Minimum technical specification – Electric Vehicle Homecharge Scheme (EVHS)

1. This technical specification is for the EVHS only. If you wish to apply for authorisation under both the EVHS and the WCS, you must ensure your chargepoint complies with technical specifications for both schemes. WCS technical specifications can be found on the OLEV infrastructure grant scheme web page: https://www.gov.uk/government/collections/government-grants-for-low-emission-vehicles
2. Where documents are mentioned in the technical specification, the current edition of each applicable document at the time of the installation is the one with which compliance is required.
3. The minimum technical requirements of the chargepoint and its installation are as follows:

1.0	**GENERAL**
	This document defines the specification for electric and plug-in hybrid electric road vehicle conductive charging equipment.
	References to standards or regulations are to the current edition of such standards or regulations at the time of the installation.
	In cases of apparent inconsistency in installation requirements, the IET Wiring Regulations (BS 7671) shall take precedence.
	Manufacturers/suppliers of the proposed charging equipment shall demonstrate compliance with this specification.
2.0	**INSTALLATION**
	This specification is for the charging equipment only and not the final installation. However, it is required that the final installation will be in accordance with the IET Wiring Regulations (BS 7671); the recommendations of the IET Code of Practice for Electric Vehicle Charging Equipment Installations (as amended); Electricity Safety, Quality and Continuity Regulations and all other applicable standards.
	Installations on the public highway shall use a contractor registered through the Highways and Electrical Registration Scheme (HERS).
	Charging Equipment shall be installed in accordance with BS EN 61851.
	The electrical supply of the final installation should allow the charging equipment to operate at full rated capacity. Where local supply constraints prevent operation at full rated capacity, the charging equipment shall be classified according to actual output capacity.
	The design of the charging equipment shall permit compliance with the requirements of BS 8300:2009+A1:2010.
3.0	**CHARGING EQUIPMENT - COMMON REQUIREMENTS**

	Charging equipment shall be CE marked in accordance with EC Directive 768/2008/EC.
	Details of any precautions necessary to ensure safe operation with Active Implantable Medical Devices shall be provided and must also be clearly displayed on the charging equipment.
	Charging equipment shall be compliant with:
	. BS EN 61851 Part 1
	. Electromagnetic Compatibility Regulations 2006
	. Electrical Equipment Safety Regulations 1994
	BS EN 62196 Mode 1 or Mode 2 charging shall not be compliant with this specification.
	Charging equipment shall utilise socket outlets (BS EN 61851:1 Case A2 or B2 connection) or tethered cables (BS EN 61851:1 Case C connection).
	Where multiple outlets are provided the charging equipment shall be classified according to the output power delivered at each outlet with all outlets operating simultaneously.
	Where multiple connectors are associated with a single outlet only one connector shall be active, and all other connectors shall be inactive, when the outlet is in use.
	For AC charging equipment:
	. AC charging equipment output power shall be measured or calculated at a nominal supply voltage of 230Vac single-phase or 400Vac three-phase.
	. AC charging equipment shall be compliant with BS EN 61851 Part 22
	. AC charging equipment shall use BS EN 62196 Mode 3 charging.
	. AC charging equipment socket outlets (where used) shall be BS EN 62196 Type 2.
	For DC charging equipment:
	. DC charging equipment shall be compliant with BS EN 61851 Part 23
	. DC charging equipment shall use BS EN 62196 Mode 4 charging
	For charging equipment with embedded generation capability (V2X):
	. Charging equipment with embedded generation capability of up to and including 16A per phase shall be compliant with ENA Engineering Recommendation G83.
	. Charging equipment with embedded generation capability greater than 16A per phase shall be compliant with ENA Engineering Recommendation G59.
3.1	CHARGING OUTLETS
	The following outlet configurations are permitted:
3.1.1	SLOW AC (less than 3.5kW)
	Not permitted.
3.1.2	STANDARD AC (3.5kW to 7kW)
	Charging equipment outlet shall be rated 230Vac ± 10% single-phase.
	Charging equipment output shall be greater than 3.5kW and not greater than 7kW.
3.1.3	FAST AC (7kW to 23kW)
	Charging equipment outlet shall be rated 230Vac ± 10% single-phase or 400Vac ± 10% three-phase.

	Charging equipment output shall be greater than 7kW and not greater than 23kW.
3.1.4	SEMI-RAPID AC (23kW to 43kW)
	Not permitted.
3.1.5	RAPID AC (43kW to 44kW)
	Not permitted.
3.1.6	FAST DC (10kW to 22kW)
	Charging equipment output shall be greater than 10kW and not greater than 22kW.
3.1.7	SEMI-RAPID DC (22kW to 50kW)
	Not permitted.
3.1.8	RAPID DC (50kW to 62.5kW)
	Not permitted.
3.1.9	ULTRA-RAPID DC (62.5kW to 400kW)
	Not permitted.
4.0	**LOCATION - GENERAL**
	Where installed in an outdoor location, the charging equipment shall meet the minimum IP ratings set out in BS EN 61851:1.
4.1	LOCATION - DOMESTIC
	The final installation shall be in accordance with the current edition of the Building Regulations Part P (Electrical Safety – Dwellings).
	AC charging equipment socket outlets (where used) shall be BS EN 62196 Type 2 shuttered sockets in accordance with BS7671.
5.0	**USER INTERFACE – GENERAL**
	Charging equipment status shall be indicated using lights, LEDs or display.
6.0	**DATA REQUIREMENTS**
	No data communication is required to be sent to OLEV.
7.0	**SMART REQUIREMENTS**
	The chargepoint must be able to receive and process information provided.
	To react to information received, by adjusting the rate of charging or discharging.
	To monitor and record energy consumption, and be able to transmit this.
7.1	DATA COMMUNICATION PROTOCOL
	To be accessed remotely, through a data communication protocol and communication technology, by utilising the following:
	The Open Charge Point Protocol (OCPP) version 1.6 (or above), or an equivalent.
7.2	CYBER SECURITY
	The chargepoint must have appropriate security measures to ensure that its functions are resilient to cyber-attack.
	The chargepoint must ensure that any communications are exchanged in a secure manner with an appropriate level of encryption to prevent interception by an un-authorised third party.
8.0	**SERVICING & MAINTENANCE**
	Charging equipment shall be supplied with an on-site three-year warranty on parts and installation.