

## REGULATED QUALIFICATION FRAMEWORK (RQF) QUALIFICATION SPECIFICATION

### LCL Awards Level 3 Award in the Design, Installation and Commissioning of Electrical Energy Storage Systems

#### 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 intended for qualified and practicing electricians age 18+.

On application for the qualification, the Approved Centre (AC) will carry out an initial assessment of the learner's capability to complete the qualification.

Prior to registering for the qualification, learners must provide evidence to the AC that they meet the qualification pre-requisites by holding a:

- Level 3 Award in the Requirements for Electrical Installations BS 7671 (current edition).

And one of the following:

- Level 3 NVQ Diploma in Installing Electrotechnical Systems and Equipment (Buildings, Structures and the Environment)
- Level 3 NVQ Diploma in Electrotechnical Services (Electrical Installation or Maintenance)
- Level 3 Electrotechnical Apprenticeship Qualification
- Level 3 NVQ in Electrotechnical Services Experienced Worker
- Level 3 Electrotechnical Experienced Worker Qualification
- Level 3 Electrotechnical in Dwellings Experienced Worker Qualification
- Building Services Engineering (Level 3) Electrotechnical Installation Qualification
- SVQ in Electrical Installation at SCQF level 7
- Equivalent Qualifications. [See Tables A4.7 and A4.8 of the EAS Qualifications Guide](#)
- Current ECS Gold Card issued by the JIB or SJIB – Installation Electrician, Approved Electrician, Maintenance Electrician or Domestic Electrician.

#### 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
Electrical Energy Storage Systems	LCL-E3010	Knowledge & Performance	3	2

#### 4.1 Qualification Time and Credit Value:

- The Total Qualification Time (TQT) is 20 hours
- The Guided Learning Hours (GLH) are 16
- The total credit value of the qualification is 2.

#### 4.2 Qualification Level

The qualification has been assigned at level 3.

#### 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 AC marked performance assessments.

#### 4.4 Assessment Method

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

## 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 Learning Outcomes and Assessment Criteria

#### Unit LCL-E3010: Electrical Energy Storage Systems

**Learning Outcome 01:** The learner will know the key requirements for the installation of EESS.

The learner will demonstrate knowledge of:

- 1.1 Statutory and non-statutory requirements relating to EESS.

**Learning Outcome 02:** The learner will know and identify the equipment, arrangements, and operating modes of EESS.

The learner will demonstrate knowledge of:

- 2.1 Architectures and coupling modes
- 2.2 Key components of an EESS
- 2.3 Operating modes of an EESS.

**Learning Outcome 03:** The learner will know the requirements for design and installation of EESS.

The learner will demonstrate knowledge of:

- 3.1 The limitations for power delivery in island mode operation
- 3.2 Switching to island mode operation
- 3.3 Protective earthing, bonding and protection against electric shock in island mode operation
- 3.4 Suitable locations and protection of EESS
- 3.5 Circumstances where fire detection and alarm is recommended for EESS
- 3.6 Generating sets operating in parallel with other sources including public distribution systems.

**Learning Outcome 04:** The learner will be able to prepare for the installation of EESS.

The learner will be able to:

- 4.1 Determine the grid electricity independence/self-sufficiency of an EESS using MCS guidance document MGD 003.
- 4.2 Select an appropriate earthing arrangement for island mode operation, given supply requirements and installation conditions
- 4.3 Select an appropriate means of protection against electric shock for island mode operation
- 4.4 Evaluate protection against overcurrent in island mode
- 4.5 Identify methods of conducting DC arc flash risk assessments.

**Learning Outcome 05:** The learner will be able to install EESS.

The learner will be able to:

- 5.1 Apply health and safety procedures for installations with multiple sources of supply
- 5.2 Select appropriate equipment for DC systems
- 5.3 Install EESS in accordance with BS 7671 and the IET Code of Practice for EESS.

**Learning Outcome 06:** The learner will know the requirements for initial verification and handover of EESS.

The learner will demonstrate knowledge of:

- 6.1 Information required to complete an Electrical Installation Certificate for an EESS installation
- 6.2 Requirements for visual inspection of the installation
- 6.3 Test methods for circuits into which EESS are connected
- 6.4 Information the client must be provided with to ensure the EESS can be safely operated
- 6.5 Notification requirements to the Distribution Network Operator (DNO) in accordance with appropriate ENA Engineering Recommendations G98, G99 and G100
- 6.6 The circumstances which may require prior notification and/or permission from the DNO before installation can commence.

**Learning Outcome 07:** The learner be able to conduct initial verification and handover of EESS.

The learner will be able to:

- 7.1 Perform inspections that are conducted during initial verification
- 7.2 Perform appropriate tests for circuits which supply and are connected to EESS
- 7.3 Complete an Electrical Installation Certificate for the installed EESS
- 7.4 Advise the client of the correct and safe operation of the EESS.

## 6.0 Other Information

Qualification Regulator Number:

- Ofqual QAN 603/7131/6
- Qualification Wales C00/5244/9

Sector Skills Area: SSAs: 5.2 Building and Construction

Age suitability: 18+

Last Qualification Review Date February 2024

Next Qualification Review Date: 28.02.2027