LEVI Support Body

Technical Schedules

Version Management

Authors	Doc. Version	Date	Changes
Procurement Forum	1.1.6	24-Aug-23	First Public Version

Purpose of this document

This document presents a menu of possible Technical Schedules to move towards more nationally-consistent terminology and requirements for Electric Vehicle Infrastructure (EVI) procurement.

The schedules cover a broad scope that aims to be a non-exhaustive guide to help the Local Authority consider the technical requirements which accompany an EVI procurement contract.

Although the clauses can be deployed under any Commercial Arrangements and with many chargepoint types, not all sections will be relevant to all situations.

The LA's project scope, agreements with Service Providers, local underlying laws, regulations, and requirements will be fundamental factors affecting the final draft of any schedule. It is the LA's responsibility to assess compliance of published schedules with regulatory requirements.

Therefore, the sections should be read independently and assessed as to whether they are needed in any procurement process. It is advised that Local Authorities (LAs) consult the Knowledge Repository[1] for supplementary guidance.

What this document is not

This document is not:

- A template Technical Schedule to be copied and pasted in its entirety;
- An exhaustive encyclopaedia of all possible technical requirements;
- A list of funding conditions;
- Legal advice; or
- A substitute for legal advice.

These Technical Schedules have been developed based on industry best practice at the time of writing. Therefore, the authors accept no legal liability in contract or in tort for the accuracy and / or quality of the written information provided.

Considerations

Early consideration and engagement with the market on schedules and specifications prior to commencing the procurement process will help secure the delivery of an efficient and effective service contract.

The topics covered below are not meant to be exhaustive but will shape the final Schedules. This document does not provide an in depth and rigorous legal review of the Schedules but is meant to be a starting point and framework for LAs giving minimum baseline Specifications regarding EVI being procured, delivered and operated, which can be taken into account before the legal contracting stage.

[1] https://nevis.cenex.co.uk/repository NEVIS Knowledge Repository

Instructions for Use

The LA will need to consider their strategy, project objectives, desired equipment types and installation settings to form the EVI requirements of their local authority area. This will inform which schedules within this document should be chosen for use and why.

Use of this document entails four steps:

- Firstly, identify which **individual schedules** are relevant to your project, programme or procurement.
- Then, **for each individual schedule,** assess the principle, context and regulations.
- Where appropriate, use that **individual schedule** requirements in full, unless there is good reason not to.
- Finally, it is expected that the considerations will not be included unless there is a good reason to.

Note that this document is **not** a template Technical Schedule to be copied and pasted in its entirety.

To support this approach, each section is structured into parts:

Principle

- This articulates the overall theme of the section and intended outcomes, to guide further discussions and decisions.

Context

- Optionally used in some schedules to provide additional explanation and justification to the schedule.

Relevant Regulations

- This notes regulations and legal requirements that are applicable for the topic.

Minimum Specification

- These are elements which form a minimum expectation for the service provider..

Considerations

- These elements are optional beyond the baseline requirements and do not have to be included.

Navigation

Any information highlighted in square brackets, for example, *'height is [1.4 m]'* is intended for LAs to select on their own or consider for themselves. Note that values placed in square brackets are not recommendations.

Where there are no expected minimum specifications, the square brackets are used to clarify that there are [none].

! Note: Where these technical schedules make reference to specific regulations, the Service Provider shall be required to comply with all relevant regulations and necessary consents, as amended from time to time. In the event that any regulation or essential consent requires a higher standard than that set out in these technical schedules, the contract should require that the regulation or essential consent(s) shall take precedence.

Furthermore, the responsibilities described below may fall to different parties according to the specific commercial arrangement; for example, the service provider shall evidence that they can fulfil these requirements if a Concession is let but may not be required to do so in other commercial arrangements.

LAs will need to consider in more extensive contracts where schedule elements are split or replicated to facilitate support for multiple deployment variations.

LAs may consult corresponding articles in the Knowledge Repository[2] to support development of comprehensive technical schedules meeting the requirements for the planned EVI.

[2] https://nevis.cenex.co.uk/repository NEVIS Knowledge Repository

Contents

1. Definitions

1.1. Terms

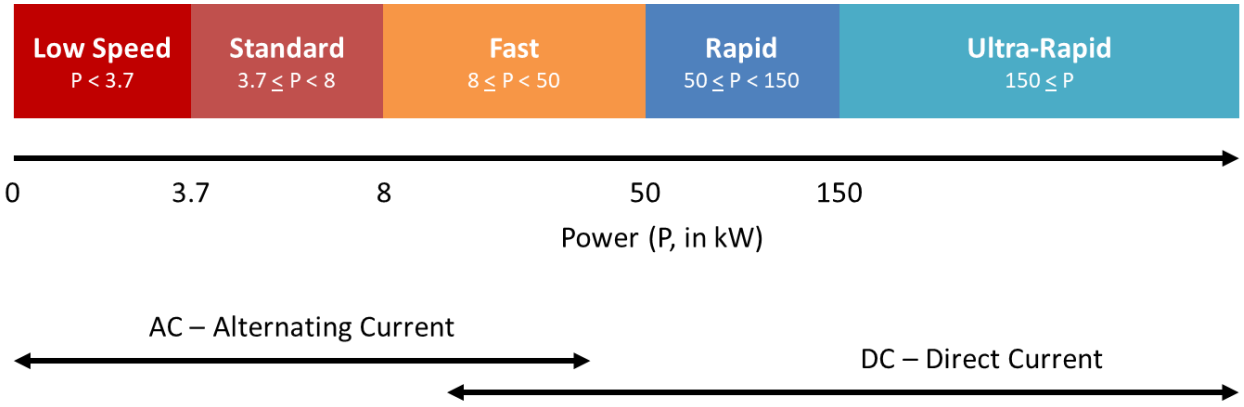
Acronym or Term	Definition
AFIR	Means the Alternative Fuels Infrastructure Regulations 2017
BSC	Balancing and Settlement Code
CDM	Means The Construction (Design and Management) Regulations 2015
CPMS	Chargepoint Management System
CPO	Chargepoint Operator
DNO	Distribution Network Operator
ECS	Electrotechnical Certification Scheme
EM	Equivalent meter. A metering arrangement providing half hourly data of unmetered supplies approved for settlement under the BSC
EMSP	E-mobility Service Provider. An EMSP is a provider of charging services to customers. Such services typically include providing access to charging stations for vehicle users via charging cards or apps, processing requests to charge, and taking payments for charging sessions. A CPO may also perform the role of an eMSP
EV	Electric Vehicle
EVI	Electric Vehicle Infrastructure
EVSE	Electric Vehicle Supply Equipment
HERS	Highways Electrical Registration Scheme
ICO	Information Commissioner's Office
IDRO	ID registration organisation. Organisation that registers EMSPs and CPOs with unique five-character IDs to facilitate communication in OCPI enabled networks. In the UK EV Roam is the IDRO.
LA	The contracting Local Authority.
mCMS	Measured Central Management System
MIR	Measuring Instruments Regulations 2016 (SI 2016/1153)
NCR	National Chargepoint Registry
NRSWA	New Roads and Street Works Act 1991

OCPI	Open Charge Point Interface protocol. OCPI facilitates connections between EMSPs and CPOs.
OCPP	Open Chargepoint Protocol
OZEV	The Office for Zero Emission Vehicles
Plug	Accessory having pins designed to engage with the contacts of a socket-outlet and incorporating means for the electrical connection and mechanical retention of a flexible cable.
RAMS	Risk Assessment and Method Statement
Service Provider	Means the person, firm or company identified in the contractual appointment; and any representative appointed by the Service Provider named in the contractual appointment, or later defined in an Order Contract. In the event that the Service Provider does sub-contract any part of the services it shall remain fully responsible for the performance of its obligations and shall procure that the sub-suppliers comply with the obligations of the Service Provider under the agreement as if it were a party.
Socket-outlet	Means a device, provided with female contacts, which is intended to be installed with the fixed wiring, and intended to receive a plug.
TRO	Means a Traffic Regulation Order
TMO	Means a Traffic Management Order
UKCA	UK Conformity Assessment
Vehicle coupler	Means of enabling the manual connection of a flexible cable to an electric vehicle for the purpose of charging.
Vehicle inlet	Means the part of the vehicle coupler that is integrated into the structure of the vehicle
WEEE	Means The Waste Electrical and Electronic Equipment Regulations 2013 (UKSI/2013/3113), as amended.

1.2. Charging Equipment Power Ratings

The following nominal charging equipment power ratings are defined. These categories are provided for the purposes of technical procurement specifications and are not intended to be consumer facing:

- **Low Speed** – for charging equipment dispensing at a maximum power of up to 3.7 kW.
- **Standard** – for charging equipment dispensing at a power of greater than or equal to 3.7 kW, but less than 8 kW.
- **Fast** – for charging equipment dispensing at a power of 8 kW and above, but less than 50 kW.
- **Rapid** – for charging equipment dispensing at a power of 50 kW and above, but less than 150 kW.
- **Ultra-Rapid** – for charging equipment dispensing at a power of 150 kW and above.



2. Common Technical Schedules

2.1. Safety Management & Capability

2.1.1. Principle

The supplier should evidence that they and their sub-contractors have a safety management process in place with a full set of suitable, up-to-date and regularly reviewed health and safety policies relevant to the required goods and services.

2.1.2. Relevant regulations

- Contractors shall operate in compliance with the Health and Safety at Work etc Act 1974[3] and The Management of Health and Safety at Work Regulations 1999[4].
- Contractors shall operate in compliance with the New Roads and Street Works Act 1991[5]:
    - Work on the highway shall follow the statutory guidelines in the "Safety at Street Works and Road Works – A Code of Practice", 2013[6]
    - Contractors in possession of a Section 50 licence for installing apparatus in a highway (England and Wales).
    - Contractors with permissions under section 109 (Scotland).
- Installation personnel must hold as a minimum, as applicable, relevant NRSWA training modules for certification in an approved scheme of operatives and supervisors, in accordance with:
    - In England: The Street Works (Qualifications of Operatives and Supervisors) (England) Regulations 2016[7].
    - In Scotland: The Road Works (Qualifications of Operatives and Supervisors) (Scotland) Regulations 2017[8].
- All relevant regulations for the work activities being undertaken. This may include, but is not limited to:
    - The Electricity Safety, Quality and Continuity Regulations (ESQCR) 2002[9].
    - The Construction (Design and Management) Regulations 2015[10]. The Local Authority and Service Provider shall identify and assign required CDM Dutyholder roles.
    - The Control of Noise at Work Regulations 2005[11].
    - The Control of Substances Hazardous to Health (Amendment) Regulations 2004[12].
    - The Control of Vibration at Work Regulations 2005[13].

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[3] https://www.legislation.gov.uk/ukpga/1974/37, Health and Safety at Work etc. Act 1974

[4] https://www.legislation.gov.uk/uksi/1999/3242, The Management of Health and Safety at Work Regulations 1999

[5] https://www.legislation.gov.uk/ukpga/1991/22, New Roads and Street Works Act 1991

[6] https://www.gov.uk/government/publications/safety-at-street-works-and-road-works, Safety at street works and road works: a code of practice 2013

[7] https://www.legislation.gov.uk/uksi/2016/1147, The Street Works (Qualifications of Operatives and Supervisors) (England) Regulations 2016

[8] https://www.legislation.gov.uk/ssi/2017/147, The Road Works (Qualifications of Operatives and Supervisors) (Scotland) Regulations 2017

[99] https://www.legislation.gov.uk/uksi/2002/2665, The Electricity Safety, Quality and Continuity Regulations 2002

[10] https://www.legislation.gov.uk/uksi/2015/51, The Construction (Design and Management) Regulations 2015

[11] https://www.legislation.gov.uk/uksi/2005/1643, The Control of Noise at Work Regulations 2005

[12] https://www.legislation.gov.uk/uksi/2004/3386, The Control of Substances Hazardous to Health (Amendment) Regulations 2004

[13] https://www.legislation.gov.uk/uksi/2005/1093, The Control of Vibration at Work Regulations 2005

- The Electricity at Work Regulations 1989[14].
- The Lifting Operations and Lifting Equipment Regulations 1998[15].
- The Manual Handling Operations Regulations 1992[16].
- The Provision and Use of Work Equipment Regulations (PUWER) 1998[17].
- The Work at Height Regulations 2005[18].

2.1.3. Minimum Specification

- The Service Provider shall have a nominated competent person responsible for health and safety.
- Installation, commissioning, testing and ongoing operation, maintenance, and inspection of the charging solutions on the public highway shall use a contractor registered through the Highways and Electrical Registration Scheme (HERS) operated by the Highway Electrical Association[19].
  - And in possession of a valid Electrotechnical Certification Scheme (ECS) card.
- The Service Provider, and sub-contracted parties shall hold appropriate and up-to-date accreditation/qualifications for installation of funded chargepoints.
- The Service Provider shall fully understand the process, or have experience, working with DNOs for new connections for EV chargepoint installations.
- The Service Provider and all sub-contracted parties shall ensure all work is carried out in accordance with all the applicable processes, legislative requirements of the LA highways department and other relevant authorities.
- The Service Provider and all sub-contracted parties shall ensure they follow the Considerate Constructors Scheme code of practice[20] and shall carry out installation works with utmost consideration to the local environment, any residents, businesses and visitors to the area.
- The Service Provider should consider the code of practice set out in ENA Engineering Recommendation G39 “Electrical safety in the planning, installation, commissioning and maintenance of public lighting and other street furniture”.

2.1.4. Considerations

- [none]

2.2. EVSE Technical

2.2.1. Principle

The Service Provider should be able to evidence that the EVSE meets or exceeds the minimum technical requirements. These ensure that high quality hardware is selected that is compliant with regulatory and standards requirements.

2.2.2. Relevant regulations

- The Alternative Fuels Infrastructure Regulations 2017[21]
  - An AC recharging point for electric vehicles must be equipped for interoperability purposes with at least connectors of Type 2 as described in standard BS EN IEC

[14] https://www.legislation.gov.uk/uksi/1989/635, The Electricity at Work Regulations 1989

[15] https://www.legislation.gov.uk/uksi/1998/2307, The Lifting Operations and Lifting Equipment Regulations 1998

[16] https://www.legislation.gov.uk/uksi/1992/2793, The Manual Handling Operations Regulations 1992

[17] https://www.legislation.gov.uk/uksi/1998/2306, The Provision and Use of Work Equipment Regulations 1998

[18] https://www.legislation.gov.uk/uksi/2005/735, The Work at Height Regulations 2005

[19] https://thehea.org.uk/hers_resources/hers-handbook/, Highways Electrical Registration Scheme – HERS Handbook

[20] https://www.ccscheme.org.uk/resources/the-code-of-considerate-practice/, The Considerate Constructors Scheme

[21] https://www.legislation.gov.uk/uksi/2017/897, The Alternative Fuels Infrastructure Regulations 2017

62196-2 *"Plugs, socket-outlets, vehicle connectors and vehicle inlets. Conductive charging of electric vehicles - Dimensional compatibility requirements for AC pin and contact-tube accessories."*

- A DC recharging point for electric vehicles must be equipped for interoperability purposes with at least connectors of the combined charging system 'Combo 2' as described in standard BS EN IEC 62196-3 *"Plugs, socket-outlets, vehicle connectors and vehicle inlets. Conductive charging of electric vehicles - Dimensional compatibility requirements for DC and AC/DC pin and contact-tube vehicle couplers."*

- The Environment Protection Act 1990[22]
  - EVI shall not emit noise and other emissions that constitute statutory nuisance. A statutory nuisance is where the EVI gives rise to issues where it:
    - unreasonably and substantially interferes with the use or enjoyment of a home or other premises.
    - injures health or be likely to injure health.
- Each chargepoint outlet is provided with electricity measurement that is either:
  - a non-volatile active electrical energy (kWh) meter that is MIR (*The Measuring Instruments Regulations 2016*)[23], SI 2016/1153) or MID (*Measuring Instruments Directive*)[24] approved.
  - Or,
    an approved Equivalent Meter (EM) with Meter Administrator (MA) (as required), as part of a measured Central Management System (mCMS) with valid approval by ELEXON to Balancing and Settlement Code (BSC) Procedure (BSCP) 520 "*Unmetered Supplies Registered in SMRS*"[25].
- Each EVI product used shall be compliant with the following regulations as appropriate:
  - *The Electromagnetic Compatibility Regulations 2016*[26] (Directive 2014/30/EU the "EMC Directive) as amended.
  - *The Electrical Equipment (safety) Regulations 2016*[27] (Directive 2014/35/EU the Low Voltage Directive "LVD") or as amended.
  - *The Radio Equipment Regulations 2017*[28] (Directive 2014/53/EU) or as amended.
  - *The Restriction of the Use of Certain Hazardous Substances in Electrical and Electronic Equipment Regulations 2012*[29] (Directive 2011/65/EU Restriction of Hazardous Substances in Electrical and Electronic Equipment) and *The Restriction of the Use of Certain Hazardous Substances in Electrical and Electronic Equipment (Amendment) Regulations 2023*[30] or as amended.
- Each EVI product used shall be compliant with the following standards as appropriate:
  - BS EN IEC 61851-1 *"Electric vehicle conductive charging system – General requirements"*.
    - Note: A chargepoint with a built in "PEN fault" protection device that disconnects the live conductors of the supply and from the protective earth in accordance with regulation

[22] https://www.legislation.gov.uk/ukpga/1990/43, Environmental Protection Act 1990

[23] https://www.legislation.gov.uk/uksi/2016/1153/, The Measuring Instruments Regulations 2016

[24] https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A32014L0032, Measuring Instruments Directive 2014

[25] https://bscdocs.elexon.co.uk/bsc-procedures/bscp520-unmetered-supplies-registered-in-smrs, ELEXON BSCP520 Unmetered Supplies Registered in SMRS

[26] https://www.legislation.gov.uk/uksi/2016/1091, The Electromagnetic Compatibility Regulations 2016

[27] https://www.legislation.gov.uk/uksi/2016/1101, The Electrical Equipment (Safety) Regulations 2016

[28] https://www.legislation.gov.uk/uksi/2017/1206, The Radio Equipment Regulations 2017

[29] https://www.legislation.gov.uk/uksi/2012/3032, The Restriction of the Use of Certain Hazardous Substances in Electrical and Electronic Equipment Regulations 2012

[30] https://www.legislation.gov.uk/uksi/2023/658, The Restriction of the Use of Certain Hazardous Substances in Electrical and Electronic Equipment (Amen2dment) Regulations 2023

722.411.4.1 of BS 7671:2018+A2:2022 will not be in compliance with 8.4 of BS EN IEC 61851-1:2019 which requires for Modes 3 and 4 that the protective earthing conductors shall not be switched. While this apparent incompatibility between standards exists the procuring LA will need to configure their requirements according to the needs of the procurement. Further guidance has been published[31].

  - BS EN IEC 61851-21-2 *"Electric vehicle conductive charging system – Electric vehicle requirements for conductive connection to an AC/DC supply. EMC requirements for offboard electric vehicle charging systems"*.
  - BS EN 61851-23 *"Electric vehicle conductive charging system – DC electric vehicle charging stations"*.
  - BS EN 61851-24 *"Electric vehicle conductive charging system – Digital communication between a d.c. EV charging station and an electric vehicle for control of d.c. charging"*.
  - BS EN IEC 61851-25:2021 *"Electric vehicle conductive charging system – DC EV supply equipment where protection relies on electrical separation"*.
  - BS ISO 15118 *"Road vehicles. Vehicle to grid communication interface"* (standards series) - hardware and software ready to support technology including "Plug&Charge" out of the box, or when available.
- All EVI products shall be marked on the nameplate with a valid conformity assessment mark[32].
  - The UK Government intends to extend recognition of the CE marking for placing most goods on the market in Great Britain, indefinitely, beyond December 2024. This applies to 18 product regulations for new and existing products.
  - Valid conformity assessment marks in Great Britain are the use of the UK Conformity Assessment (UKCA) and/or CE markings. In Northern Ireland CE marking shall be required and shall additionally include the UKNI mark, if the product used a UK conformity assessment body.
- The charging equipment shall meet regulatory requirements for load management and smart charging over the duration of the contract with any changes to ensure this provided at the Service Provider's expense.

2.2.3. Minimum Specification

2.2.3.1. General

- The Service Provider shall ensure that all EVI products used in the provision of the service are selected for their standards and regulatory compliance, ease of use, reliability and longevity.
- Where installed outdoors, the equipment shall provide a degree of protection of at least IPX4.
- The chargepoints shall have a robust mounting configuration suitable for the installation location (wall, pedestal, pole, pillar etc.) with minimum external mechanical impact protection of IK08 in accordance with requirements of BS EN 62262 *"Degrees of protection provided by enclosures for electrical equipment against external mechanical impacts (IK code)"*.
- EVI products used shall include correct, permanent and indelible nameplates which contain essential product details in accordance with BS EN 61851-1 *"Electric vehicle conductive charging system - General requirements"*.
- The charging equipment and its major components must be manufactured in a facility that is BS EN ISO 9001 *"Quality management systems. Requirements"* certified (or successor/equivalent certification).

[31] https://www.beama.org.uk/static/794d3387-de78-49cb-9d89639c4aea5310/PROTECTIVE-EARTH-DISCONNECTION-WHEN-CARRYING-OUT-ELECTRIC-VEHICLE-CHARGING.pdf, Beama Technical Bulletin, Protective Earth Disconnection when Carrying Out Electric Vehicle Charging, March 2022.

[32] https://www.gov.uk/guidance/using-the-ukca-marking, Guidance – Using the UKCA marking

- All EVI products offered by the Service Provider shall be selected following a suitable due diligence process to ensure product compatibility, compliance, suitability, and ethical codes of the manufacturing and supply chain.
- Charging equipment to BS EN 61851-1 *"Electric vehicle conductive charging system - General requirements"* Mode 1 or Mode 2 shall not be compliant with these schedules.
- EV charging equipment shall include locking mechanisms or enable on-vehicle locking mechanisms as appropriate.
    - Socket-outlets and vehicle connectors which are locked when in use to prevent disconnection under load and deter interference or theft. Unlocking shall occur when the user terminates the charging session.
    - The EVI shall include troubleshooting mechanisms to enable release of locking mechanisms in the event of system issues. This can be achieved via local controls or remotely operated release by the CPO back office.
    - The system shall include capability to enable release of locking mechanisms in the event of power failure.
    - Meet requirements stipulated in section 722 of BS 7671.
- Proposed EVI hardware shall be selected in accordance with, and enable installation in accordance with, requirements placed upon EVI in BS 7671:2018+A2:2022. This includes regulation 722.411.4.1 (for TN earthing systems) and regulation 722.531.3.101 (correct RCD protection).
    - Where there is any risk associated with simultaneous contact, it shall be the Service Provider's responsibility to manage and mitigate this risk.

2.2.3.2. Protocols

- Chargepoint products shall support Open Chargepoint Protocol (OCPP)[33] v1.6 or above for CPMS communications.

2.2.3.3. Physical characteristics

- The EVI enclosures shall have an IP rating (according to BS EN 60529) meeting the requirements of BS EN IEC 61851-1 *"Electric vehicle conductive charging system - General requirements"* at minimum. Presently this is at least IP44 for equipment installed in an outdoor location and IP41 for equipment installed in an indoor location.
    - IP ratings for socket-outlets and vehicle-connectors, when not mated, when making or breaking a connection, and when mated shall be in accordance with the requirements of BS EN IEC 61851-1 *"Electric vehicle conductive charging system - General requirements"*.
- EVI equipment shall be protected against mechanical damage of high severity in accordance with the requirements of BS 7671 offering one, or more of: 1) positioning or locating to avoid damage by any reasonably foreseeable impact; 2) provision of local / general mechanical protection; 3) installing equipment that complies with a minimum degree of protection against mechanical impact (IK rating) in accordance with requirements of BS EN 62262 *"Degrees of protection provided by enclosures for electrical equipment against external mechanical impacts (IK code)"*.
- The EVI equipment shall achieve a nominal operational ambient temperature range of -25 °C to + 40 °C.
- The EVI hardware shall be manufactured using materials that are durable and preferably consider end-of-life repurposing, or recycling, including:
    - Corrosion resistance.
    - Frost resistance.
    - UV resistance.

[33] https://www.openchargealliance.org/, Open Charge Alliance

- The EVI hardware will, as appropriate, include suitable physical security features (e.g., locks/keys, tamper protection boundaries, tamper seals, alarms/interlocks) to protect and deter against, as well as evidence, unauthorised access, tampering and abuse of the units and internal parts.

2.2.3.4. Electrical characteristics

- Power preference options for the installation locations of the LA: [select the relevant bullet point]
    - The Service Provider shall install AC charging equipment fully rated to 22 kW (with or without load management) except where it can be demonstrated that distribution and supply conditions mean there is no realistic prospect for a three-phase power supply, in which case an outlet rated up to 7.4 kW (32 A single-phase) may be used.
    - The Service Provider shall install charging equipment with outlet connections of [x] kW nominal power output.
    - The Service Provider shall install charging equipment compatible with the available capacity of the existing supply to be repurposed for EV charging.
- Voltage rating: Low voltage charging equipment shall be rated for a supply with a phase to neutral voltage of 230 Vac (+10% / -6%). For three-phase equipment the nominal phase-to-phase voltage rating is 400 Vac.
- Frequency: Charging equipment shall be rated for a nominal system frequency of 50 Hz (±1%).

Electrical characteristics of AC chargers shall be:

- Up to 7.4 kW charging equipment
    - Single-phase connected equipment.
    - Current rating: Up to 32 A current rating.
    - Power: Capable of sustained power delivery commensurate to the supply capacity (at 50 Hz, 230 VAC nominal).
- 11 kW charging equipment
    - Three-phase connected equipment.
    - Current rating: 16 A sustained current rating.
    - Power: Capable of sustained 11 kW (three-phase) / 3.7 kW (single-phase) power delivery (at 50 Hz, 400 VAC nominal).
- 22 kW charging equipment
    - Three-phase connected equipment.
    - Current rating: 32 A sustained current rating.
    - Power: Capable of sustained 22 kW (three-phase) / 7.4 kW (single-phase) power delivery (at 50 Hz, 400 VAC nominal).
- Mode 3 EV charging to BS EN IEC 61851-1:
    - With Type 2 non-tethered socket-outlet(s) to BS EN IEC 62196-2 (BS EN IEC 61851-1 Case A2 or B2 connection), or another appropriate socketed interface supplied with suitable connections and adapter interface that enables Type 2 vehicle connections. Normally connection for recharging the vehicle is via a user supplied cable with plug and vehicle-connector.
    - With Type 2 tethered vehicle-connector to BS EN IEC 62196-2 (BS EN IEC 61851-1 Case C connection).
- Where there are no locational constraints, and/or appropriate technology application means this is not practical, then dual-socket outlet chargepoints capable of charging two vehicles at once shall be installed wherever possible to maximise value for money.

Electrical characteristics of DC chargers shall be:

- Charging equipment < 50 kW
    - Single unit power electronics and dispenser form factor
- 50 kW charging equipment

    - Single unit power electronics and dispenser form factor
    - Three-phase connected equipment (at 50 Hz, 400 VAC nominal)
    - Power: capable of sustained 50 kW DC power delivery
- Mode 4 EV charging to BS EN IEC 61851-1
- Power factor ≥ 0.95
- Output connectors: [select the relevant bullet point]
    - Single type outlets:
        - 1x Combined Charging System Combo 2 (CCS2) outlet to BS EN IEC 62196-3 configuration FF
    - Dual (matched) outlets:
        - 2x Combined Charging System Combo 2 (CCS2) outlet to BS EN IEC 62196-3 configuration FF
    - Dual (multi-standard legacy) outlets:
        - 1x Combined Charging System Combo 2 (CCS2) outlet to BS EN IEC 62196-3 configuration FF
        - 1x Tethered CHAdeMO outlet to BE EN IEC 62196-3 configuration AA (Sumitomo Electric SEVD-01, the Yazaki CHV-04 or equivalent).
- Usage of tethered cables to BS EN IEC 61851-1 Case C connection.

2.2.3.5. Other charging technologies

- Charging equipment with embedded generation for DC bi-directional (V2X) capability:
    - Equipment shall be type tested as per requirements of the Energy Networks Association (ENA) for type tested devices.
    - Equipment with embedded generation capability less than or equal to 16 A per phase shall be compliant with the requirements of ENA Engineering Recommendation G98 Issue 1, Amendment 7.
    - Equipment with embedded generation capability greater than 16 A per phase shall be compliant with the requirements of ENA Engineering Recommendation G99 Issue 1, Amendment 9.
    - Mode 4 EV charging to BS EN 61851-1
    - Dual outlets:
        - Combined Charging System Combo 2 (CCS2) outlet to BS EN 62196-3 configuration FF
        - Tethered CHAdeMO outlet to BS EN IEC 62196-3 configuration AA (Sumitomo Electric SEVD-01, the Yazaki CHV-04 or equivalent).
- Charging equipment with embedded generation for AC bi-directional (V2X) capability:
    - Equipment shall be type tested as per requirements of the Energy Networks Association (ENA) for type tested devices.
    - Equipment with embedded generation capability less than or equal to 16 A per phase shall be compliant with the requirements of ENA Engineering Recommendation G98 Issue 1, Amendment 7.
    - Equipment with embedded generation capability greater than 16 A per phase shall be compliant with the requirements of ENA Engineering Recommendation G99 Issue 1, Amendment 9.
    - Mode 3 EV charging to BS EN IEC 61851-1:
        - With Type 2 non-tethered socket-outlet(s) to BS EN IEC 62196-2 (BS EN IEC 61851-1 Case A2 or B2 connection), or another appropriate socketed interface supplied with suitable connections and adapter interface that enables Type 2 vehicle connections. Normally connection for recharging the vehicle is via a user supplied cable with plug and vehicle-connector.
        - With Type 2 tethered vehicle-connector to BS EN IEC 62196-2 (BS EN IEC 61851-1 Case C connection).

2.2.3.6. Chargepoint load management & smart charging

- AC chargers shall be capable of supporting dynamic load management functionality in order to avoid exceeding current and future site supply constraints.
- Where load management is part of an approved export or load limitation scheme the system shall meet the requirements of ENA Engineering Recommendation G100 Issue 2, Amendment 1.
- AC chargers must be capable of receiving and sending information via a communication network, and able to respond to signals increasing or decreasing the rate of electricity flowing through the chargepoint; and changing the time at which electricity flows through the chargepoint.

2.2.4. Considerations

2.2.4.1. General

- The charging equipment and its major components should be manufactured by organisations which are BS EN ISO 14001 *"Environmental management systems. Requirements with guidance for use"* certified (or successor/equivalent certification).
- Charging equipment units should be suitably compact to minimise adverse visual impact and designed to be sympathetic and in keeping with the streetscape.
- Charging equipment units should be designed to minimise adverse noise impact to local properties.
- EV charging equipment products which are certified/accredited by car OEMs; industry associations; or independent bodies/test labs (e.g., UKAS) are preferred.

2.2.4.2. Protocols

- Chargepoint products shall support some over the air upgrade capability to the latest/future versions of OCPP (such as v2.0.1).

2.2.4.3. Physical characteristics

- Locations that are more exposed, or with more challenging environmental conditions, should consider EVI, or parts of the EVI, with higher IP ratings for enhanced protection against ingress.
- Locations that are at higher risk of vandalism or slow-speed vehicle impact should consider higher impact (IK) rating of the EVI or additional protective barriers.
- The EVSE units shall have a final finish that is [matt/grey/gloss black/sympathetic to the local environment.]
- The EVI equipment shall make use of antivandal surfaces/paints to deter damage from flyposting/graffiti. Anti-fly finishes (such as Dacrylate Margard Easyclean APF Finish or similar)

2.2.4.4. Electrical characteristics

- [none]

Electrical characteristics of AC chargers should be

- [none]

Electrical characteristics of DC chargers should be

- [none]

2.2.4.5. Other charging technologies

- [none]

2.2.4.6. Chargepoint load management & smart charging

- [none]

2.3. Usage and Payment

2.3.1. Principle

Chargepoint equipment shall support an appropriate range of mechanisms for managing and controlling charging transactions, including payment. In order that usage of chargepoint equipment is inclusive to the broadest range of users possible, charging equipment shall feature simple and intuitive user interfaces.

2.3.2. Regulations

- Chargepoint which are made available for the general public must be in compliance with the Alternative Fuels Infrastructure Regulations 2017 (or as amended), including facilitating ad-hoc access without mandating ongoing contracts, membership schemes or ownership of specialist cables or adapters (any specialist adapters need to be available at locations to end users).
- Draft legislation of The Public Charge Point Regulations 2023 has been published[34]. Chargepoint equipment must be in compliance with these regulations, once the specific requirements come into force. This includes:
    - Chargepoint devices installed with connectors rated at 8 kW or above must ensure that a user is able to pay by contactless payment (support for contactless debit and credit card payment).
    - The chargepoint system shall meet requirements for pricing transparency displaying on the charging equipment or through separate devices not requiring the user to enter into a pre-existing contract, a consumption based (pence per kWh) tariff.
    - The tariff displayed and charged must not increase once the charging session commences.

2.3.3. Minimum Specification

- Chargepoint equipment shall support a range of mechanisms to identify, authenticate and process payments of users as deemed appropriate by the Service Provider. According to the relevant regulations and LA specification, this may include:
    - Contactless card using credit/debit cards
    - Chip & pin using credit cards
    - NFC device payments (e.g., Google Pay / Apple Pay)
    - Mobile app
    - Plug & Charge (ISO 15118)
    - RFID
    - Web app
    - By phone
    - By text
    - Cash
- Cash only payment systems shall not be used to meet ad hoc access requirements in Alternative Fuels Infrastructure Regulations (2017).
- The chargepoint system shall provide support for different pricing mechanisms and/or tariff structures for different user groups if required. E.g., chargepoint network members and non-members
- User interaction accessibility and user interfaces:
    - The usage of the proposed chargepoints shall be intuitive for the end user. This includes the instructions and information that are displayed to the user before/during/after a charging session and how this information is communicated,

[34] https://www.legislation.gov.uk/ukdsi/2023/9780348249873/contents, The Public Charge Point Regulations 2023 (draft legislation)

whether on the charging equipment, on a customer smart device, or on signage accompanying the equipment.
    - Each chargepoint unit shall be fitted with an access control mechanism only allowing charging sessions by permitted users.
    - Each chargepoint unit shall provide visual instructions for payment/access (as appropriate) and equipment operation, whether on the charging equipment, on a customer smart device, or on signage accompanying the equipment.
    - All applicable user costs are clearly visible to the user prior to starting a charging session, regardless of payment method. Operator discretion is allowable on how pricing information is shown.
    - Each chargepoint unit and connector shall have suitable use of visual (lights, LEDs and/or screens); audible; and/or tactile interfaces and cues, to provide user feedback on actions initiating, controlling and completing a charging session.
    - Each chargepoint unit shall use the aforementioned visual (lights, LEDs and/or screens); audible; and/or tactile interfaces and cues to clearly indicate the charging status for each outlet.
    - Information screens, and/or user interface elements shall:
        - Be in English by default with the ability to configure and support additional language options preferable. Instruction should make use of symbols, and/or pictograms where possible.
        - Be presented in accessible, plain English, large clear-type consistent fonts, easily recognisable symbols.
        - Avoid the use of jargon and acronyms.

2.3.4. Considerations

- The contactless debit and credit card payment requirement can be shared across multiple chargepoints forming a cluster in a single location (e.g. a single payment terminal covering a bank of multiple chargepoints).
    - There should not be more than [50 m] between a chargepoint and its nearest payment terminal.
    - In large installations, the ratio of chargepoint outlets to payment terminals should not exceed [50:1].
    - Where the payment terminal is not immediately visible from the location of the charging socket, clear signage must be provided to direct users to the payment terminal.
    - The payment terminal should be fitted in such a location that it can be accessed without significantly diverting the user from the entrance/exit of the car park, so far as is possible at a given site.
- An accessible method should exist for a user to access a VAT receipt.
- It is preferred that users are able to remotely view live data of their charging session including, status, session duration, kWh delivered and charging session cost.
- It is preferred that the EVI system has a way to display the live cost of charging to the user during a session.
- Digital software solutions in apps and online shall comply with W3C Web Content Accessibility Guidelines (WCAG)[35,36] Level AA to ensure the widest possible access.

[35] Web Content Accessibility Guidelines (WCAG) 2.1 (w3.org), Web Content Accessibility Guidelines (WCAG) 2.1 – W3C Recommendation 05 June 2018

[36] https://www.gov.uk/service-manual/helping-people-to-use-your-service/understanding-wcag, gov.uk, Accessibility and assisted digital Understanding WCAG 2.1

2.4. Customer Service

2.4.1. Principle

It is essential that the Service Provider prioritises and demonstrably delivers excellent customer service at all times to all stakeholders.

2.4.2. Relevant regulations

- The customer service provision will at all times be in accordance with legislation. Draft legislation of The Public Charge Point Regulations 2023 has been published[37]. Customer service provision must be in compliance with these regulations, once the specific requirements come into force.
    - This includes requirements for the provision of a staffed telephone helpline, prominence of the contact numbers and requirements to record and report logs of helpline usage.

2.4.3. Minimum Specification

- Helpdesk support
    - The Service Provider shall provide a helpdesk service for the LA and users of the chargepoints operating 24/7 in which support is free at the point of use. The minimum service provision is for a telephone support line, but Service Providers can offer other methods to access helpdesk support.
    - The helpdesk will provide a minimum of English language support.
    - The helpdesk will provide a minimum of a telephone support line.
    - Chargepoints and/or associated signage will provide stickers or notices clearly detailing helpdesk service contact information, including contact numbers for the telephone support line.
    - Each chargepoint will be clearly and durably labelled or inscribed with a unique CPO chargepoint reference (or number) that will be used to identify the chargepoint.
    - The Service Provider will provide first line support to answer calls from users and guide them through possible remedies that do not require an engineer at site (e.g., trapped plugs or other error). This includes facilities for remote chargepoint reboot or restart facilities.
    - In the event of a suspected fault becoming known, the first line support team are to raise a support request (ticket) with an appropriate, competent party to manage, track and resolve the fault.
    - The Service Provider shall provide customer service reports to the LA about the number and types of tickets raised in relation to the EVI installed under the contract.

2.4.4. Considerations

- The Service Provider may offer other additional methods of access to the helpdesk service. Including:
    - Web chat
    - Social media messaging channels
    - Online call systems
    - Call back functionality

2.5. Accessibility

2.5.1. Principle

[37] https://www.legislation.gov.uk/ukdsi/2023/9780348249873/contents, The Public Charge Point Regulations 2023 (draft legislation)

The Service Provider shall evidence that deployed EVI is in compliance with legal requirements for accessibility and inclusive design. Service Providers shall demonstrate a commitment to push the boundaries on maximising accessible infrastructure at all points in the EVI deployment lifecycle for all users.

2.5.2. Context

OZEV in their work on "The consumer experience at public electric vehicle chargepoints" have identified accessibility and inclusive design as an emerging policy area. In collaboration with a broad range of stakeholders, OZEV have developed and published through the British Standards Institute (BSI) a Publicly Available Specification (PAS). PAS 1899[38] advises on the minimum specification for an accessible public chargepoint, providing a new standard to ensure this infrastructure is accessible to users. The PAS seeks to establish an objective that all electric vehicle chargepoints meet certain minimum requirements for accessibility, regardless of whether the parking bay to which it is attached is a standard or designated accessible parking bay. There are currently no legal requirements for EVI installations to comply with PAS 1899, however this is strongly recommended wherever practicable.

2.5.3. Relevant regulations

- Public charging equipment must comply with the Equality Act 2010[39] and any other relevant legislation.

2.5.4. Minimum Specification

- The design, layout, and implementation of chargepoint installations in designated accessible bays shall adhere to the provisions set out in PAS 1899.
- The design, layout, and implementation of chargepoint installations in standard bays shall consider the provisions in PAS 1899 and apply them in so far as they are reasonably practicable by the supplier, to maximise the accessibility for all users including disabled users.
- The placement and installation of EVI shall, where possible, take into account the best practise guidance for the built environment within BS 8300-1:2018 *"Design of an accessible and inclusive built environment - External environment. Code of practice"*.
- The design of chargepoint installations on the public highway and footway shall allow the LA to meet statutory and policy obligations to street accessibility and safety.

2.5.5. Considerations

- Installations should follow guidance: "Inclusive Mobility - A Guide to Best Practice on Access to Pedestrian and Transport Infrastructure" (2021), however PAS 1899 guidance shall take precedence[40].

2.6. Charge Point Operator

2.6.1. Principle

The deployment of EVI must be supported by a capable and reliable charge point operator function that ensures EVI is always operating safely and reliably. The Service Provider shall be focussed on operational excellence.

2.6.2. Relevant regulations

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[38] https://www.bsigroup.com/en-GB/standards/pas-1899/, PAS 1899:2022 Electric vehicles – Accessible charging - Specification

[39] https://www.legislation.gov.uk/ukpga/2010/15, Equality Act 2010

[40] https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1044542/inclusive-mobility-a-guide-to-best-practice-on-access-to-pedestrian-and-transport-infrastructure.pdf, Department for Transport, Inclusive Mobility – A Guide to Best Practice on Access to Pedestrian and Transport Infrastructure

- The Alternative Fuels Infrastructure Regulations 2017[41].
- Draft legislation of The Public Charge Point Regulations 2023 has been published[42]. Reliability and availability of the EVI must at all times be in compliance with these regulations, once the specific requirements come into force.
    - Using the object statuses and definitions in the draft regulations, a network of rapid chargepoints of 50 kW, or above, need to achieve an average reliability requirement of 99% during each calendar year.
- For EVI defined as non-public chargepoints, "The Electric Vehicles (Smart Charge Points) Regulations 2021"[43] shall apply.

2.6.3. Minimum Specification

- The Service Provider shall ensure a 24/7 contact number for emergency support, e.g., in the event of a road collision involving the EVSE or electrical supply equipment.
- EVI Communications
    - In each charging location the EVI need to be internet connected using highly reliable and resilient communications for: control, payment authentication, data, monitoring, maintenance, and security purposes.
    - The Service Provider shall ensure reliable communication to EVI installations at all times via method(s) determined to be most appropriate to the location and circumstances.
    - The EVI shall allow this to be achieved flexibly with supported connectivity methods, e.g., via RJ45 wired ethernet, Wi-Fi (inbuilt, approved 3rd party), mobile networks.
    - Communications shall include suitable consideration for reliability and redundancy, for example communications using cellular mobile networks as its basis shall include suitable consideration for: redundancy, dual-sim devices, and/or roaming SIM solutions that can make best use of available mobile network connectivity.
    - Adaptions shall be considered to ensure reliable communications in areas of weak mobile connectivity, which could include taking the following approaches:
        - Careful monitoring and selection of cellular networks.
        - Consideration for selection and positioning of antenna equipment.
        - Alternate communications technologies, such as satellite communications.
- Reliability
    - Determination of reliability shall follow the method defined in The Public charge Point Regulations 2023 (draft).
    - Individual chargepoint reliability, and availability, will meet the requirements stipulated within the contract KPIs.
    - The chargepoint network reliability, and availability, for the chargepoints covered by the scope of the contract shall meet the requirements stipulated within the contract KPIs.
- Roaming
    - The Service Provider shall through their back-office platform support payment roaming technology that can integrate with multiple EMSPs serving customers across regions.
    - The roaming capability shall support OCPI version 2.2.1 or above with minimum of Credentials, Locations, Sessions, CDRs & Tariffs modules implemented.
- Platform
    - The Service Provider shall use a scalable management platform that can provide operational control for all charging equipment within the contract.

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[41] https://www.legislation.gov.uk/uksi/2017/897, The Alternative Fuels Infrastructure Regulations 2017

[42] https://www.legislation.gov.uk/ukdsi/2023/9780348249873/contents, The Public Charge Point Regulations 2023 (draft legislation)

[43] https://www.legislation.gov.uk/uksi/2021/1467, The Electric Vehicles (Smart Charge Points) Regulations 2021

- In the event that EV charging equipment becomes uncontactable with the back office and payment systems, the EV charging equipment shall remain operational to enable users to continue initiating and stopping charging sessions.

2.6.4. Considerations

- [none]

2.7. Chargepoint Management System

2.7.1. Principle

Where the procurement of the chargepoints additionally requires a Chargepoint Management System (CPMS), the functional and technical requirements should be stated.

2.7.2. Relevant Regulations

- Draft legislation of The Public Charge Point Regulations 2023 has been published[44]. Compliance with these regulations shall be met, once the specific requirements come into force. This includes requirements for payment roaming and open data recording and provision.

2.7.3. Minimum Specification

- The CPMS shall support, at minimum OCPP version 1.6.
- The CPMS shall support at minimum OCPI version 2.2.1
- The CPMS shall include features for ad-hoc reporting and analysis functionality.
- The CPMS shall include remote monitoring functionality for chargepoints on the network.
- The CPMS shall not include any limitations in terms of the number of chargepoints that are expected to be managed as part of the contract.

2.7.4. Considerations

- The CPMS will be ready or demonstrate clear development plans for future support of BS ISO 15118 Plug&Charge

2.8. Data Provision

2.8.1. Principle

Relevant data on EVI operation and the EVI network assets is provided to the LA and made available as required throughout the duration of the contract.

2.8.2. Relevant regulations

- Draft legislation of The Public Charge Point Regulations 2023 has been published[45]. Compliance with these regulations shall be met, once the specific requirements come into force. This includes requirements for open public chargepoint data recording and provision.
    - The Service Provider shall provide, to the LA, data on availability according to the specification stated in the regulations.
    - The connection status for each connector shall be reported independently.
- The Data Protection Act 2018[46].

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[44] https://www.legislation.gov.uk/ukdsi/2023/9780348249873/contents, The Public Charge Point Regulations 2023 (draft legislation)

[45] https://www.legislation.gov.uk/ukdsi/2023/9780348249873/contents, The Public Charge Point Regulations 2023 (draft legislation)

[46] https://www.legislation.gov.uk/ukpga/2018/12/, Data Protection Act 2018

2.8.3. Minimum Specification

- The Service Provider and the LA shall enter into a data sharing agreement within the contract in which the Service Provider must provide the LA with relevant management information and reporting at no cost within [X working days] once a request has been submitted. At any time the LA may request the Service Provider to supply relevant management information and reporting to help them make better-informed decisions.
- Requirements for the LA to have access to relevant management information and data. Either agreement of ongoing delivery of data or provision of data within [X working days] of a request being submitted.
- All relevant data should be made available to enable the LA to perform its statutory obligations.
- All relevant data should be made available and be capable of being transferred to a successor Service Provider.

Data Specifications

- For each chargepoint, and as otherwise agreed between the LA and the Service Provider, the Service Provider agrees provide the LA with aggregated, anonymised, and non-personal chargepoint usage data:
    - Utilisation by charger/outlet over different timescales and time groupings (e.g., day of week, hour of the day) – plug in durations, power delivery durations, kWh import, kWh export (if applicable)
    - Per charging event: charging session ID, chargepoint ID, plug in datetime, unplug datetime, power delivery start datetime, power delivery duration, kWh import, kWh export, average power during import, average power during export (if applicable), tariff rate(s), total kWh costs, any other charges, total amount billed, payment method.
    - Breakdown/utilisation by payment/access method
- The Service Provider shall provide the LA with data on helpdesk availability.
    - Time duration reports of any downtime events to helpdesk coverage, including telephone helplines.
- Revenue
    - The Service Provider shall provide transparent annual reporting to show usage, revenue generated, and revenue share to be credited to the LA: from each of the chargepoints in operation under the contract; and summarised totals for all chargepoints in scope of the contract.
- The Service Provider shall provide data on tariff rates to the LA:
    - Tariff rate in effect over different time periods
- The Service Provider shall make available to the LA aggregated, anonymised charging statistical data through a flexible dashboard functionality. The data requirements are as per the data specification above.
- The Service Provider shall ensure reliable, up-to-date static and dynamic information about the chargepoints will be accurately listed as part of the commissioning process. The types of data include static and dynamic data.
    - The static data include locations, power rating, connectors, accessibility, usage, and other relevant features required.
    - Dynamic data will include live availability, status information, as well as other information such as operational tariffs or power availability where active management may be in place.
- All connectors shall be reported independently.
- All publicly accessible chargepoints, as defined by The Alternative Fuels Infrastructure Regulations 2017, shall be listed openly on accessible public indexes and directories. All relevant data fields shall be completed and maintained accurately over the full duration of the contract.

    - Listing on the National Chargepoint Registry (NCR)[47], or any successor platform.
    - The Service Providers own public network map (if one is operated).
    - The following E-mobility Service Provider (EMSP) Directories:
        - [See the EV Roam ID registration database[48]]
        - Any other indexes, or directories mandated by legislation over the life of the contract.
- The Service Provider shall be obligated to support the LA with fulfilling any FOI requests, which do not require commercially sensitive information, by providing relevant data and information requested.

2.8.4. Considerations

- Chargepoints which are not considered accessible to the public, as defined by The Alternative Fuels Infrastructure Regulations 2017, must be able to be included in aforementioned public indexes and directories at the discretion of the LA.
- The Service Provider should have available a web-api facility to allow machine-to-machine data provision to the LA. The data requirements are as per the data specification above.

2.9. Survey, Design, Installation, Commissioning & Bringing into Service

2.9.1. Principle

Survey, Design, Installation, Commissioning and Bringing into Service of the chargepoints in the network is completed on time, following due process, complying with regulations and with the review of the Local Authority.

2.9.2. Relevant regulations

- The Construction (Design and Management) Regulations 2015[49]
- The Service Provider shall adhere to the Electricity Safety, Quality and Continuity Regulations – ESQCR 2002 (as amended).
- The Service Provider shall adhere to the Electricity at Work Regulations 1989 (EAWR).
- The Service Provider shall work with the Local Authority to ensure that obligations to prevent potential water pollution are met, for instance, in respect of potential fire water pollution:
    - In England and Wales: Environmental Protection, England and Wales – The Environmental Permitting (England and Wales) Regulations 2010[50]
    - In Scotland: The Water Environment (Controlled Activities) (Scotland) Regulations 2011[51]
    - In Northern Ireland: The Water (Northern Ireland) Order 1999[52]
    - The Water Resources Act 1991[53] in which polluting a water source is an offence
    - The Water Industry Act 1991 in which polluting a sewer is an offence

2.9.3. Minimum Specification

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[47] https://chargepoints.dft.gov.uk, National Chargepoint Registry UK

[48] https://www.evroam.org.uk/id-register, EV Roam is the ID Registration Organisation (IDRO) in the UK and issues MSPs and CPOs with unique ID. EV Roam is part of Renewable Energy Assurance Limited, a wholly owned subsidiary of the Renewable Energy Association,

[49] https://www.legislation.gov.uk/uksi/2015/51, The Construction (Design and Management) Regulations 2015

[50] https://www.legislation.gov.uk/uksi/2010/675, The Environmental Permitting (England and Wales) Regulations 2010

[51] https://www.legislation.gov.uk/ssi/2011/209, The Water Environment (Controlled Activities) (Scotland) Regulations 2011

[52] https://www.legislation.gov.uk/nisi/1999/662, The Water (Northern Ireland) Order 1999

[53] https://www.legislation.gov.uk/ukpga/1991/57, Water Resources Act 1991

- The Service Provider will be responsible for working with the LA on the process for any required TROs/TMOs and agreeing the coverage and timing of such orders. The TRO/TMO process will be managed by the LA.
- The Service Provider shall create and maintain for the full duration of the survey, design, installation and commissioning phases a project delivery plan which is made available to the LA.
- Design of EVI installations shall be in compliance with the as amended version of BS 7671 *"Requirements for Electrical Installations (IET Wiring Regulations)"*
- The Service Provider shall support the Local Authority in the assessment, management and mitigation of any additional HSE risks modified directly or indirectly by the installation of the EVI, including site emergency plans and fire.
- The Service Provider shall have a robust appraisal process for site review, survey, and design including:
    - Processes for IT/communications considerations of EVI installs, e.g., evaluation of mobile signal strength.
    - Processes for electrical considerations of EVI installs, e.g., supply, distribution, earthing, cabling.
    - Processes for physical considerations of EVI installs, e.g., bay marking, signage, impact protection, civils.
    - Processes for cyber security of EVI installs, e.g., vulnerability appraisal, intrusion prevention & detection, encryption of data.
    - Process for consideration of EVI installs in the local environment, e.g., environmental impact assessments, conservation areas.
- The Service Provider will have a process for change management, in particular, for design changes necessitated by bay layout and unexpected underground conditions.
- The Service Provider and any sub-contracted parties shall adhere to all relevant standards and best practices including:
    - Manufacturer instructions and standards.
- BS 7671 *"Requirements for Electrical Installations (IET Wiring Regulations)"* as amended.
    - The recommendations of the IET Code of Practice for Electric Vehicle Charging Equipment Installation (as amended).
    - Energy Networks Association (ENA) Engineering Recommendations (ERECS), in particular:
        - EREC G12 – Requirements for the Application of Protective Multiple Earthing to Low Voltage Networks.
        - EREC G100 – Technical Requirements for Customers' Export and Import Limitation Schemes.
- BS EN IEC 61851 (standards series).
    - And all other applicable standards.
- The Service Provider shall outline their standard process(es) and capabilities for the installation of EVI including:
    - Installation management, including making good and disposal of waste material after installation.
    - The Service Provider will ensure direct communications with relevant officers of the LA to manage all preparatory work required.
    - Secure goods handling capability to receive and store hardware until required.
    - Description of network of installers and the works they can supply.
    - Measures to ensure installers have appropriate competence and capability.
    - Suitable earthing and bonding according to the needs and requirements of the installation and the DNO as well as meeting requirements for avoiding the risk of simultaneous contact between different earthing systems.
- Service Providers shall outline their standard process(es) for commissioning and bringing into service an EVI installation including the following areas:
    - IT/communications and back-office inclusion.

- Electrical including supply, distribution, earthing, and cabling.
- Physical attributed including bay marking, signage, impact protection, civils.
- Customer/user acceptance, handover and sign off.

2.9.4. Considerations

- The Supplier shall include associated TRO / TMO costs in their budget. Associated TRO/TMO costs will be as per clause 8 (Permits) in the Heads of Terms.
- The Service Provider should submit to the LA evidence that the site design(s) comply with the technical requirements of this document including [select the relevant sections as appropriate]:
  - 2.2 EVSE Technical
  - 2.5 Accessibility
  - 2.10 Equipment Positioning
  - 2.11 Local Connection Assets, Groundworks & Civils
  - 2.12 Permits & Consents
  - 2.14 Signage & Markings

2.10. Equipment Positioning

2.10.1. Principle

Public authorities will often define requirements for the positioning of EVI, which are then taken into consideration by the Service Provider when determining the final position of the equipment. These can be determined by national standards and regulations, but also local policy or a location-by-location surveys and assessments of risk.

2.10.2. Relevant regulations

- [none]

2.10.3. Minimum Specification

- The final positioning of EVI shall be considerate of the requirements and provisions for accessibility defined in section 2.5 Accessibility.
- Defined requirements and highways constraints of the LA shall be observed for EVI solutions on the footway or public highway.
- EV charging equipment shall be installed in a final position to minimise the likelihood of vehicle impact damage. Where it is foreseeable that charging equipment could be damaged by vehicles, additional protective measures, such as bollards or barriers shall be installed while preserving accessibility requirements at all times.
- EV charging equipment shall be installed in a final position so that charging cables in use do not trail across footways and verges, and otherwise avoid creating trip hazards and impeding access for users of mobility equipment.
- EV charging equipment shall be installed with due consideration for local environmental hazards (e.g. flooding) and, where such hazards present a significant risk to the equipment or its users, appropriate mitigations shall be made.
- Where a footway is present, the installation of all EV infrastructure, along with all supporting electrical supply infrastructure, shall ensure usable footway widths are preserved in line with section 4.2 of Government recommendations on Inclusive Mobility[54] that specify [LAs to amend footway requirements based on locational needs that avoid negative impact on pedestrian comfort levels and accessibility (both in usage of charging equipment and through access of pavements)]:

[54] https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1044542/inclusive-mobility-a-guide-to-best-practice-on-access-to-pedestrian-and-transport-infrastructure.pdf, Department for Transport, Inclusive Mobility – A Guide to Best Practice on Access to Pedestrian and Transport Infrastructure

    - Under ideal circumstances, at least 2000 mm.
    - An absolute minimum width of 1500 mm being acceptable under most circumstances.
- The final position of the EVI shall not interfere with any existing statutory undertakers or any other existing equipment commonly found in areas where EVI are installed.
- Locations and positions of EVI, including groundworks, in close proximity to trees and tree roots, such that to install will cause damage or have an adverse impact to trees, shall be avoided.
    - National Joint Utilities Group (NJUG) guidelines[55] shall be consulted and tree protection zones established:
        - Prohibited zone: Excavation within 1 m of the trunk is prohibited.
        - Precautionary zone: 4x the tree circumference. Where excavation must take place, use of mechanical excavation is prohibited, and precautions are required to protect any exposed roots.
        - Permitted zone: mechanical excavation works permitted with caution, exposed roots should be protected.
    - Obligations shall be considered with respect to trees and woodlands with tree preservation orders (TPOs) as well as trees in locations with designated status, such as conservation areas.
- The final placement and orientation of chargepoints shall be administered such that its points of access, for all anticipated use cases, are not obstructed by low-lying obstacles, street furniture, plants, or other shrubbery.

2.10.4. Considerations

- Provision of adequate lighting around the chargepoints should be given due consideration, to BS 8300-1 *"Design of an accessible and inclusive built environment - External environment. Code of practice"* (Clause 11). Exceptions to this are locations where preserving darkness of external environment and reducing light pollution is necessary.
- Where possible, electrical supply infrastructure, such as feeder pillars, should be placed in such a location as to minimise visual intrusion, potential for vehicle impact damage and/or potential for use to gain unauthorised access to adjacent properties or land.

2.11. Local Connection Assets, Groundworks & Civils

2.11.1. Principle

Local Connection Assets, Groundworks and Civils need to utilise standardised connections and methods, and be completed by the Supplier in consultation with the LA.

2.11.2. Relevant regulations

- New Roads and Street Works Act 1991

2.11.3. Minimum Specification

- Ground mounting points for EV chargepoints shall, where applicable and reasonably practicable, utilise a standard groundworks mounting method such as retention sockets, prefabricated mounting block, or modular subsurface component enclosures that facilitate easy maintenance and eliminate future civil works.
    - Where the utilisation of standard groundworks is not reasonably practicable, justification must be provided to the local authority in each instance.
- Power infrastructure, including feeder pillars, power distribution cabinets and consumer units, shall be sized and dimensioned to meet the full potential future provision.

[55] http://streetworks.org.uk/wp-content/uploads/2016/09/V4-Trees-Issue-2-16-11-2007.pdf , NJUG Guidelines for the Planning, Installation and Maintenance of Utility Apparatus in Proximity to Trees

- The Service Provider shall be responsible, in consultation with the LA, for arranging new connections with the DNO (including associated groundworks requirements), the engagement of the energy supplier, and contestable works.

2.11.4. Considerations

- For each pre-determined installation site, groundworks installation shall provide for a specified quantity of passive provision [SITE-BY-SITE PASSIVE PROVISION REQUIREMENTS SHOULD BE INCLUDED IN ANNEX DOCUMENT] except for where unforeseen physical/practical limitations are identified during the installation phase that would reasonably prevent this.
- Scheduling of groundworks and civils will give due consideration to any statutory obligations to co-schedule with other groundworks activities.
- Scheduling of groundworks and civils will give due consideration to minimise any disruptions to pedestrians, drivers and local residents.

2.12. Permits & Consents

2.12.1. Principle

All EVI deployments need to be fully permitted meeting all legal requirements. The Service Provider is to recognise this and include as part of their design and planning activity.

2.12.2. Relevant regulations

- The Service Provider, or nominated sub-contractor, shall obtain any Section 50 licences (England & Wales), or Section 109 permissions (Scotland) that will be required for installing and maintaining apparatus in each location on the public highway under Section 50 and Section 109 of the New Roads and Street Works Act 1991 (NRSWA) respectively.

2.12.3. Minimum Specification

- The Service Provider shall obtain any other permits or permissions and ensure they remain in place for the duration of the contract as necessary. This includes, but is not limited to, any consents that are necessary for:
    - Third party land access rights (wayleaves, easements, leases), particularly for where a DNO point of connection is not on land of the LA, or crosses land that is not of the LA.
    - Planning permission.
    - Permits to work.
    - Highway Authority requirements.
- A copy of all agreements and permits shall be available to the LA and not unreasonably withheld.

2.12.4. Considerations

- [none]

2.13. Energy Supply

2.13.1. Principle

Service Providers need to demonstrate that they have taken steps to minimise the carbon intensity of the energy supply.

2.13.2. Relevant regulations

- [none]

2.13.3. Minimum Specification

- Service Providers shall arrange electricity supply contracts and associated metering with an Office for Gas and Electricity Markets (ofgem) licenced electricity supplier.

2.13.4. Considerations

- As a minimum the energy supply will use only green renewable energy for the chargepoints certified as renewable through the redemption or purchase of Renewable Energy Guarantees of Origin (REGOs).
- Direct, private wire connections to renewable electricity generation equipment shall be considered where practical and commercially viable.

2.14. Signage & Markings

2.14.1. Principle

The signage and markings that accompanies EVI deployments needs to meet regulatory requirements, particularly where enforcement may occur, should be clear and concise without contributing additional street clutter. Where signage is to be added on land or assets owned by the local authority, permissions to do so shall not be unreasonably refused.

2.14.2. Relevant regulations

- The Traffic Signs Regulations and General Directions 2016[56]
    - Where a traffic regulation order (TRO), or traffic management order (TMO), is in place restricting usage to charging EVs only, the signage shall indicate the bay is for EV charging only in the form as prescribed in chapter 3 of the Traffic Signs Regulations & General Directions (TSRGD) manual[57] (including use of the electric vehicle charging symbol) as described in section 13.16.

2.14.3. Minimum Specification

- An EV charging bay shall have compliant signage and marking indications, approved by the LA, that are suitable and sufficient for the location.
- All signage and instructions associated with the EVI shall be in English (minimum requirement).
- The positioning of all signage shall not inhibit the normal usage of footways or the use of EVI by any user.
- All signage and markings shall be kept up-to-date and be maintained to ensure legibility and repair of any damage or wear and tear over the full duration of the contract.

2.14.4. Considerations

- Design of signage in terms of text size, font, colour, visual contrast and layout, should be in accordance with section 6.6 of BS EN 17210 *"Accessibility and usability of the built environment – Functional requirements".*
- Signage providing directions to the charging equipment shall be provided where the location of EVI is not immediately visible from the public highway, e.g. large off-street or multistorey car park.
- Where there is not a TRO or TMO in place restricting usage to charging EVs only, the signage and markings shall indicate the bay is available for charging EVs

2.15. Other Hardware and Software Minimum Technical

[56] https://www.legislation.gov.uk/uksi/2016/362/, The Traffic Signs Regulations and General Directions 2016, UKSI/2016/362

[57] https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/782724/traffic-signs-manual-chapter-03.pdf, Traffic Signs Manual – Chapter 3 – Regulatory Signs 2019

2.15.1. Principle

All additional hardware and software selected for the EVI installation and operation shall follow the same general approach to selection, product due diligence as the main required EVI hardware.

2.15.2. Minimum Specification

- All additional hardware installed into the public realm needs to be demonstrably safe at all times, through compliance with product regulations, relevant standards, and methods and standards of installation, operation and maintenance.

2.15.3. Requirements

- [none]

2.15.4. Considerations

- [none]

2.16. Infrastructure Maintenance, Service, Repair and Replacement

2.16.1. Principle

Relevant responsibilities for routine and reactive maintenance, servicing, repair and replacement of the installed EVI and associated systems shall be allocated between the service provider and LA, according to the agreed commercial arrangement. This is fundamental to the provision of a safe and reliable service that delivers a high-quality user experience at all times.

2.16.2. Relevant regulations

- [none]

2.16.3. Minimum Specification

- Damage and Vandalism
    - The Service Provider shall be fully responsible for rectification of, and the associated costs of, damage and vandalism or other problems with the EVI including chargepoints, groundworks, electrical infrastructure, canopies, superstructures, and all other associated hardware and equipment installed at each location throughout the duration of the Term and any extension periods. Damage and vandalism includes all forms: damage during manufacture, installation, wear & tear, accidental damage, negligent usage, user misuse, intentional and unauthorised modifications, and damage due to environmental conditions.
    - The Service Provider shall be responsible, at its cost, for ongoing preventative and reactive servicing, maintenance, and repair, including replacement if required, of the EVI hardware for the duration of the contract and any extensions.
- Maintenance
    - The Service Provider shall be responsible for the provision of maintenance, cleaning and repair of all EVI equipment over the duration of the contract.
    - The service provider shall be responsible for ensuring that all cybersecurity measures are maintained and updated to protect against emergent vulnerabilities for the duration of the contract, this includes but is not limited to physical security and tamper measures, software patches and updates.

2.16.4. Considerations

- [none]

2.17. Cyber Security

2.17.1. Principle

The Service Provider shall at all times provide a service which ensures prioritisation of cyber security. This includes, but is not limited to the charging equipment, local connection assets and the communication between vehicle and charging equipment, charging equipment and back-office systems and communications of payment systems. Delivery and operation of EVI shall be compatible with the cyber security requirements of a smart and secure electricity system.

2.17.2. Relevant regulations

- For non-rapid private (non-public) chargepoints, EVI shall comply with Schedule 1 "Security" of The Electric Vehicles (Smart Charge Points) Regulations 2021[58].

2.17.3. Minimum Specification

- The Service Provider shall be certified/accredited to ISO 27001 (Information security, cybersecurity, and privacy protection — Information security management systems — Requirements).
- All EVI hardware, communications, back-office systems, and payment systems shall be designed to ensure cyber security throughout including:
    - Ensuring all communication with chargepoints is secured using encryption.
    - Ensuring chargepoints are secured and resilient to both local and remote cyber-attacks.
    - Data security of payment systems e.g., PCI DSS compliance.
- Throughout the lifetime of the contract, it is essential that software updates of EVI and the CPMS are applied at regular intervals to ensure security, new functionality, and reliability of operation as per specified KPIs.
    - The Service Provider shall enter into an upgrade roadmap with the LA for the software essential to the running of the charging hardware and associated systems are regularly updated.
    - Updates and upgrades to charging equipment including software, firmware, and hardware shall be carried out within timeframes as part of the servicing and maintenance agreements with the LA in a way designed to minimise disruption to users of the charging equipment.
- The service provider shall be responsible for ensuring that all cyber security measures are maintained and updated to protect against emergent vulnerabilities for the duration of the contract, this includes but is not limited to physical security and tamper measures, software patches and updates.

2.17.4. Considerations

- In accordance with the Cyber Essentials Scheme, the Service Provider shall provide a valid Cyber Essentials Certificate to the LA upon being appointed. Where the Service Provider fails to provide a valid Cyber Essentials Certificate, it shall be prohibited from commencing the provision of Deliverables under any Contract until such time as the Service Provider has evidenced to the LA its compliance.
- The Service Provider should use EVI products and systems that have undergone penetration testing and carry official security accreditations in order to demonstrate compliance with cyber security and data protection requirements.
- The provisions of ETSI EN 303 645 "Cyber; Cyber Security for Consumer Internet of Things: Baseline Requirements" should be adhered to as a minimum in order to establish good practice.

[58] https://www.legislation.gov.uk/uksi/2021/1467, The Electric Vehicles (Smart Charge Points) Regulations 2021, UKSI/2021/1467

- The Service Provider shall demonstrate a commitment to continuously improve its practices, via a process of updating and alignment with prevailing cyber security requirements and developments.

2.18. Data Protection

2.18.1. Principle

Establishes the security and confidentiality requirements of all systems involved in the capture, processing, communication, and storage of data.

2.18.2. Relevant regulations

- The Data Protection Act 2018[59] (UK GDPR) and any future replacements. UK GDPR has the meaning given to it in section 3(10) (as supplemented by section 205(4))
- The Regulation of Investigatory Powers Act 2000[60].
    - The Telecommunications (Lawful Business Practice) (Interception of Communications) Regulations 2000[61]
- The Privacy and Electronic Communications (EC Directive) Regulations 2003[62]
- The Service Provider and LA shall comply with all laws and regulations relating to processing of personal data and privacy, including where applicable, the guidance and codes of practice issued by the Information Commissioner.

2.18.3. Minimum Specification

- For the purposes of the Data Protection Legislation, in connection with the processing of Personal Data with the Contract, the Service Provider shall be designated a Controller as per the meaning given in UK GDPR. The Service Provider shall comply with all the obligations imposed on a Controller under the UK GDPR, and the Service Provider's performance shall be monitored and reported as per the KPI framework.
- The Service Provider organisation and any data processors shall have, and regularly review and maintain, UK GDPR policies and procedures, demonstrating a mature state of compliance with the ICO's Accountability Framework[63]. The Service Provider shall be able to evidence its UK GDPR compliance, in alignment with the measures stipulated within the KPI framework.
- Data sharing between controllers shall conform with the ICO's Data sharing code of practice[64].
- The Service Provider upon receipt of any Data Subject Access Requests shall be responsible for responding to the Data Subject Access Requests received by the Supplier and agree not to transfer such requests to the LA.
- The Service Provider and any data processors shall ensure personal or confidential data processed in the provision of the goods and services is secured at all points during its lifecycle.

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[59] https://www.legislation.gov.uk/ukpga/2018/12, Data Protection Act 2018, UKPGA/2018/12

[60] https://www.legislation.gov.uk/ukpga/2000/23, Regulation of Investigatory Powers Act 2000, UKPGA/2000/23

[61] https://www.legislation.gov.uk/uksi/2000/2699, The Telecommunications (Lawful Business Practice) (Interception of Communications) Regulations 2000, UKSI/2000/2699

[62] https://www.legislation.gov.uk/uksi/2003/2426, The Privacy and Electronic Communications (EC Directive) Regulations 2003, UKSI/2003/2426

[63] https://ico.org.uk/for-organisations/uk-gdpr-guidance-and-resources/accountability-and-governance/accountability-framework/, Information Commissioner's Office – Accountability Framework

[64] https://ico.org.uk/for-organisations/uk-gdpr-guidance-and-resources/data-sharing/data-sharing-a-code-of-practice/, Information Commissioner's Office – Data sharing: a code of practice

- When processing personal data, the Service Provider and data processors shall outline the following via a privacy notice:
    - Controller/Processor - contact details
    - Data Protection – contact details (if applicable)
    - Types of data being collected
    - Source of personal data
    - Purpose of processing
    - Lawful basis of processing (legitimate interests where relevant)
    - Data sharing - list of 3rd parties (if applicable)
    - Retention Period - how long personal data will be stored.

2.18.4. Considerations

- The Service Provider should preferably be compliant with and certified to BS ISO/IEC 27701 "Security techniques — Extension to ISO/IEC 27001 and ISO/IEC 27002 for privacy information management — Requirements and guidelines".

2.19. Branding, Marketing and Publicity

2.19.1. Principle

Visual display of the networks, sponsors, partnerships or franchise are an important identifier for chargepoints and branding agreements are an important constituent to this identification. Further engagement with publicity and announcements.

2.19.2. Relevant regulations

- All consumer publicity and advertising that the Service Provider uses shall be compliant with The Consumer Protection from Unfair Trading Regulations 2008[65].
- All marketing that the Service Provider uses for marketing to businesses shall be compliant with The Business Protection from Misleading Marketing Regulations 2008[66].
- All electronic marketing shall be compliant with The Privacy and Electronic Communications (EC Directive) Regulations 2003[67]

2.19.3. Minimum Specification

- Branding
    - Chargepoints shall have a method for including [ABC] branding which references "[some text]" not larger than [X cm x Y cm].
    - Each chargepoint cluster shall include a sign for including [ABC] branding which references "[some text]" not larger than [X cm x Y cm].
    - The Service Provider shall have a method for including the Service Provider's branding for the chargepoint network.
- Publicity and announcements
    - When requested to do so by the LA the Service Provider shall participate in media announcements, promotional activities and joint publicity launching the contract. The Service Provider will provide the LA with supporting information as reasonably

[65] https://www.legislation.gov.uk/uksi/2008/1277, The Consumer Protection from Unfair Trading Regulations 2008, UKSI/2008/1277

[66] https://www.legislation.gov.uk/uksi/2008/1276, The Business Protection from Misleading Marketing Regulations 2008, UKSI/2008/1276

[67] https://www.legislation.gov.uk/uksi/2003/2426, The Privacy and Electronic Communications (EC Directive) Regulations 2003, UKSI/2003/2426

required by the LA, provided that the LA gives reasonable advanced notice of such required participation.
    - Except as set out above, the Service Provider shall not make, or permit any person acting on its behalf to make, any public announcement concerning the existence, subject matter or terms of this agreement, the wider transactions contemplated by it, any project, or the relationship between the parties, without the prior written consent of the LA, except as required by applicable law.

2.19.4. Considerations

- All branding, marketing and publicity shall be in keeping with the LA's brand and communications guidelines.
- Branding and marketing shall comply with The UK Code of Non-broadcast Advertising and Direct & Promotional Marketing[68].

2.20. Sustainability, Waste, & Social Value

2.20.1. Principle

As part of their social value requirements, LAs will have requirements for sustainability which will need to be met. Many requirements are specific to align with sustainability policies of the LA and may be quantitative or more qualitative in nature.

2.20.2. Relevant regulations

- The Social Value Act (The Public Services (Social Value) Act 2012 requires the LA to consider social value ahead of a procurement. This includes the LA to consider:
    - how what is proposed to be procured might improve the economic, social and environmental well-being of the relevant area; and
    - how, in conducting the process of procurement, it might act with a view to securing that improvement.
- Full compliance with Waste Electrical and Electronic Equipment (WEEE) shall be required at all times during the contract.
- The Service Provider shall ensure that all refuse and waste from the installation (of local connection assets and EV charging equipment), operation and maintenance, and end-of-life, shall be segregated and disposed of in a responsible and environmentally conscious manner in full compliance with relevant recycling and waste disposal regulations.

2.20.3. Minimum Specification

- The LA recognises that it has a duty to use every opportunity to support wider social, economic, and environmental objectives, in ways that offer real long-term benefits and reduce negative impacts on environmental and social wellbeing.

2.20.4. Considerations

- The Service Provider should have a Climate Emergency Plan. The LA is committed to Net Zero emissions by [2030] and Carbon Zero by [2050]. The Service Provider as one of the LA's important stakeholders in its response to the emergency is required to help deliver a Net Zero contract by 2030.
- Servicing and maintenance of the EVI shall be undertaken using zero emission vehicles.
- Servicing and maintenance of the EVI shall be undertaken by local providers with operations based within [x] miles of the EVI locations.

[68] https://www.asa.org.uk/codes-and-rulings/advertising-codes/non-broadcast-code.html, The UK Code of Non-broadcast Advertising and Direct & Promotional Marketing

- The Service Provider shall, as required, actively engage with, and participate in, events to support the promotion of EV use and the use of the EVI facilities in the service area, including events organised by the LA. Examples include – educational events, open days to local businesses, sponsorship of electric vehicles required by local schools, involvement with local biodiversity projects that support reduction of carbon emissions.
    - Promotion shall not include cold-calling or door knocking activities unless expressly authorised by the LA.

3. Emerging Technical Schedules

3.1. Overstay Charges (Idle Fees)

3.1.1. Principle

Encouraging users of public charging infrastructure to behave responsibly is in the interest of many stakeholders: other users, the business models for CPOs, and LAs allocating space for EV charging. Use of overstay charges (or idle fees) can be an approach to encourage fair and efficient use of charging equipment. Depending on the location these requirements may not be required, may be required, but not initially implemented, or required and implemented from the outset. The policy and penalty for overstay charges will vary depending on the type of chargepoint, type of location and time of day.

- Overstay charges may not be required in certain residential settings, such as slow lamppost chargers, or locations with low demand.
- Requirement may be amended to adjust conditions when overstay charges apply or the rates applied, e.g., if less than x% of chargepoints in a location are in use overstay charges are not applied and if all chargepoints in a location are in use the overstay charge rate is increased.
- Application of overstay charges may be suspended during overnight periods or other off-peak times.
- Grace time of 10 minutes minimum is commensurate with grace times applied to parking charges in car parks. For some locations a longer grace time may be appropriate.
- Generally, overstay charges will be accumulated more quickly for vehicles connected to higher powered charging equipment.
- Overstay charges are accumulated progressively in proportion to the length of overstay.
- It is recommended that there is a cap which ensures overstay charges do not go above an upper limit.

3.1.2. Relevant regulations

- Overstay charges shall be compliant with The Unfair Contract Terms Act 1977[69]

3.1.3. Minimum Specification

- The Service Provider will apply overstay charges at locations agreed between the LA and the Service Provider. The locations where overstay charges are applied may be revised over the duration of the contract.
- Overstay charges shall be applied if a charging session has completed and the supply of meaningful electrical current to charge the vehicle has been terminated, but the vehicle remains plugged in and connected to the charging equipment.
- A grace period of [10 minutes] shall apply following completion of the charging before overstay charges are applied. During the grace period if the user returns and unplugs their vehicle then the financial transaction is completed and no overstay charges shall be applied. Once the grace period has completed, then the financial transaction with the user shall begin to accumulate overstay charges.
- Overstay charges shall be leveraged at a fair rate rounded down to the nearest minute of overstay beyond the grace period.
- Overstay charges shall be capped at a maximum of [£x.xx]
- Overstay charges are not effective and shall not be used for bays where there is no Traffic Regulation Order (TRO)/Traffic Management Order (TMO) restricting the bay for use by charging plug-in vehicles.

[69] https://www.legislation.gov.uk/ukpga/1977/50 , Unfair Contract Terms Act 1977

- The rates of overstay charges and the calculation methodology shall be clearly signed in plain English by the Service Provider to users at the charging bay and/or on the charging equipment. Websites and apps of the charging network shall state the rates of overstay charges and the calculation methodology.
- The Service Provider shall have a mechanism for users to contest overstay charges, e.g., due to charging equipment failure, or stuck connectors.

3.1.4. Considerations

- The service provider should include protections to avoid incorrectly penalising a user as a result of a hardware fault, e.g., due to a communications or power failure.
- Overstay charges are not in effect during off-peak hours.
- The rate for overstay charges should be charged based on the nominal power rating of the chargepoint minus an allowance for the cost price of the electricity which wasn't consumed.

$$Overstay\ charge\ (£) = \frac{minutes\ overstay\ \times nominal\ kW\ rating \times (tariff\ rate - elec\ cost\ price\ allowance)}{60}$$

- The Service Provider shall have a mechanism to identify revenues from overstay charges and means to allocate those revenues e.g., to either the Service Provider, the LA, or apportioned.

3.2. Chargepoint Booking

3.2.1. Principle

In some locations it might be desirable to have the facility to enable users to book and reserve a chargepoint. In some circumstances this can promote more efficient usage of charging infrastructure and give users confidence that a chargepoint will be available when they need to charge, potentially encouraging users to only charge less frequently when their vehicle is at a lower state of charge.

In many locations the ability to book chargepoints is not required and so this schedule can be removed.

3.2.2. Relevant regulations

- [none]

3.2.3. Minimum Specification

- The Service Provider will apply chargepoint booking systems at locations and/or specific times of day agreed between the LA and the Service Provider. The locations where and/or times of day when a booking system is applied may be revised over the duration of the contract.
- The booking will only be held open for [x minutes] at the start of the window after which the chargepoint reservation status will be cleared and the chargepoint will become available for ad-hoc usage.
- Charging equipment which is bookable should state clearly through its interfaces the upcoming bookings that are in place, viewable for a minimum of 24 hours into the future, so that other users know of the availability of the chargepoint.
- The charging equipment shall clearly show whether the chargepoint is booked at a given time via indicator LEDs, and/or screens.
- A booking system should be fully featured to allow users to manage their bookings. This includes viewing bookings, modifying bookings, cancelling bookings, account management.
- A user who has booked a chargepoint who then does not make use of that booking will be subject to penalty charges.

- Another user who is using the chargepoint prior to a booking, who does not disconnect their vehicle to make way for the user with a booking will be subject to penalty chargers.
- The booking facility for the chargepoint and that the chargepoint might be booked should be clearly signed at the chargepoint bay and/or on the chargepoint for all users. Rates of penalty charges for infringements shall be shown clearly.
- It should be clearly stated how far in advance bookings of the chargepoint can occur, and any fair usage policies.

3.2.4. Considerations

- The chargepoint shall have suitable indicators LEDs and/or screens that confirm if the chargepoint has an active booking in the next [2 hours].
- To facilitate fair usage of the chargepoints and booking system, charging sessions shall be a maximum duration of [x hours].
- Bookings shall be allowed no longer than [2 days] in advance.
- Block bookings [shall/shall not] be permitted.
- The chargepoint and supporting systems shall have the capability to charge a booking fee at the point a booking is made.

3.3. Bay Blocking Detection and Prevention

3.3.1. Principle

Bay blocking includes occupation of all or part of the space by any non-plug-in vehicle or plug-in vehicles that are not commencing a charging session (vehicle plugged in and a charging session activated within a set amount of time), such that it prevents usage for its designated purpose. Bay blocking by internal combustion engine vehicles and plug-in vehicles not legitimately attempting to charge causes frustration to potential users and reduces the effective use of infrastructure provided. Existing manual enforcement is limited in the hours of operation and coverage provided. While any EV charging bay can be blocked, enforcement action can only be taken when there is a TRO/TMO in place and in effect for that bay and there is a non-charging vehicle parked in the space.

3.3.2. Relevant regulations

- The Road Traffic Management Act 1984

3.3.3. Minimum Specification

- The Service Provider and LA shall agree the threshold time duration beyond which an EV only bay is considered to be blocked.
- Bay occupancy detectors (e.g. proximity sensors, CCTV cameras) shall automatically change the status of the associated bay to “unavailable” when the space is occupied.
- Sensors for bay blocking technology, shall be of durable construction and preferably integrate with the EVSE. Any external components shall not: inhibit accessibility requirements or present hazards to persons (e.g., trip hazards).
- Hardware for occupancy sensing and bay blocking shall be in a compact form.
- Any penalty rates for bay blocking shall be clearly signed in plain English by the Service Provider to occupiers of the charging bay and/or on the charging equipment. Websites and apps of the charging network shall clearly state the bay blocking penalties.
- The service provider shall include protections to avoid incorrectly identifying a bay blocking event as a result of a hardware fault, e.g., due to a communications or power failure.

- The Service Provider shall as required provide supporting evidence of alleged instances of bay blocking.

3.3.4. Considerations

- The Service Provider is encouraged to apply innovative technology that provides protection and enforcement to deter bay blocking in spaces designated exclusively for EV charging.
- The Service Provider should have a mechanism to immediately notify Civil Enforcement Officers, or other appointed enforcement officers acting on behalf of the LA, of bay blocking events, including details of location, date & time and vehicle registration mark, if available.