

Skills for a greener world

# **Qualification Specification**

EEA Level 3 Award in Awareness of Gas Escape, Locate and Repair 610/6003/3

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## 1 Qualification Overview

## At a Glance Qualification Summary

Qualification Titles / Min. Guided Learning Hours (GLH) and Total Qualification Time (TQT) /	EEA Level 3 Award in Awareness of Gas Escape, Locate and Repair  53GLH / 73TQT / 7 Credits
Credit Value	
RQF Level	3
Entry requirements	Learners must be 16 years of age or above.
Assessment requirements	<ul> <li>These qualifications are assessed by:-</li> <li>Externally set and marked multiple choice question papers</li> </ul>
Progression opportunities	Learners may wish to complete a Level 2 Diploma in Network Construction Operations (Gas) qualification, which will provide an opportunity to learn the core skills as well as underpinning knowledge required to work on the Gas distribution network.
Regulatory Body / Status	These qualifications are regulated by Ofqual, the independent qualifications regulator for England.

### Energy & Environment Awards (EEA)

Energy & Environment Awards is an Ofqual recognised Awarding Organisation, offering qualifications, including End-point Assessments within the energy and utilities footprint.

#### Introduction

Energy & Environment Awards has secured recognition from Ofqual, the independent qualifications regulator for England, to offer the Level 3 Award in Awareness of Gas Escape, Locate and Repair.

This qualification, and the component units, have been developed by Energy & Environment Awards through consultation with technical experts, key external stakeholders, including industry representatives and training providers. Individual units have been developed based on the National Occupational Standards; EUSGNC4, EUSGNC7 and EUSGNC6, which were developed by Energy and Utility Skills.

This Qualification Specification provides guidance for approved Centres on how to consistently apply the assessment and associated quality assurance requirements, along with unit content and relevant additional information to support the delivery of these qualifications.

## Aims and Objectives of the Qualifications

This qualification is aimed at managers or supervisors who are responsible for managing the Gas Escape, Locate and Repair (ELR) team. Learners will develop knowledge and understanding of the requirements for risk management and how to minimise risks to life, property and the environment during gas escapes. It provides managers with the underpinning knowledge and understanding to effectively support their team but it does not provide learners with the skills to perform Gas escape, locate and repair activities themselves.

## 1 Qualification Information

## **Qualification Delivery**

#### Training Venue and Equipment Requirements

There are specific training venue and equipment requirements for the delivery and assessment of this qualification and these are included in the Energy & Environment Awards qualification-specific Centre approval criteria for these qualifications.

## **Qualification Structures**

## **EEA Level 3 Award in Awareness of Gas Escape, Locate and Repair**

In order to achieve the **Level 3 Award in Awareness of Gas Escape**, **Locate and Repair** qualification, learners must complete all four of the mandatory units in Group A.

Group A: Mandatory Units			
Level:	Unit Title:	Assessment Methodology:	
3	Understanding how to interpret the results of gas leakage surveys to determine the location of gas escapes	Multiple Choice Question (MCQ) Test	
3	Principles of how to minimise risks to life, property and the environment during gas emergencies	Multiple Choice Question (MCQ) Test	
2	Principles of restoring gas network components to operational condition	Multiple Choice Question (MCQ) Test	
2	Principles of conducting specified testing of gas networks associated with leakage location	Multiple Choice Question (MCQ) Test	

### 2 Assessment

#### Overview of Assessment Method

These qualifications are assessed by an externally-set and marked Multiple-Choice Question (MCQ) test. Assessment may take place at any time during the delivery of the qualification and does not need to be done as a final assessment. Centres are required to schedule the online multiple-choice test(s) for individual learners at the point when they feel they are ready to complete the test.

Full details of the requirements, duration and pass mark for each assessment instrument are shown in the sections which follow.

Assessment Method: Multiple-Choice Question Test

#### **Assessment Structure**

Each Multiple Choice Question (MCQ) test paper is closed book and learners are required to complete the test in exam conditions. Details of each of the unit's MCQ tests are shown in the table below:

Level 3 Award in Awareness of Gas Escape, Locate and Repair			
Unit title:	Number of	Max. time	Pass %:
	Questions in	allowed:	
	MCQ Test:		
Understanding how to interpret the results of	18	30 minutes	72%
gas leakage surveys to determine the location			
of gas escapes			
Principles of how to minimise risks to life,	29	45 minutes	72%
property and the environment during gas			
emergencies			
Principles of restoring gas network	25	40 minutes	72%
components to operational condition			
Principles of conducting specified testing of	23	35 minutes	73%
gas networks associated with leakage location			

The multiple-choice questions have been written to assess the learner's knowledge and understanding as outlined in the assessment criteria within each unit. Each question will have four possible answers with one of those answers being the correct one.

#### Practice assessment

Learners are able to complete a practice assessment through the Energy & Environment Awards online assessment system, XAMS, prior to completing the live assessment. This will enable the learner to practice using the assessment platform but will mainly help them to identify whether they are ready to complete the live assessment.

The practice assessment mirrors the requirements of the live multiple choice assessment in terms of duration, number of questions, types of questions asked and pass mark. Centres will be able to register a learner directly onto the practice assessment on XAMS and access their result and an assessment criteria report. The result for the practice assessment will not be passed back to the learner's record on QuartzWeb.

#### Online assessment

The MCQ test is externally set by Energy & Environment Awards and is hosted by Energy & Environment Awards' online assessment system for Qualifications, XAMS, and automatically marked on this system, enabling instant results for the Centre. Centres will also be able to download a Performance Feedback Report which shows which assessment criteria have or have not been achieved by the learner.

Should the need arise for a Centre to apply for a reasonable adjustment to be made to the MCQ test for a learner, then the Centre must make this application at the point of registering a new learner onto the relevant Certificate in QuartzWeb. An example of a reasonable adjustment includes a reader being required for the learner completing the MCQ test. Sufficient time needs to be given to allow for adjustments to be made, should the application be successful. Therefore, Energy & Environment Awards require a minimum period of ten working days between registering a learner for the Certificate and the assessment taking place.

Centres are required to register learners for the respective qualification on QuartzWeb, Energy & Environment Awards' qualification administration system, which will automatically register them onto the Energy & Environment Awards XAMS platform for each corresponding assessment. Centres will schedule when they would like the learner to complete the MCQ test in XAMS and at this point will be asked to confirm who is in place to invigilate the test. It is important to note that Centre staff who have been involved in delivering the training for the learner(s) cannot invigilate the MCQ test. Further information is provided in the Energy & Environment Awards Invigilator Guidance document.

#### **Examination Conditions**

Each MCQ test will be conducted in full examination conditions, with no additional notes, handouts or personal electronic devices permitted.

Centres have a responsibility to ensure learners are familiar with, and able to use, the online test platform prior to their MCQ test and have the relevant IT equipment and reliable internet access in order to complete the test. Should the learner lose connection or their assessment is disrupted for any reason then the invigilator will make a decision as to whether the assessment can continue or whether examination conditions were disrupted and require the assessment to be abandoned or whether the disruption has affected the learner's performance significantly. Invigilators are required to report any incidents that occur during the MCQ test to the Centre directly and for the Centre to maintain records for quality assurance purposes where issues arise. Similarly, in these situations, Centres will need to decide whether it is appropriate to make an application to Energy & Environment Awards for a special consideration, whether a new test can be scheduled or whether a further period of training is required.

As part of each Centre's approval with Energy & Environment Awards to offer the Gas Escape Locate and Repair qualification, Centres are required to provide evidence of their documented control systems for a range of processes. These are listed in full in the *Energy & Environment Awards Qualifications - Qualification Approval Guidance* and associated requirements for the delivery of Confined Spaces qualifications listed in the relevant Appendix. The following, however, are required to specifically support the delivery of the MCQ test.

Invigilation procedure

- Examination procedures, including preparation before the examination takes place, conducting the examination and post examination procedure
- Learner's proof of identity
- Location of examination centres
- Ensuring security and confidentiality of assessment materials
- Malpractice and maladministration procedure

#### Grading

Learners will either pass or fail this assessment.

In order to pass, learners must correctly meet the required pass mark as outlined in the table on page 8.

Assessments are automatically marked on XAMS which enables Centres to have immediate access to results. Centres will also be able to download a Performance Feedback Report which shows which assessment criteria have or have not been achieved by the learner.

#### Resits

Where a learner fails the MCQ test, they are entitled to one resit with Energy & Environment Awards, at the discretion of the training provider. Following this resit a learner will be required to undertake a period of further training before being required to register again for the qualification with Energy & Environment Awards.

Where time allows, and where there is no requirement for a reasonable adjustment, a learner may re-sit the MCQ test as soon as is practicable.

## 3 Unit Content

EEA Unit Ref:	1131
Ofqual Unit Ref:	K/651/4835
Unit Title:	Understand how to interpret the results of gas leakage surveys to determine the location of gas escapes
Level:	3
Credit value:	1
GLH:	8
TQT:	13
Unit aim(s):	The purpose of this unit is to develop the learner's knowledge in how to analyse and interpret tests for escape location on services and mains operating at all relevant pressures. It includes the need to work safely to industry standards in accordance with engineering specifications.
Assessment requirements:	This unit is assessed through an externally set, externally marked multiple choice question (MCQ) test.
Relationship to NOS:	EUSGNC4

Learning Outcome: The learner will:	Assessment Criteria: The learner can:	
Understand how to analyse and interpret the results of gas leakage surveys to determine the location of gas escapes	1.1	Explain the health, safety and environment regulatory requirements for protecting self and others during gas escapes
	1.2	Describe how to use analysis methods and techniques, including comparison of <b>data</b> .
	1.3	Explain the use of the various types of test documentation for gas escape.
	1.4	State the different types of gas detection equipment
	1.5	Explain how different types of gas detection equipment work
	1.6	Explain the terms 'ppm', 'LEL', 'UEL' and 'GIA'
	1.7	Explain the relationship between LEL and GIA readings
	1.8	Explain how detected gas readings influence actions on site
	1.9	Describe the correct use of gas detection equipment, including pre-use checks
	1.10	Explain circumstances when it might be appropriate to delay works on gas escapes
	1.11	Explain the risk associated with properties with cellars and unventilated voids

#### **General Information:**

The following terms provide an indicator of the scope of gas escapes that might be encountered by the learner, where analysis and interpretation may be required. They do not relate to specific words in the unit but should be considered as part of the delivery of the unit as a whole.

Gas: natural gas, liquid petroleum gas (LPG)

Pressure: low pressure, medium pressure and intermediate pressure

Types of escape: controlled and uncontrolled, external, gas in properties

Escapes from mains, services and risers

Escapes in the public highway and private property

Escapes identified by a public report or by survey

## **Range Statements:**

#### Learning Outcome 1:

**Data:** Results obtained from bar hole and other leakage surveys. Gas detection equipment: Gascoseeker, Gas surveyor, flame ionization equipment (FIM / FID)

EEA Unit Ref:	1132
Ofqual Unit Ref:	M/651/4837
Unit Title:	Principles of how to minimise risks to life, property and the environment during gas emergencies
Level:	3
Credit value:	2
GLH:	15
TQT:	20
Unit aim(s):	The purpose of this unit is to develop the learner's knowledge in how to minimise risks when attending a gas emergency It includes the need to work safely to industry standards and to follow safe working practices.
Assessment requirements:	This unit is assessed through an externally set, externally marked multiple choice question (MCQ) test.
Relationship to NOS:	EUSGNC6

Learning Outcome: The learner will:	Assessment Criteria: The learner can:	
Know and understand the risks associated with gas escapes	1.1	Identify different types of hazards and risks that could occur during a gas emergency.
	1.2	State the properties of liquified petroleum gas (LPG) and explain how they differ from natural gas.
	1.3	State the potential effects of gas escapes on the environment.
	1.4	Explain the terms 'controlled' and 'uncontrolled' gas escapes and the significance of both situations
	1.5	Explain the increased risk of gas escaping from a medium pressure or intermediate pressure network.
	1.6	Explain the risks associated with high-volume gas escapes
	1.7	Explain the risks associated with gas entering and collecting in properties
	1.8	Explain the risks associated with gas in ducts
	1.9	Explain the significance of commercial, industrial or multi-occupancy properties in the vicinity of gas escapes
<b>2.</b> Understand how to minimise risks to life, property and the environment during gas escapes	2.1	State the order of priority to safeguard life, property when attending a gas emergency
	2.2	Explain the correct positioning of vehicle when attending a gas escape
	2.3	Determine a site search area
	2.4	State immediate action criteria for gas escapes.
	2.5	State the <b>reporting lines and procedures</b> to be used when dealing with gas emergencies.
	2.6	Explain how actions required for LPG differ from those for escapes

- of natural gas.
- 2.7 Explain why it is important to reduce the risk quickly in a gas emergency.
- 2.8 Describe the potential consequences of failure to control the risks to the public, property and the environment.
- 2.9 State the criteria for evacuating a property.
- 2.10 State the criteria for the reoccupation of a property following evacuation.
- 2.11 State the criteria for safely operating electrical switches or connections when gas is present.
- 2.12 State the personal protective equipment (PPE) requirements when attending and working on an uncontrolled gas escape.
- 2.13 Explain the need to liaise with other emergency services when attending gas emergencies.
- 2.14 Explain the requirement to check inside properties when attending an outside gas escape
- 2.15 Explain the relevance of open and closed ground, including frozen ground, when attending an outside gas escape near properties
- 2.16 Explain the actions necessary when multiple gas escapes are reported as a result of a gas cloud
- 2.17 Explain the identification and recording of "no trace" situations
- 2.18 Explain actions to be taken if approached by the media on the site of a gas emergency

#### **General Information:**

The following terms provide an indicator of the scope of gas escapes that might be encountered by the learner, where analysis and interpretation may be required. They do not relate to specific words in the unit but should be considered as part of the delivery of the unit as a whole.

**Gas:** natural gas, liquid petroleum gas (LPG)

Pressure: low pressure, medium pressure and intermediate pressure

Types of escape: controlled and uncontrolled, external, gas in properties

Escapes from mains, services and risers

Escapes in the public highway and private property

Escapes identified by a public report or by survey

#### **Range Statements:**

#### Learning Outcome 1:

**Reporting lines and procedures:** Who should be kept informed of progress, the criteria to be used for forced entry into buildings, the criteria to be used for evacuation of properties, the policy for dealing with media and emergency services during a gas emergency.

EEA Unit Ref:	1133
Ofqual Unit Ref:	R/651/4838
Unit Title:	Principles of restoring gas network components to operational condition
Level:	2
Credit value:	2
GLH:	15
TQT:	20
Unit aim(s):	The purpose of this unit is to develop the learner's knowledge and skills in being able to repair and replace short sections of mains and services and fitting temporary or permanent external mechanical fittings.  This unit can apply to any type of fuel gas or combinations of fuel gas including, but not restricted to, natural gas, LPG.  This unit involves live gas working, restoring components and carrying out repair or replacement in accordance with organisational procedures.
Assessment requirements:	This unit is assessed through an externally set, externally marked multiple choice question (MCQ) test.
Relationship to NOS:	EUSGNC7

Learning Outcome: The learner will:	Assessment Criteria: The learner can:	
Know and understand the health and safety requirements specific to restoring gas network components	1.1	State the health, safety and environment legislation, regulations, procedures and codes of practice relevant to work activities including:  work in excavations  hazardous materials  PPE breathing apparatus accidents
	0	Describe the requirements for fire extinguishers to be deployed on gas escapes and how to check and position them.
2. Know and understand the restoration of gas network components to operational condition by repair	2.1	Describe the requirements for monitoring <b>gas</b> concentrations in atmospheres and excavations and actions to be taken at certain levels
	2.2	Outline how to access technical specifications from reference documents, manuals, regulations, codes of practice, risk assessments and method statements
	2.3	Explain how to interpret technical specifications and <b>work</b> instructions
	2.4	Describe how to select the appropriate <b>repair technique</b> , jointing method and-flow-stopping technique to be used for the specification of the <b>component</b> to be repaired.
	2.5	Explain how to interpret technical specifications and work instructions
	2.6	Describe how to repair joints, horizontal and circumferential cracks and breaks, corrosion and interference damage

- 2.7 Explain how to identify the **types of pipe**, materials, their characteristics and how to work with them.
- 2.8 Identify types of tools and equipment to be used when restoring **components** to operating condition by repair, including the necessary PPE requirements.
- 2.9 Describe component replacement methods for mains and services.
- 2.10 Define the care and control procedures to be used to ensure compliance with live gas working
- 2.11 Explain the types of records and documentation used to record repair activities.

#### **Range Statements:**

#### Learning Outcome 1:

**Legislation:** Health and safety and environment regulations, legislation, statutory and regulatory requirements, company procedures, safe working practices.

#### Learning Outcome 2:

**Work instructions:** including drawings, records, work authorisations and other project specific information.

**Types of pipe:** metric and imperial polyethylene, cast iron, ductile iron, steel.

**Components:** Metallic and non-metallic gas mains and services and all ancillary pipes and fittings, including service connections, mechanical and bolted joints, lead yarn joints, risers

**Repair techniques:** mains and services; pressure ranges to include up to and including 75mb (ie low pressure) and above 75mb

Gas: natural gas, liquid petroleum gas (LPG)

EEA Unit Ref:	1134
Ofqual Unit Ref:	L/651/4836
Unit Title:	Principles of conducting specified testing of gas networks associated with leakage location
Level:	2
Credit value:	2
GLH:	15
TQT:	20
Unit aim(s):	The purpose of the unit is for the learner to develop the knowledge required to investigate and identify the location of gas escapes, in accordance with industry standards and standards set by the company.
Assessment requirements:	This unit is assessed through an externally set, externally marked multiple choice question (MCQ) test.
Relationship to NOS:	EUSGNC6

# Learning Outcome: The learner will:

# Assessment Criteria: The learner can:

**1.** Know and understand specified testing of gas networks associated with leakage location

- 1.1 State the reporting lines and procedures to be used for gas escapes.
- 1.2 Identify types of test procedures that can be used to locate gas escapes.
- 1.3 Identify the correct and appropriate test procedure for a given situation.
- 1.4 Interpret and follow procedures and documentation when investigating gas escapes.
- 1.5 Explain how to calibrate the relevant gas detection equipment prior to use.
- 1.6 Explain why the relevant gas detection equipment should be calibrated.
- 1.7 Interpret test results against specifications.
- 1.8 Explain the potential consequences of test failures to the public, property and the environment.
- 1.9 Determine actions required following analysis of test results.
- 1.10 Identify the various test records that are required.
- 1.11 Describe the consequences of incorrectly recording and reporting test results in line with industry and company requirements.
- 1.12 Explain the safety actions to be taken before barholing
- 1.13 Describe how to undertake a barhole survey to pinpoint the location of a gas escape
- 1.14 Explain best practice for marking and recording barhole readings

1.15 Explain how recorded readings can be useful when managing ongoing gas emergencies or for hand-overs.

#### **General Information:**

The following terms provide an indicator of the scope of gas escapes that might be encountered by the learner, where analysis and interpretation may be required. They do not relate to specific words in the unit but should be considered as part of the delivery of the unit as a whole.

**Gas:** natural gas, liquid petroleum gas (LPG)

Pressure: low pressure, medium pressure and intermediate pressure

**Types of escape:** controlled and uncontrolled, external, gas in properties

Escapes from mains, services and risers

Escapes in the public highway and private property

Escapes identified by a public report or by survey

5 **Awarding** 

Grading

In order to achieve the qualifications listed in this Qualification Specification, learners must "pass" each of the units which comprise the specific qualification. Assessment

decisions will be subject to internal and external quality assurance.

Certification

Energy & Environment Awards issues a qualification certificate of achievement for each qualification that has been achieved by the learner. Energy & Environment Awards offers learners an electronic certificate available to the Centre to download from Quartzweb, following the processing of a successful claim, or a physical certificate by exception and at an additional cost, which will be sent directly to the registered Centre. Learners who do not achieve the full qualification, but who have successfully

achieved individual unit(s) will be able to receive an electronic unit certificate.

The date of certification is based on the achievement of the final unit.

6 Energy & Environment Awards Policies

Energy & Environment Awards has published comprehensive policies, which are made available to approved Centres and learners on the Energy & Environment Awards Qualifications website at: https://energyenvironmentawards.co.uk/policies-

and-fees/

Contact Us

Please do not hesitate to contact the Energy & Environment Awards Qualifications team for any query relating to the delivery, assessment, quality assurance or

certification of these qualifications.

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