

Maintain EVCP systems and equipment

Overview

This standard is for those who maintain Electric Vehicle Charging Point (EVCP) systems and equipment.

The person carrying out this work must be able to carry out maintenance activities in accordance with procedures ***and*** the current versions of the appropriate industry standards and regulations, the specification, industry recognised working practices, the working environment and the natural environment.

They must understand and apply the correct methods and procedures for the maintenance of EVCP systems and equipment, including:

- routine and non-routine maintenance
- the identification and use of the correct instruments
- how to identify and locate faults
- how to rectify the faults that are identified, located and diagnosed
- the completion of the relevant documentation
- the recording of relevant data and information.

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Performance criteria

You must be able to:

1. confirm a programme of work with the relevant others in accordance with organisational procedures
2. confirm before work starts that the work location and work area can be accessed safely and has been checked for the risk to other personnel on the site, and take appropriate action if a risk is present
3. determine and obtain the resources and other equipment, accessories and consumables required to undertake inspection, testing and commissioning of EVCP systems and equipment
4. confirm that the resources and other equipment, accessories and consumables are fit for purpose and have a current calibration certificate
5. comply with industry practices and organisational procedures to ensure the co-ordination of site services and the activities of other trades affected by maintenance activities
6. identify the correct means of electrical isolation prior to commencing the maintenance activity
7. complete safe isolation as and when required to ensure the safe inspection, testing and commissioning of electrical cables, conductors and/or wiring system and the associated equipment, accessories and components
8. complete the specified maintenance activity in accordance with industry recognised methods and practices
9. repair, remove, replace and/or maintain in accordance with industry practices electrical cables, conductors and/or wiring systems, equipment, accessories and components
10. ensure the safety of the relevant electrical cables, conductors and/or wiring system, equipment, accessories and components if the maintenance activity cannot be completed immediately
11. inspect and test the maintained electrical cables, conductors and/or wiring system, equipment, accessories and components as appropriate and in accordance with industry recognised methods and practices
12. complete and safely store all relevant documentation
13. communicate information to relevant others at the appropriate time
14. resolve issues and problems within your area of responsibility and report those that cannot be resolved
15. implement organisational procedures for the safe transport and/or disposal of waste material, substances and liquids in accordance with suppliers' and manufacturers' instructions

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Knowledge and understanding

You need to know and understand:

1. how to confirm a programme of work with the relevant others
2. the operation, applications, advantages and limitations of different EVCP systems
3. the appropriate industry standards and regulations relevant to maintenance of EVCP systems and equipment
4. how to produce a risk assessment and method statement for the work to be carried out, including the identification and use of personal protective equipment, in accordance with the EVCP system design and organisational procedures
5. how to verify that job information and documentation is current and relevant, and that the plant, instruments, access equipment and tools are fit for purpose
6. the applications, advantages and limitations of types of personal protective equipment
7. the practices and organisational procedures to ensure the co-ordination of site services and the activities of other trades affected by maintenance of EVCP systems and equipment
8. how to interpret diagrams and drawings of the EVCP systems and equipment
9. how to access and interpret design and installation specifications
10. how to access and interpret maintenance documentation about any components which need to be replaced from relevant sources of information, documentation and inspection/testing
11. the methods and techniques for the maintenance of EVCP systems and equipment including how to identify, locate, diagnose and rectify faults
12. how to maintain, repair, remove and replace electrical cables, conductors and/or wiring system, equipment, accessories and components in accordance with industry practices
13. how to ensure, if the fault(s) cannot be corrected immediately, the safety of the relevant electrical cables, conductors and/or wiring system, equipment, accessories and components
14. how to ensure, if the maintenance activity cannot be completed immediately, the safety of the relevant electrical cables, conductors and/or wiring system and equipment, accessories and components
15. the methods and processes to inspect and test, as appropriate and in accordance with industry practices, the repaired and/or replaced electrical cables, conductors and/or wiring system, equipment, accessories and components
16. the organisational procedures for:

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- completion of the relevant documentation
- the recording of relevant data and information
- obtaining customer/client acceptance of the EVCP system and equipment
- communicating with relevant others
- addressing issues and problems identified
- safe transport and/or disposal of waste

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Scope/range

Working environments (internal and/or external)

- general (including):
 - commercial
 - domestic
 - educational
 - industrial
 - pre-1919 traditional/historic buildings
 - residential
- buildings open to the public (including):
 - art galleries
 - community centres
 - leisure and entertainment
 - medical and care facilities
 - museums
 - public houses
 - public services establishments
 - religious buildings
- special (including):
 - agricultural/horticultural
 - caravan parks
 - filling stations
 - highway power supplies
 - marinas

EVCP systems

- Mode 1
- Mode 2
- Mode 3
- Mode 4

Current carrying conductors

- Single-phase
- 3-phase

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Site

- an existing building or structure

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- new build construction – building or structure

****Site services**

- communications (wireless or cabled)
- drainage
- electricity
- gas
- oil
- water

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Plant

- access equipment
- lifting equipment
- mobile generators
- battery-powered tools

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Resources

- instruments
- labour
- materials and other consumables
- plant and equipment

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Equipment, accessories and components

- arc fault detection devices (AFDDs)
- cable glands
- consumer units
- control panels/devices – electrical; electronic; electro-mechanical
- distribution boards and/or panels
- earthing protection
- isolators
- over-current protection (circuit breakers, fuses, RCBOs etc)
- over-voltage protection (SPDs)
- socket-outlets
- supports and fixings
- switches

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Electrical cable, conductors and wiring systems

- armoured cables and cords (single wire, multicore, braided, flexible)
- data cables (fibre optic, copper)
- earth screened metallic cable
- mineral insulated cables
- pre-fabricated conductor, cable and wiring systems
- single and multicore thermoplastic and thermosetting insulated

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cables

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Enclosures for cables, conductors and wiring systems

- basket and ladder systems
- cable tray
- ducting systems
- PVC and steel conduit (flexible and rigid)
- PVC and steel trunking

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Documentation

- electrical installation certificates
- electrical installation condition reports
- handover agreements
- industry checklists
- manufacturers' instructions
- minor electrical installation works certificates
- operational instructions
- schedules of circuit details
- schedules of inspection
- schedules of test results

Information

- contractual
- customer/client information – drawings; diagrams; user instructions; specifications
- environmental considerations
- functional – operational instructions
- health and safety
- statutory consents
- technical – design documentation; plans; installation specifications; equipment specifications; manufacturers' data; manufacturers' instructions; BIM data

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Organisation procedures

- accident reporting
- communication with relevant others
- customer services
- emergencies
- implementing and monitoring health and safety requirements and issues
- implementing and monitoring issues relating to the natural environment
- information management
- project management

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- risk assessment
- risk management

Relevant others

- client representatives
- customers/clients
- members of the public
- other contractors/trades
- site/contract manager
- work colleagues

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Developed by	BSE Skills
Version Number	1
Date Approved	01 Mar 2023
Indicative Review Date	30 Mar 2027
Validity	Current
Status	Original
Originating Organisation	BSE Skills
Original URN	n/a
Relevant Occupations	Electrician
Suite	Electrotechnical Services
Keywords	Electric; vehicle; charging point