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.
3. Support a role in the workplace.

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

This qualification is aimed at electricians working within domestic and/or non-domestic premises and they shall hold as a minimum;

- A Level 3 Award in the Requirements for Electrical Installations BS7671 (current edition) and
- A Level 3 Award in the Initial Verification and Certification of Electrical Installations or a combined award including Periodic Inspection & Testing

Scottish equivalents through SELECT;

- A SELECT Customised Award in Requirements for Electrical Installations to BS 7671 (218) and
- A SELECT Customised Award in Initial Verification (209) or a combined award including Periodic Inspection & Testing (214)

If the applicant does not hold a Level 3 Award in the Initial Verification and Certification of Electrical Installations or SELECT equivalent as above, then they must hold one of the following;

- A Level 3 NVQ Diploma in Installing Electrotechnical Systems and Equipment
- An SVQ in Electrical Installations (SCQF level 7)
- A Level 3 Certificate in Installing, Testing and Ensuring Compliance of Electrical Installations in Dwellings
- An Experienced Worker Qualification
- An ECS Gold Card (Installation or Approved Electrician)
- Be a member of a competent person scheme, as a Qualified Supervisor that meets the requirements of the Electrotechnical Assessment Specification (EAS)

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.

- 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 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-E3010: Electrical Energy Storage Systems.

Learning Outcome 01: The learner will know the key requirements for the installation of electrical energy storage systems.

The learner will demonstrate knowledge of:

1.1 Statutory and non-statutory requirements relating to electrical energy storage systems installations.

Learning Outcome 02: The learner will know and identify the equipment, arrangements, and operating modes of electrical energy storage systems.

The learner will demonstrate knowledge of:

2.1 Architectures and coupling modes.
2.2 Key components of an electrical energy storage system.
2.3 Operating modes of an electrical energy storage system.

Learning Outcome 03: The learner will know the preparation of design and installation of electrical energy storage systems.

The learner will demonstrate knowledge of:

3.1 The limitations for power delivery in island mode operation.
3.2 The requirements for switching to island mode operation.
3.3 The requirements for earthing and protection against electric shock in island mode operation.
3.4 Suitable locations and protection of electrical energy storage systems.
3.5 Circumstances where fire detection is recommended for electrical energy storage systems.

Learning Outcome 04: The learner will be able to prepare for the installation of electrical energy storage systems.

The learner will be able to:

4.1 Assess self-consumption using MCS Guidance Note MGD 003 Determining the Electrical Self-Consumption of Domestic Solar Photovoltaic (PV) Installations with and without Electrical Energy Storage.
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 Ensure protection against overcurrent in island mode.
4.5 Determine the incident DC arc flash energy or DC arc flash boundary for simple battery arrangements.

Learning Outcome 05: The learner will be able to install electrical energy storage systems.

The learner will be able to:

5.1 Apply procedures for managing health and safety during electrical installation work, including installations with multiple sources of supply.

5.2 Select appropriate products for DC systems.
5.3 Install / connect electrical energy storage systems in accordance with BS 7671 and the IET Code of Practice for Electrical Energy Storage Systems.

Learning Outcome 06: The learner will know the requirements for initial verification and handover of electrical energy storage system.

The learner will demonstrate knowledge of:

6.1 Information required to complete the electrical installation certificate for electrical energy storage system installation.
6.2 Requirements for visual inspection of the installation.
6.3 Test methods for circuits into which electrical energy storage systems are connected.
6.4 Information the client must be provided to ensure the electrical energy storage systems can be safely operated.
6.5 Process and requirements for notification to the distribution network operator (DNO) in accordance with ENA Engineering Recommendations G98 and G99 as relevant.
6.6 The circumstances which may require prior notification and/or permission from the District Network Operator (DNO) before installation can commence.

Learning Outcome 07: The learner be able to conduct initial verification and handover of electrical energy storage systems.

The learner will be able to:

7.1 Perform visual inspections that are conducted during initial verification.
7.2 Perform appropriate tests for circuits into which electrical energy storage systems are connected.
7.3 Record relevant test results and complete relevant checklists from the IET Code of Practice for Electrical Energy Storage Systems.
7.4 Advise the client of correct and safety operation and use of the electrical energy storage system installation.

6.0 Other information.

Qualification regulator number:

- Ofqual QAN 603/7131/6.

Sector Skills Area: SSAs: 5.2 Building and Construction.

Age suitability: 16 plus.

Qualification Review Date: 30.04.2024.