1. This minimum technical specification is for the WCS only. Manufacturers who wish to apply for authorisation for chargepoints under this scheme must ensure units comply with the below technical specifications.

2. Manufacturers who wish to apply for authorisation under both the EVHS and the WCS must ensure chargepoint units comply with technical specifications for both schemes. EVHS 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

3. 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.

4. In cases where updates of documents lead to apparent inconsistency, the IET Wiring Regulations (BS 7671) take precedence for electrical installation requirements.

5. The minimum technical requirements of the chargepoint and its installation are as follows:

<table>
<thead>
<tr>
<th>1.0</th>
<th>GENERAL</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>This document defines the specification for electric and plug-in hybrid electric road vehicle conductive charging equipment.</td>
</tr>
<tr>
<td></td>
<td>References to standards or regulations are to the current edition of such standards or regulations at the time of the installation.</td>
</tr>
<tr>
<td></td>
<td>In cases of apparent inconsistency in installation requirements, the IET Wiring Regulations (BS 7671) shall take precedence.</td>
</tr>
<tr>
<td></td>
<td>Manufacturers/suppliers of the proposed charging equipment shall demonstrate compliance with this specification.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>2.0</th>
<th>INSTALLATION</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>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.</td>
</tr>
</tbody>
</table>
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.
### 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)**
  - Charging equipment outlet shall be rated 400Vac ± 10% three-phase.
  - Charging equipment output shall be greater than 23kW and not greater than 43kW.
  - Charging equipment shall be fitted with a BS EN 62196 Type 2 socket outlet or tethered lead fitted with a BS EN 62196 Type 2 connector.

- **3.1.5 RAPID AC (43kW to 44kW)**
  - Charging equipment outlet shall be rated 400Vac ± 10% three-phase.
  - Charging equipment output shall be greater than 43kW and not greater than 44kW.
  - Charging equipment shall be fitted with a BS EN 62196 Type 2 socket outlet or tethered lead fitted with a BS EN 62196 Type 2 connector.

- **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)**
  - Charging equipment output shall be greater than 22kW and not greater than 50kW.

- **3.1.8 RAPID DC (50kW to 62.5kW)**
  - Charging equipment output shall be greater than 50kW and not greater than 62.5kW.

### 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 - WORKPLACE

The final installation shall be in accordance with the current edition of the Electricity at Work Regulations.

### 5.0 USER INTERFACE - GENERAL

Charging equipment status shall be indicated using lights, LEDs or display.

### 5.1 USER INTERFACE - WORKPLACE
Charging equipment shall display instructions for payment/access (as appropriate) and equipment operation. Details of approach shall be provided.

<table>
<thead>
<tr>
<th>6.0</th>
<th>DATA REQUIREMENTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>6.1</td>
<td>DATA REQUIREMENTS - WORKPLACE</td>
</tr>
</tbody>
</table>

Data communications to allow remote data collection shall be provided.

A data acquisition system compatible with OLEV Chargepoint Usage Data Requirements (refer to factsheet in Appendix 1) shall be provided.

Each outlet shall provide measurement of energy supplied, to be output to both display (where fitted) and data acquisition system compatible with OLEV Chargepoint Usage Data Requirements (refer to factsheet in Appendix 1). Where a MID approved meter is not used details of metering and accuracy shall be provided.

<table>
<thead>
<tr>
<th>7.0</th>
<th>SERVICING &amp; MAINTENANCE</th>
</tr>
</thead>
</table>

Charging equipment shall be supplied with an on-site three-year warranty on parts and installation.

The charging point shall have a minimum operational life of 3 years to satisfy the requirements of the OLEV grant scheme.
Appendix 1 - Data requirements

This Annex sets out the Office for Low Emission Vehicles' (OLEV's) chargepoint usage data requirements.

1.1 Data fields and definitions

Grant recipients are required to make appropriate arrangements with chargepoint operators to collect and submit data on each charging event under each of the following data headings:

- Chargepoint ID
- Plug in date and time
- Unplug date and time
- Charge start date and time
- Charge end date and time
- Total energy drawn (kWh)

1.2 The definition of each data field can be found in Table A

It is expected all data points will be recorded at > 95% accuracy. Note that OLEV will accept data supplied from units which record energy consumption at intervals of up to a maximum of 30 minutes.

1.3 Data should be reported to OLEV in an Excel file in the exact format set out in Annex 1

Process of providing data to OLEV

1.4 The grant requires that the data set is provided quarterly, directly to OLEV by email to chargepoint.grants@olev.gsi.gov.uk.

1.5 In order to support OLEV log and amalgamate the data efficiently:

1.5.1 The subject header for emailed submissions must be in the following format: “YYMMDD – On-Street CP usage data - Chargepoint operator name”

1.5.2 The excel file containing the data should be submitted using the following format: “YYMMDD – On-Street CP usage data – Chargepoint operator name”
1.6 Submission should be provided as follows:

- 1st April – data submitted for January-March
- 1st July – data submitted for April-June
- 1st October – data submitted for July-September
- 1st January - data submitted for October-December

1.7 Data should be provided to OLEV for 3 years, starting on the date the chargepoint became operational.

1.8 In order for the usage data to be utilised, it is important that OLEV receives data in full on the relevant due dates. If the data is incomplete, OLEV is unable to identify trends, develop insights and evaluate policy. Therefore, OLEV expects chargepoint operators to arrange for the data to be submitted in the required format automatically, without requiring a person to access and draw down the data. This is to ensure that the data is reliably received without prompting.

1.9 Should data be incomplete, or fail to be submitted as per the schedule above, OLEV reserves the right to require repayment of grant funding from the grant recipient.

Data field definitions

<p>| Table A |
|-----------------|-----------------------------------------------|
| <strong>Data field</strong>  | <strong>Description</strong>                                   |
| Identifier for chargepoint | Unique identifier for chargepoint. This should match the chargepoint ID used on all forms and claim forms, and be consistent for the life of the chargepoint. |
| Plug in date and time (dd/mm/yyyy) (00:00h) | The date and time that the vehicle was plugged in, in 24-hour clock format and using the UK (not US) date format, expressed to the nearest minute possible. OLEV will accept data supplied from units which record connection/disconnection at intervals of up to a maximum of 30 minutes. |
| Unplug date and time (dd/mm/yyyy) (00:00h) | The date and time that the vehicle was unplugged, in 24-hour clock format and using the UK (not US) date format, expressed to the nearest minute possible. OLEV will accept data supplied from units which record |</p>
<table>
<thead>
<tr>
<th>Connection/Disconnection at intervals of up to a maximum of 30 minutes.</th>
</tr>
</thead>
</table>
| **Charge start**<br>
(dd/mm/yyyy) (00:00h) | The date and time that the vehicle began to draw charge in 24-hour clock format and using the UK (not US) date format, expressed to the nearest minute possible. OLEV will accept data supplied from units which record energy transfer at intervals of up to a maximum of 30 minutes. |
| **Charge end**<br>
(dd/mm/yyyy) (00:00h) | The date and time that the vehicle stopped drawing charge in 24-hour clock format and using the UK (not US) date format, expressed to the nearest minute possible. OLEV will accept data supplied from units which record energy transfer at intervals of up to a maximum of 30 minutes. |
| **Total energy drawn**<br>
(0.00kWh) | The electrical energy transferred during the charging event, in kWh, rounded to two decimal places and with energy transferred from the charging point to the vehicle being positive and energy transferred from the vehicle to the charging point being negative. If this is not directly measurable and you wish to infer this from other parameters please contact OLEV to discuss exactly how you propose to estimate the energy transferred. |
## Annex 1

<table>
<thead>
<tr>
<th>Charging event</th>
<th>Chargepoint ID</th>
<th>Plug in Date</th>
<th>Plug in Time</th>
<th>Unplug Date</th>
<th>Unplug Time</th>
<th>Charge start Date</th>
<th>Charge start Time</th>
<th>Charge end Date</th>
<th>Charge end Time</th>
<th>Total kWh</th>
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</thead>
<tbody>
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<td>03/03/2016</td>
<td>20:05</td>
<td>03/03/2016</td>
<td>15:54</td>
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<td>16:46</td>
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