical Guidance TG-14-MGPS - Medical Gas PipeWork Systems outlines the control, testing and commissioning requirements for Medical Gas Pipeline Systems installed within the NHSPS property portfolio.

Should be made by one of the following manufacturers, as these offer products that have been proven as the most reliable, healthcare compliant to HTM 02 standards, and well supported via both the NHSPS and wider NHS supply chains.

Preferred Manufacturer	Application	Rationale
Beacon Medaes	Medical Gases Automatic and Emergency Manifolds	* Industry recognised. * Availability. * Reliability. * Common type in healthcare.
Precision UK	Medical Gases Automatic and Emergency Manifolds	* Industry recognised. * Availability. * Reliability. * Common type in healthcare.
Millenium Medical Products	Medical Gases Automatic and Emergency Manifolds	* Industry recognised. * Availability. * Reliability. * Common type in healthcare.

6.30 Passive Fire & Smoke Protection Systems

Fire batting and stopping should be completed using one of the following materials, or passive fire & smoke protection systems and damper packs, should be made to the required standards and installed by a supplier who is accredited as outlined below. Any deviation from this should not be considered as acceptable unless stringent assessment is undertaken by a competent fire officer or engineer prior to any work being started.

Preferred Manufacturer	Application	Rationale
Fire Stopping materials must be supplied by a third-party accredited manufacturer and fitted by a third party accredited installer ASFP Red Book Exova Warrington Hilti Firetherm Dampers must conform to BS EN: 15650: 2010 and tested to BS EN: 1366- 2 and classified to BS EN: 13501- 3 Smoke Control Dampers must conform to BS EN: 13501- 4: 2016 ASFP Grey Book Vol1 Swegon Advanced Air UK Lloyd Industries Advanced Air	Fire Stopping Materials, and Fire or Smoke Dampers	The products must have been successfully tested for the specific end use application and this must be proven by a UKAS Accredited Report that refers to specific Fire Test Evidence

6.31 Photovoltaic Systems

Should be made by one of the following manufacturers, as these offer products that have been proven as the most reliable, healthcare compliant for water cleanliness, easiest to clean and maintain, and well supported via both the NHSPS and wider NHS supply chains.

The NHSPS standard outlines a minimum efficiency rating for all newly designed, specified, or installed PV systems, of 22% to ensure compliance with BREEAM. All new installations must be compatible with, or include a monitoring system and platform, such as SolarEdge, to enable real time data transmission and transfer, and allow each panel to operate independently, so failure of one does not take the whole system down.

Utilising a Solar PV Monitoring Software/Platform allows for remote monitoring of the PV installation. The system should provide reporting on electricity generation, periods of export, performance of each panel in the array and issues with inverter performance. The system should also be capable of generating alarms and alerts relating to performance issues with the panels and/or the related electrical system. Particularly important is the ability to detect and react to faults, high temperatures, surges and arcs, and shut down the system accordingly. The inclusion of a Firefighter gateway is also required to allow for shut down when needed.

This is a link to the Performance Standards Specification for checking both the minimum and stretch energy performance targets for Assets, Asset and System components (fan motors, motor control and PV inverters, thermal insulation, etc.) and key building fabric: 21144 - Specification Performance Standards Document v1.18.xlsx

Preferred Manufacturer	Application	Rationale
Risen Energy	Solar PV Panels	* Industry recognised. * Availability. * Reliability. * Energy efficient.
SolarEdge	Solar PV Monitoring Platform	* Industry recognised * Allows live data transfer * Safety requirements included

6.32 Plate Heat Exchangers

Should be made by one of the following manufacturers, as these offer products that have been proven as the most reliable, easiest to maintain and well supported via both the NHSPS and wider NHS supply chains.

This is a link to the Performance Standards Specification for checking both the minimum and stretch energy performance targets for Assets, Asset and System components (fan motors, motor control and PV inverters, thermal insulation, etc.) and key building fabric: 21144 - Specification Performance Standards Document v1.18.xlsx

Preferred Manufacturer	Application	Rationale
Alfa Laval	Preferred for use in all NHSPS Buildings unless unable due to infrastructure constraints.	* Ease of maintenance. * Availability of spares. * Good technical support. * Favourable lifecycle cost * High Heat recovery. * Energy Efficient.
Stockvis	Preferred for use in all NHSPS Buildings unless unable due to infrastructure constraints.	* Ease of maintenance. * Availability of spares. * Good technical support. * Favourable lifecycle cost. * High Heat recovery. * Energy Efficient.

6.33 Pool Equipment & Systems

NHSPS Technical Guidance TG-32-Pools - Hydrotherapy and Birthing Pools outlines key controls, testing and commissioning requirements for birthing and hydrotherapy pool installations within in the NHSPS property portfolio.

Should be designed and made by one of the following manufacturers and installers, as these offer products and installations that have been proven as the most reliable, healthcare compliant for water cleanliness, easiest to clean and maintain, and well supported via both the NHSPS and wider NHS supply chains.

Minimum Specification and Accreditation	Application	Rationale
PWTAG	Swimming pool treatment advisory group	* Sets out guidance. * PWTAG Standards. * Recognised leader in pool specifications.
Cimspa	Swimming pool maintenance specification	* Good technical support. * Healthcare specialist. * Recognised leader in pool specifications.

6.34 Pumps

Should be made by one of the following manufacturers, as these offer products that have been proven as the most reliable, easiest to maintain and well supported via both the NHSPS and wider NHS supply chains. These suppliers are also leading the market on pump technology innovation to reduce reliance on single use components and improve the recyclability of their products as well as improve both power consumption and pumping efficiency.

Electric pump drive motors must have a minimum efficiency rating of IE4, although IE5 rated motors are preferred, and the application of Variable Speed Drives (VSD) should be considered mandatory where the application and system allows.

This is a link to the Performance Standards Specification for checking both the minimum and stretch energy performance targets for Assets, Asset and System components (fan motors, motor control and PV inverters, thermal insulation, etc.) and key building fabric: 21144 - Specification Performance Standards Document v1.18.xlsx

Preferred Manufacturer	Application	Rationale
Grundfos	Preferred for use in all NHSPS Buildings unless unable due to infrastructure constraints. Heating, Hot Water, Boosted and Chilled.	* Industry recognised. * Availability. * Functionality. * Reliability. * Energy efficient.
DAB	Preferred for use in all NHSPS Buildings unless unable due to infrastructure constraints. Heating, Hot Water, Boosted and Chilled.	* Industry recognised. * Availability. * Functionality. * Reliability. * Energy efficient.
Armstrong	Preferred for use in all NHSPS Buildings unless unable due to infrastructure constraints. Heating, Hot Water, Boosted and Chilled.	* Industry recognised. * Availability. * Functionality. * Reliability. * Energy efficient.
ITT Hydrovar	Preferred for use in all NHSPS Buildings unless unable due to infrastructure constraints. Heating, Hot Water, Boosted and Chilled.	* Industry recognised. * Availability. * Functionality. * Reliability. * Energy efficient.

6.35 Safety & Security Ironmongery

Should be made by one of the following manufacturers, as these offer products that have been proven as the most reliable for high traffic environments, healthcare compliant for cleanliness, and well supported via both the NHSPS and wider NHS supply chains.

Minimum Specification and Accreditation	Application	Rationale
Ironmongery for Fire Door Sets Must conform with the Manufacturers Instructions. These will show the Ironmongery that has been successfully tested with the particular door sets in various fire tests and is evidenced in UKAS Third Party Accredited Reports. BS EN 1154/ 54 Door Closers HTM 59: Ironmongery. HTM Building Component Series Lever handles, lock cases, locks, cylinders, roses, push plates, pull handles and thumb turns etc. shall be provided where necessary. Ironmongery to be 25mm diameter brushed stainless steel. Ironmongery generally shall be from approved healthcare ironmongery approved suppliers and of quality solid stainless steel. Ironmongery shall be selected to provide the required colour contrast to the proposed door finish / colour as required under the Building Regulations.	Fire Doors	* Industry recognised. * Availability. * Functionality. * Reliability. * Energy efficient. * Compatible with Trend.

6.36 Specialist Water Treatment

NHSPS Water Management Guidance TG-03 (TG-03-Water) outlines the key requirements and criteria for installing, testing and commissioning of specialist water systems.

Should be made by one of the following manufacturers, as these offer products that have been proven as the most reliable, easiest to maintain and well supported via both the NHSPS and wider NHS supply chains. The outlined manufacturers and products are known to comply with, and support healthcare standard water cleanliness, as outlined in NHSPS Water management Guidance TG-03.

Preferred Manufacturer	Application	Rationale
VEXO - X-Pot	Preferred for use in all NHSPS Buildings	• Magnetic filtration. • Combined dosing function. • Dirt and air separation with cartridge and bag filtration. • Other manufactures with these characteristics will be acceptable.
Pureox 3500	Chlorine Dioxide treatment in NHSPS buildings	• WRAS Approved. • Disinfectant effect is independent of pH. • Does not react with ammonium. • Other manufactures with these characteristics will be acceptable.
T-Safe	UV filtration systems in NHSPS buildings.	• Suitable for clinical and non-clinical applications. • 24 hour emergency delivery. • Compatible with all healthcare centric taps. • ISO acceditions: 22196, 10993, 9001 and 13485. • Other manufactures with these characteristics will be acceptable.
Kalguard	Water softening systems in NHSPS buildings.	• Does not affect the potability of the water. • No water is wasted during cycles. • Dose not need to be sighted by a drain. • Other manufactures with these characteristics will be acceptable.

6.37 Surge Protection Devices

Surge Protective Devices (SPD) are used to protect the electrical installation, which consists of the consumer unit, wiring and accessories, from electrical power surges known as transient over voltages. They are also used to protect sensitive electronic equipment connected to the installation, fire detection systems and emergency lighting. Equipment with sensitive electronic circuitry can be vulnerable to damage by transient over voltages.

Should be made by one of the following manufacturers, as these offer products that have been proven as the most reliable, healthcare compliant for water cleanliness, easiest to clean and maintain, and well supported via both the NHSPS and wider NHS supply chains.

Components	Preferred Manufacturer	Application	Rationale
Surge Protection Device (SPD) – Must have visual fault indicator	DEHN (DEHN have modular plug-in arresters), Schneider, ABB	Preferred for use in all NHSPS Buildings.	* Industry recognised. * Availability. * Functionality. * Reliability. * Extensive support / purchasing network.

6.38 Valves - Level, Gate, Globe, Balancing, Differential

Should be made by one of the following manufacturers, as these offer products that have been proven as the most reliable, easiest to maintain and well supported via both the NHSPS and wider NHS supply chains.

Preferred Manufacturer	Application	Rationale
Hattersley	Preferred for use in all NHSPS Buildings unless unable due to infrastructure constraints.	* Industry recognised component. * Availability. * Functionality.
Crane	Preferred for use in all NHSPS Buildings unless unable due to infrastructure constraints.	* Industry recognised component. * Availability. * Functionality.
Boss	Preferred for use in all NHSPS Buildings unless unable due to infrastructure constraints.	* Industry recognised component. * Availability. * Functionality.
Jet	Preferred for use in all NHSPS Buildings unless unable due to infrastructure constraints.	* Industry recognised component. * Availability. * Functionality.
Peglar	Thermostatic balancing valves to control return temperatures in DHWS Systems	* Industry recognised component. * Availability. * Functionality.
Crane	Thermostatic balancing valves to control return temperatures in DHWS Systems	* Industry recognised component. * Availability. * Functionality.

6.39 Valves - Pressure Relief Valves and Temperature Pressure Relief Valves

Should be made by one of the following manufacturers, as these offer products that have been proven as the most reliable, easiest to maintain and well supported via both the NHSPS and wider NHS supply chains.

Preferred Manufacturer	Application	Rationale
Nabic	Preferred for use in all NHSPS Buildings	* Industry recognised component. * Availability. * Functionality.
Kunkle Bailey	Preferred for use in all NHSPS Buildings	* Industry recognised component. * Availability. * Functionality.
Jet	Preferred for use in all NHSPS Buildings	* Industry recognised component. * Availability. * Functionality.

6.40 Valves - Thermostatic Mixing Valves or Taps (TMV and TMT)

Should be made by one of the following manufacturers, as these offer products that have been proven as the most reliable, easiest to maintain and well supported via both the NHSPS and wider NHS supply chains. The outlined manufacturers and products are known to comply with, and support healthcare standard water cleanliness, as outlined in NHSPS Water management Guidance TG-03.

Any TMV or TMT in a healthcare environment must be Type 3 and should not be fitted with or supplied via flexible connection hoses for DCWS and DHWS. All efforts should be made to replace any known or identified flexible connection hoses with solid copper connection pipework at the earliest possible time.

Preferred Manufacturer	Application	Rationale
Pegler/PEG402	Preferred for use in all NHSPS Buildings	• BuildCert Scheme Certified. • WRAS approved for use on Potable water systems • Complies with NHS Model Engineering Specification DO8
Crane/D1080	Preferred for use in all NHSPS Buildings	• WRAS Approved. • Certified under the NSF TMV2 & TMV3 schemes. • Integral strainers and check valves. • Tamper-proof adjustment
Boss/BOSSMIX™ TMV2/3	Preferred for use in all NHSPS Buildings	• WRAS and BuildCert approved. • NHS D08 compliant. • Suitable to meet Part G of Building Regulations

6.41 Valves - Thermostatic Radiator Valves (TRV)

Should be made by one of the following manufacturers, as these offer products that have been proven as the most reliable, easiest to maintain and well supported via both the NHSPS and wider NHS supply chains.

Preferred Manufacturer	Application	Rationale
Danfoss	Preferred for use in all NHSPS Buildings unless unable due to infrastructure constraints.	* Industry recognised component. * Availability. * Functionality. * Wide range of commercial applications
Hertz	Preferred for use in all NHSPS Buildings unless unable due to infrastructure constraints.	* Industry recognised component. * Availability. * Functionality. * Wide range of commercial applications