

Energy & Environment Awards

Assessment Strategy for:

Level 3 Diploma for Engineering Maintenance Technician (Electrical)
Level 3 Diploma for Engineering Maintenance Technician (Mechanical)
Level 3 Diploma for Engineering Maintenance Technician
(Instrumentation and Control)
Level 3 Diploma for Engineering Maintenance Technician (Mechanical/
Electrical)
Level 3 Diploma for Engineering Maintenance Technician (Electrical/
Instrumentation and Control)
Level 3 Diploma for Engineering Maintenance Technician
(Instrumentation and Control/ Mechanical)

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Introduction

This strategy provides details of the underpinning assessment and quality assurance requirements to enable the delivery of a valid and fit for purpose assessment of all qualifications within the suite of Engineering Maintenance Technician qualifications, including:-

- **Level 3 Diploma for Engineering Maintenance Technician (Electrical)**
- **Level 3 Diploma for Engineering Maintenance Technician (Mechanical)**
- **Level 3 Diploma for Engineering Maintenance Technician (Instrumentation and Control)**
- **Level 3 Diploma for Engineering Maintenance Technician (Mechanical/ Electrical)**
- **Level 3 Diploma for Engineering Maintenance Technician (Electrical/ Instrumentation and Control)**
- **Level 3 Diploma for Engineering Maintenance Technician (Instrumentation and Control/ Mechanical)**

This assessment strategy has been developed by Energy & Environment Awards through consultation with technical experts and other key stakeholders.

Safety is also a key consideration for any assessment / quality assurance personnel (herein referred to as assessment personnel) involved in the delivery of this assessment strategy. Each unit has an element of health and safety, which needs to be considered as part of the assessment process and all assessment personnel need to be mindful of their own personal safety and the safety of others during all assessment activities. Assessment personnel must lead by example in terms of the use of personal protective equipment (PPE) and have a responsibility to stop the assessment and to alert a relevant member of staff where unsafe practices are observed. All assessment personnel, including IQAs and EQAs where they are present at an assessment instance, must be familiar with, and apply, the organisation's safe working practices and associated risk assessments.

This assessment strategy should also be read in conjunction with the unit-specific evidence requirements, as outlined in the Qualification Specification for these qualifications and the qualification-specific Centre Approval requirements.

Assessment Methodology

The EEA Level 3 Diploma in Engineering Maintenance Technician qualifications are assessed through a Portfolio of Evidence. This assessment strategy outlines the Energy & Environment Awards requirements for ensuring the Portfolio of Evidence constitutes a valid measurement of the learner's skills and underpinning knowledge for the unit and/or qualification being assessed. The Portfolio of Evidence is a collection of all pieces of evidence, which demonstrate a learner's competence and underpinning knowledge for each unit being assessed.

The Portfolio of Evidence will be assessed by the Centre's Assessor, internally quality assured by the Centre's Internal Quality Assurer (IQA) and externally quality assured by the Energy &

Environment Awards External Quality Assurer (EQA). This assessment strategy also clearly defines the competence requirements and role / responsibilities of each of these assessment personnel; in order to ensure the delivery of a rigorous and robust assessment.

Energy & Environment Awards requires that the assessment criteria, and associated learning outcomes, for each unit are covered in full through the evidence provided by the learner. In order to assess a learner as “competent” in the required skills and underpinning knowledge, Energy & Environment Awards would typically expect a learner to produce **three** pieces of evidence; one of which should be generated on a work site (unless this is not appropriate to the work activity being assessed and the unit allows for simulation or realistic working environment). It is important to note that where realistic work environments (RWE) are utilised these will need to be approved by Energy & Environment Awards prior to the assessment taking place, usually at Centre approval.

Where possible, a learner should collect evidence from a range of sites and/or from different sources, this enables the learner to demonstrate that they have consistently applied the relevant skills and/or knowledge to their work activities. However, Energy & Environment Awards recognises that there may be occasions when fewer pieces of evidence or even one piece of evidence, can also fully meet these requirements. Similarly, one piece of evidence may cover, or partially cover, the assessment criteria within more than one unit.

Acceptable types of evidence are listed later in this assessment strategy and any unit-specific evidence requirements are detailed in the individual unit within the Energy & Environment Awards Qualification Specification. Also, within each unit there is an “Evidence Guidance” section which outlines whether simulation or RWE are accepted. Energy & Environment Awards has provided an evidence matrix for each unit within the Energy & Environment Awards Learner Assessment Guidance Pack, so that learners can specify which piece of evidence meets each of the assessment criteria within the unit. The evidence matrix for each unit which the learner completes must be submitted with the learner’s Portfolio of Evidence and will be sampled by the Energy & Environment Awards EQA.

Principles for the assessment of evidence

Energy & Environment Awards, as the recognised Awarding Organisation for these regulated qualifications is responsible for ensuring compliance with Ofqual’s General Conditions of Recognition including the implementation and ongoing monitoring and maintenance of this assessment strategy and the associated assessment methodology. Energy & Environment Awards Centres are approved to deliver these qualifications in accordance with the Energy & Environment Awards Centre approval generic and engineering maintenance technician specific requirements and assessment-specific requirements stipulated in this assessment strategy. Centres are required to comply with the Energy & Environment Awards Centre Agreement, which details the Centre’s responsibilities both in terms of meeting Energy & Environment Awards requirements and those within Ofqual’s General Conditions of Recognition. All Centres delivering these qualifications will be externally qualified assured on an ongoing basis against a Centre risk rating and quality assurance plan.

In addition to these overarching responsibilities, this section of the assessment strategy outlines the more specific assessment and quality assurance requirements/responsibilities of both Energy & Environment Awards and Centres.

Energy & Environment Awards will:

1. Ensure the accepted evidence requirements specified for each unit reflects the specific technical skills and/or knowledge requirements appropriate to the unit content.
2. Approve and monitor when an assessment can be carried out in a realistic work environment in situations where a real-life application of the task may not be appropriate or safe, in accordance with the unit-specific evidence guidance referenced in the Qualification Specification.
3. Approve and monitor the use of simulation as supporting evidence for performance in the workplace, through stipulating within individual units when it can be allowed.
4. Reserve the right to refuse the use of assessment in a realistic work environment or other simulated environment where it considers the rigour and integrity of assessment could be compromised. The Centre should be provided with a written explanation.
5. Monitor to check that the learner's workplace is used as the predominant assessment location and that naturally occurring workplace evidence is the primary source for determining competence. An environment similar to the learner's own workplace (such as another site, plant etc) can be used to demonstrate experience where it is not possible within the learner's own workplace, as outlined in point 2 above as a realistic work environment. Any exceptions to this principle will be outlined in the individual unit within the Qualification Specification.
6. Accept the use of suitable competent witness testimony as a means of reducing unnecessary bureaucracy in the assessment process.
7. Conduct external quality assurance activity to ensure a learner's assessment reflects the requirements of the qualification, individual units and this assessment strategy. Evidence collected within the Portfolio of Evidence will be verified to ensure it meets the requirements of the unit's learning outcomes and assessment criteria, any additional evidence requirements, has been collected over time and has been authenticated by the learner.
8. Through monitoring activities ensure that performance evidence is supported by the required knowledge evidence. Assessors should be guided on the use of oral and written assessment to cover fully the area being assessed and to satisfy the reliability of evidence from non-observed sources or witness testimony.
9. Support the use of other qualifications as valuable contributions to evidence of competence, in line with the Energy & Environment Awards RPL and RPA Policy.
10. Identify and utilise any appropriate prior learning and experience which is current as evidence for the qualification, in line with the Energy & Environment Awards RPL and RPA Policy.
11. Recruit, train and standardise competent External Quality Assurance professionals from the relevant industry to ensure consistency of the approach to assessment delivery and quality assurance, thus maintaining the rigour and integrity of our qualifications.
12. Commit to an ongoing review of the content of this assessment strategy, units and the qualification based on feedback from key stakeholders, the Regulator and/or Centres. As a minimum, the qualification in its entirety will be reviewed on an annual basis.

Centres will:

1. Assess and IQA a learner's Portfolio of Evidence to ensure; the unit-specific and assessment strategy stipulated evidence requirements are met, that all learning outcomes and assessment criteria are achieved and that the sources of evidence are suitable for this qualification.

Suitable types of evidence includes but is not limited to:

- Observation records completed by the assessor
- Detailed witness testimonies
- Company records, plans and/or reports
- Photographs, plans and/or sketches of activities, with details of the work activity in which the learner has been involved
- E-mails, minutes or meetings or other records of correspondence, with details of the work activity in which the learner has been involved
- Assessor questioning and answers - written/recorded responses to questions asked by the assessor
- Learner write up / report / evaluations / project plans
- Case studies / reflective accounts / learning journals / personal development plans
- Professional discussion records
- Maintenance schedules / logs
- Fault diagnosis reports
- Risk assessments

Energy & Environment Awards requires each unit to be assessed through a mix of different evidence types, in line with the evidence requirements and/or guidance within each unit.

2. Ensure that the learner demonstrates competence for each unit/activity over time, which will typically mean multiple pieces of evidence for each activity demonstrated.
3. Seek approval for the use of realistic work environments (RWE), where allowed within the individual unit, in advance of delivering the qualification.
4. Seek approval for the use of simulation as supporting evidence for performance in the workplace, where allowed within the individual unit.
5. Ensure the **learner's workplace** is used as the assessment location and naturally occurring workplace evidence is the **primary source** for determining competence. Unless an environment similar to the learner's own workplace (such as another site, plant etc) is allowed to be used to demonstrate experience where it is not possible within the learner's own workplace, as outlined in point 3 as a realistic work environment.
6. Use witness testimony as a means of reducing unnecessary bureaucracy in the assessment process.
7. Make use of evidence that occurs naturally for the learner which can include, but is not limited to, observations, witness testimonies, managers' reports and other documentation.
8. Ensure that, where possible, the employer contributes to the assessment process and authenticates learner's work.
9. Support learners in generating evidence from their normal work activities. Evidence must show that the learner is undertaking the work activities consistently over a period of time.
10. Ensure that learners understand that the Portfolio of Evidence must be wholly their own work and that they must complete the learner's declaration for each piece of evidence

submitted, citing where any evidence has come from another source relevant to the assessment evidence. Centres must also check these references and authenticate all declarations.

11. Ensure that all evidence included in the Portfolio of Evidence meets the requirements of VARCS; valid, authentic, reliable, current and sufficient and is relevant and specific to the individual learner.

Assessment Resources and Personnel Requirements

Centres will:

1. Meet the Energy & Environment Awards Centre approval and regulatory requirements for this qualification, relating to sufficient resources, facilities and personnel.
2. Have in place qualified and trained **Assessors**, who meet the requirements outlined in Appendix A.
3. Have in place qualified and trained **Internal Quality Assurers (IQAs)** who meet the requirements outlined in Appendix A and are independent from the training that has taken place.
4. Keep under review the need for additional / different Assessors and/or IQAs.

Energy & Environment Awards will:

1. Have in place qualified and experienced **External Quality Assurers (EQAs)** who meet the requirements outlined in Appendix A and have expertise in the subject matter.
2. Keep under review the need for additional / different EQAs.

Assessment in a realistic work environment

Energy & Environment Awards will:

1. Approve and monitor when an assessment can be carried out in a realistic work environment, in situations where a real-life application of the task may not be appropriate or safe, in accordance with the unit-specific evidence guidance referenced in the Qualification Specification.
2. Ensure the external quality assurance process incorporates ongoing monitoring to ensure the facilities remain compliant with the specification.
3. Ensure Centres are able to seek prior confirmation on the appropriateness of using a realistic work environment for a planned assessment.

Centres will:

1. Operate a realistic work environment (RWE) only in an environment which reflects a real work setting, and for units in which a RWE is permitted. This will ensure any competence achieved in this way will be sustained in real employment.

The following contexts are illustrations where assessment in a realistic work environment might be used:

- ☒ Where demonstration of emergency shutdown and related safety procedures would be **dangerous and /or disruptive** to plant/environment/individuals; **too costly** such as total plant shutdown or dealing with spillage of dangerous substances; where **issues of confidentiality** restrict access to real work opportunities
- ☒ Demonstrating specific aspects of the operation which rarely occur or are not likely to occur in a timely manner for the assessment of the learner
- ☒ The capacity to integrate disparate knowledge to cope with unforeseen events and to solve problems
- ☒ Aspects of working relationships and communications where no opportunity has been presented for the use of naturally occurring workplace evidence of learner's performance.

To undertake the assessment in a RWE the following conditions must be met:

1. Assessments must be carried out under realistic work conditions that are found in the normal industry workplace.
2. Assessments must be carried out in conditions and facilities which are typical of those encountered in the normal industry workplace.
3. The range of materials, equipment and tools that learners use must be up-to-date and be of the type routinely found in the normal industry workplace environments.
4. All work carried out must be completed in a way, and to a timescale, that is acceptable in the normal industry workplace.
5. Learners should interact with the range of personnel found in the normal industry workplace, where it is appropriate to do so.
6. Learners must be expected to complete the task to the standard expected in the workplace and in line with the learning outcomes and assessment criteria.
7. Learners must be given workplace responsibilities that will enable them to meet the requirements of the unit in full.
8. Learners must show their productivity reflects that found in the work situation being replicated.
9. The RWE must take into account legislation, regulations, codes of practice, etc. which pertain to the regulated environment.
10. The RWE must be managed as a real work situation.
11. RWE can only be allowed if stipulated in the individual unit and approved by Energy & Environment Awards.

Simulation

Energy & Environment Awards defines simulated activities as those which are carried out without the environment resources or equipment found within the workplace and/or involve acting or other scenarios which are not 'real' work tasks.

Conditions for simulation:

- The simulated situation can represent situations which rarely occur or are exceptional in any other way and may be used to complement or support a realistic work environment (RWE).
- The people taking part in the simulation must have a brief which gives sufficient information to them to recognise the equivalent real situation and decide what they would do and say. This must be available at EQA monitoring if requested.
- The people taking the parts of other personnel or customers must be credible for the situation that is being simulated.
- The simulated situation should not require the learners to experience unusually difficult circumstances which are outside the normal scope of the job role.
- Simulation is only allowed if stipulated in the individual unit.

Energy & Environment Awards will:

1. Approve and monitor the use of simulation as supporting evidence for performance in the workplace, through stipulating within individual units when it can be allowed.

Centres will:

1. Ensure that simulation is only used for units in which simulation is permitted in line with the assessment strategy.

External Quality Assurance Requirements

Energy & Environment Awards will, through our EQA monitoring processes, CASS strategy and practices:

1. Only approve Centres which meet the Energy & Environment Awards Centre approval requirements for these qualifications.
2. Provide information on the performance of Centres, Assessors and IQAs over time to inform external quality assurance visits and training and development events.
3. Monitor and manage Centre delivery activities to ensure the validity and integrity of the qualification(s) and assessment(s). Where required, ensure action plans and sanctions are applied to the Centre and are monitored until Centre delivery meets the required standards.
4. Ensure succession planning of its pool of external quality assurers (EQAs).
5. Monitor continuing professional development for both newly appointed and existing EQAs.
6. Incorporate standards and relevant industry documentation within the qualification where there is such statutory requirements to be satisfied (e.g. HSE, OFWAT,

OFGEM).

7. Share best practice with and between Centres of delivery, assessment and quality assurance, to ensure consistency of delivery across approved Centres.
8. Provide feedback, at least annually, to Centres of issues related to the quality assurance and/or assessment of the qualification.
9. Offer opportunities for Centres to contribute to, or keep up-to-date with, latest developments in qualifications' matters.

Appendix A

Competence requirements for assessors, IQAs and EQAs:

Requirement:	Assessor:	IQA:	EQA:
Demonstrate a high level of interpersonal and communication skills	✓	✓	✓
Have current engineering maintenance technician operation /occupational and industry competence and knowledge	✓	✓	
Have up-to-date knowledge of current practice and emerging issues within their industry and be aware there may be differences between the 4 UK countries	✓	✓	✓
Have a thorough understanding of qualification they are assessing and are able to competently assess learner's evidence to ensure that all assessment criteria are met according to the requirements of the assessment strategy and any unit-specific evidence requirements	✓		
Have a thorough understanding of qualification they are quality assuring and be able to interpret them and offer advice on assessment-related matters		✓	✓
Show experience and working knowledge of the assessment and quality assurance processes relating to the context in which they are working	✓	✓	✓
Demonstrate relevant, current and credible experience and knowledge with a requirement for evidence of CPD and occupational skills	✓	✓	✓
Show they are able to act as a representative of Energy & Environment Awards, understand the Energy & Environment Awards policies and processes and be able to facilitate consistency across centres			✓

Requirement:	Assessor:	IQA:	EQA:
<p>Have – or be working towards:</p> <ul style="list-style-type: none"> Being qualified –Assessor or Quality Assurance qualifications (TAQA*) plus CPD <p>*Energy & Environment Awards will also accept predecessor qualifications, for example TDLB units including D32, D33, D34 or A1, V1, V2 etc. Other qualifications must be presented at Centre approval and will be considered on a case by case basis. An employer direct model as an alternative to assessors and quality assurers achieving the TAQA qualifications can be used.</p> <p>This model allows employer/alternative training, which is endorsed by the awarding body, to be used as a means of demonstrating assessor and verifier competence.</p> <p>In this instance Energy & Environment Awards require Centres to have:</p> <ul style="list-style-type: none"> mapped the training against the relevant TAQA qualifications to ensure that there is a direct match. identified any gaps and ensured that alternative evidence to demonstrate full competence is provided. provide written endorsement which indicates acceptance of the training as a direct equivalent to the TAQA qualifications 	✓	✓	✓