

## REGULATED QUALIFICATION FRAMEWORK (RQF)

### QUALIFICATION SPECIFICATION

**LCL Awards Level 3 Award in the Installation and Commissioning of Electric Vehicle Charging Equipment in Domestic, Commercial and Industrial locations.**

#### 1.0 Qualification Objectives.

**The objectives of the qualification are to:**

1. Prepare learners to progress to a qualification in the same subject area but at a higher level or requiring more specific knowledge, skills and understanding.
2. Prepare learners to progress to a qualification in another subject area.

#### 2.0 Prior qualifications, knowledge, skill or understanding which learners are required to have achieved before taking the qualification.

This qualification is aimed at experienced and practicing electrical operatives. On application for the qualification, the Approved Centre will carry out an Initial Assessment of the learner's capability to complete the qualification.

Learners holding the following will confirm their suitability to enrol on the qualification.

- Level 3 Electrotechnical vocational qualification which includes the initial verification and certification of electrical installations, and a
- BS 7671 Requirements for Electrical Installations (current edition) qualification.

Learners not holding the above qualifications, will be required to provide evidence to the Approved Centre of suitable alternative qualifications and/or provide confirmation of their related work experience, skills and knowledge of current electrical regulations. This evidence must be documented and retained by the Approved Centre.

Note:

For learners to meet the membership requirements of any competent person scheme, registration body or other professional recognition there may be additional requirements.

#### 3.0 Other requirements which a learner must have satisfied before the learner will be assessed or before the qualification will be awarded.

None.

#### 4.0 Qualification Framework.

The qualification comprises of 1 mandatory Unit which must be satisfactorily completed by learners.

Unit Title	Unit Reference Number	Type of Unit	Level	Credit Value
Installation and Commissioning of Electric Vehicle Charging Equipment	LCL-E3007	Knowledge & Performance	3	2

#### 4.1 Qualification Time and Credit Value.

- Total Qualification Time (TQT) is 20 hours.
- The Guided Learning Hours (GLH) are 16.
- The total credit value of the qualification is: see table above.

#### 4.2 Qualification level.

The qualification has been assigned at level: see table above.

#### 4.3 Grading Structure.

The grading structure for the Qualification is that learners are required to achieve a result of **Pass** to be awarded credit for the Unit.

This qualification will be achieved when learners have successfully completed:

- The LCL Awards set and marked multiple choice knowledge examination.
- The LCL Awards set and Centre marked performance assessments.

#### 4.4 Assessment Method.

The assessment methods within the qualification include an on-screen multiple choice knowledge examination and Centre marked performance assessment.

The assessment methods have been designed to assess the knowledge, understanding and skills of learners.

The on-screen multiple choice examination is set and marked by LCL Awards.

The performance assessment is set by LCL Awards and marked by an LCL Awards approved assessor at the Centre.

#### 5.0 The criteria against which learners' level of attainment will be measured.

The Learning Outcomes and Assessment Criteria against which learners' level of attainment will be measured are detailed in the examination and assessment specification for each unit below.

#### Unit LCL-E3007: Installation, Service and Commissioning of Electric Vehicle Charging Equipment.

**Learning Input 01:** The learner will know the key requirements for electric vehicle charging equipment (EVCE) installations.

The learner will demonstrate knowledge of:

- 1.1 The statutory and non-statutory requirements relating to EV charging equipment (EVCE) installations.
- 1.2 The registration organisations relating to EVCE installations.

**Learning Input 02:** The learners will know the equipment of, and differences between, the four charging modes, and Wireless Power Transfer types (WPT).

The learner will demonstrate knowledge of:

- 2.1 The voltage and power parameters for charging modes 1 to 4.
- 2.2 Plugs, socket-outlets and vehicle connectors used in charging modes 1 to 4.
- 2.3 The advantages and disadvantages of charging modes 1 to 4.
- 2.4 The differences in EVCE features for charging modes 1 to 4.
- 2.5 The types of WPT charging.
- 2.6 Present limitations with and considerations for WPT charging.

**Learning Input 03:** The learner will know the preparation for design and installation of EVCE.

The learner will demonstrate knowledge of:

- 3.1 What is required to be assessed before designing and installing EVCE.
- 3.2 The considerations to be assessed relating to the location of EVCE.
- 3.3 The design and installation requirements with respect to the electrical supply and earthing arrangement of the installation into which EVCE is to be installed.
- 3.4 The methods used for protection against electric shocks in EVCE installations, and identify any limitations or constraints imposed by Section 722 of BS 7671.
- 3.5 The circumstances where EVCE can be connected to the distributor's earthing terminal where the supply is TN-C-S (PME).
- 3.6 The requirements for separation of earthing systems where the EVCE has a different means of earthing to the rest of the installation.
- 3.7 The requirements for RCD protection for EVCE installation.
- 3.8 The requirements for isolation and switching in EVCE installations.
- 3.9 The external influences relating to the selection of EVCE.
- 3.10 The assessments required in preparation to the installation of EVCE.
- 3.11 The circumstances which may require prior notification and/or permission from the District Network Operator (DNO) before installation can commence.
- 3.12 The potential for EVCE units to communicate with non-EVCE electrical equipment and associated control and / or information systems.

**Learning Input 04:** The learner will be able to prepare to design and install EVCE.

The learner will be able to:

- 4.1 Carry out assessments prior to installation.
- 4.2 Select an appropriate earthing arrangement given supply requirements and installation conditions.
- 4.3 Select suitable means of protection against electric shock given supply requirements and installation conditions.
- 4.4 Select appropriate cable to supply EVCE.
- 4.5 Select appropriate RCD protection for EVCE installation.
- 4.6 Apply design and installation requirements for specific types of installation locations.

**Learning Input 05:** The learner will be able to install EVCE in Dwellings, Commercial and Industrial Locations.

The learner will be able to:

- 5.1 Apply procedures for managing health and safety during electrical installation work.
- 5.2 Complete information required for completion of checklist contained in the IET Code of Practice.
- 5.3 Select the appropriate cable and conductor termination methods.
- 5.4 Install EVCE in accordance with BS 7671 and the IET Code of Practice.

**Learning Input 06:** The learner will know the requirements for initial verification and handover of an EVCE installation.

The learner will demonstrate knowledge of the:

- 6.1 Information required to complete the Electrical Installation Certificate for EVCE installation.
- 6.2 Requirements for visual inspection of the installation.
- 6.3 Test methods for circuits supplying EVCE.
- 6.4 Test methods and acceptance criteria for earth electrodes.
- 6.5 Information the client must be provided to ensure the EVCE can be operated safely.
- 6.6 Process and requirements for notification to the Distribution Network Operator (DNO).

**Learning Input 07:** The learner will be able to conduct inspection and testing and complete handover to client.

The learner will be able to:

- 7.1 Perform visual inspections that are conducted during initial verification.
- 7.2 Perform appropriate tests for circuits supplying EVCE.
- 7.3 Complete Electrical Installation Certificate and relevant forms from Appendix B or Appendix D of the IET Code of Practice.
- 7.4 Advise the client of correct and safe operation and use of EVCE installation.

## 6.0 Other information.

Qualification Regulator number.

- Ofqual: QAN 603/4908/6.

Sector Skills Area: SSA: 5.2 Building and Construction.

Age suitability: 16 plus.

Previous Qualification Review Date October 2023

Next Qualification Review Date: 31.10.2026.