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# EUIAS Level 3 End-point Assessment Specification for

Gas Engineering Operative  
QAN 610/0233/1

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**QAN 610/0233/1**

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## Updates to this specification

Since the first publication of the EUIAS Gas Engineering Operative (GEO) specification, the following updates have been made.

Version	Date first published	Section updated	Page(s)
V4.2	October 2023	Removed “1 independent or employer assessor, appointed by the EUIAS. The same independent/employer assessor may carry out all assessments.”	9
V4.1	June 2023	Technical skills abbreviation: Letter ‘T’ added in front of letter ‘S’	31 - 37
		Removed ‘B4a’ and replaced with ‘CS7’	44
		Removed letters ‘a’ and ‘b’ from ‘TS7’	47
V4.0	May 2023	Rebranded Specification	All
V3.0	February 2023	Revised using new EUIAS specification template	All
V2.0	June 2022	Amendments made in accordance with revised version of GEO Specification	All
V1.0	October 2021	First published	All

## Section 1: At a Glance EPA Summary

Qualification name	EIAS Level 3 End-point Assessment for Gas Engineering Operative
Ofqual qualification number	610/0233/1
Standard reference	ST0155
Assessment plan	AP02
Standard title	Gas Engineering Operative
Pathways	n/a
Level	3
Gateway pre-requisites submitted to EUIAS	<p>Apprentice has:</p> <ul style="list-style-type: none"> <li>• achieved English and mathematics at level 2 or higher</li> <li>• proof of Gas Safe® registration certification for a minimum of four appliances</li> <li>• work log with mapping document</li> </ul>
On-programme duration	Typically 18 months
Gateway readiness	<p>Apprentice has met all Gateway pre-requisites. Lead provider completes, signs and submits Gateway Eligibility Report (GER) form to EUIAS. See Appendix B in GEO Supporting Documents for 'Gateway Eligibility Form.'</p>
End-point assessment duration	Typically 3 months after the gateway
Order of end-point assessment methods	<p>Can be delivered in any order</p> <p>The result of one assessment method does not have to be known before an apprentice starts the next one.</p> <p>The portfolio elements must be undertaken in this order:</p> <ul style="list-style-type: none"> <li>• Gas Safe® registration certification for a minimum of four appliances (before Gateway)</li> <li>• Competency Test (practical assessment)</li> <li>• Work Log Review (work log typically developed during the apprenticeship)</li> </ul>

	<ul style="list-style-type: none"> <li>• Interview based on the Work Log</li> </ul>
End-point assessment methods and component grading	Portfolio Assessment: Fail, Pass or Distinction Knowledge test: Fail, Pass or Distinction
Overall Grading	Fail, Pass or Distinction
Certification	EUIAS request Apprenticeship completion certificates from the ESFA

## Objective

The purpose of the Gas Engineering Operative (GEO) end-point assessment (EPA) is to test that an apprentice is fully capable of doing their job before they receive their apprenticeship certificate. It also helps to demonstrate that what an apprentice has learned can be applied in the real world.

Once the apprentice has completed the GEO end-point assessment requirements successfully and has been certified, they could take on the following activities, in either domestic or non-domestic settings, in their job role:

- safely installing, commissioning, decommissioning, servicing and repairing appliances such as
  - central heating boilers, unvented hot water storage, ducted air heaters, cookers, space heaters, meters
- testing and purging of industrial pipework
- explaining how installations and appliances work
- providing energy efficiency advice
- providing customer service excellence at all times
- operating strictly within the requirements of health and safety legislation

Roles in gas engineering are physical in nature, and may involve:

- lifting and moving equipment
- working at heights
- working in confined spaces

All gas engineers must be registered on the Gas Safe® Register for each appliance in which they are competent to undertake work on.

## Professional recognition

The apprenticeship standard :

- Is supported by The Institute of Gas Engineers and Managers (IGEM)
- Provides eligibility for registration as Engineering Technicians (EngTech)

## Gateway Readiness

The employer must be satisfied that the apprentice is consistently working at, or above, the level of the occupational standard. Gateway pre-requisites are listed in the summary table above.

## Recognition of prior learning (RPL)

EUIAS does not recognise any apprentice prior learning (RPL) or prior achievement (RPA) for the purpose of amending the assessment requirements of any end-point assessments.

Please refer to the EUIAS RPL and RPA policy at [www.euias.co.uk/end-point-assessment/policies-and-fees](http://www.euias.co.uk/end-point-assessment/policies-and-fees).

In order for EUIAS to award an end-point assessment qualification, the apprentice must successfully complete all required assessment components with EUIAS. This means that:

- each of the EPA components must be completed in full with EUIAS
- where an apprentice transfers to EUIAS from another EPAO they have to undertake the entire EPA with EUIAS
- components of the EPA cannot be certificated in isolation
- evidence produced for the portfolio must be related to the time the apprentice is on their apprenticeship programme to demonstrate current practice
- examples used by the apprentice, during the interview, must relate to the time they were on their apprenticeship programme

This does not affect the Gateway requirements which must be met in order for an apprentice to be eligible for end-point assessment.

This does not affect any reasonable adjustments that may be granted.

## Section 2: End-point Assessment Components

### Component 1: Portfolio Assessment

#### Overview

Apprentice must complete a portfolio assessment made up of four elements. The elements of the portfolio will be individually assessed and scored. The assessor, appointed by EUIAS will combine the scores to award a preliminary mark out of 100 as allocated below:

The four elements **must** be undertaken in this order:

**Stage 1: Gas Safe® registration** for a minimum of four appliances (before Gateway) – A pass in the four appliances means that 10 marks can be awarded towards the overall portfolio mark. For further details refer to Step-by-Step Guide in this section of the Specification.

**Stage 2: Competency Test** (practical assessment) – which must demonstrate safe practice; outstanding diagnostic, fault finding, and repair skills, excellent communication, recording and customer service skills including relevant energy advice. A maximum of 20 marks will be available to contribute towards the overall portfolio mark. For further details refer to Step-by-Step Guide in this section of the Specification.

**Stage 3: Work Log Review** – will be carried out by an assessor, who will undertake a summative assessment of competence against the standards knowledge, skills and behaviours which are grouped in to six areas, each group has been allocated a minimum and maximum number of marks:

- Group 1 – Work Safely
- Group 2 – Demonstrating Technical Knowledge
- Group 3 – Industry Standards, Legislation, Processes and Procedures
- Group 4 – Demonstrating Technical Skills
- Group 5 – Customer Service / Working with others
- Group 6 – Behaviours

A minimum score must be achieved in each group to achieve a Pass. A maximum of 50 marks are available. For further details refer to Step-by-Step Guide in this section of the Specification.

**Stage 4: Interview based on the Work Log** – The interview will typically last one hour and will also take place with the assessor where currency of knowledge will be

checked by verbal questioning around reasons for choices, methods, material, risk, health and safety. A maximum of 20 marks are available. For further details refer to Step-by-Step Guide in this section of the Specification.

The Competency Test (practical assessment), Work Log Review and Interview based on the Work Log each have a minimum mark that must be achieved in order to pass the end-point assessment. These are listed in the table below.



## Step-by-Step Guide to the Portfolio Assessment Component

The table below provides a step-by-step guide on how the four elements of the portfolio assessment will be carried out:

Stage 1	Gas Safe® registration
Gas Safe structure	<p>Gas Safe® registration for a minimum of four appliances (before Gateway).</p> <p>The Gas Safe® registration certificate must be included in the portfolio as part of the portfolio assessment.</p> <p>An apprentice <b>cannot achieve an overall pass grade without Gas Safe® registration for a minimum of four appliances.</b></p> <p><b>Marks allocated:</b> 10 marks towards the Portfolio score</p>
Who delivers, registers and assess Gas Safe® for a minimum of four appliance?	<p><b><u>NOT delivered or assessed by the EUIAS.</u></b></p> <p><b><u>The employer/training provider will be responsible for making all the arrangements.</u></b></p>
What are the tasks or topics that will be covered?	<p>All gas engineering apprentices legally must achieve Gas Safe® registration for the setting specialism in each appliance in which they are demonstrating competence in either Natural Gas or Liquid Petroleum gas (LPG), see Appendix F in GEO Supporting Documents for the 'Four Appliance Categories – Amplification and Guidance.'</p>

Stage 2	Competency Test (Practical Assessment)
Assessors	1 independent or employer assessor, appointed by the EUIAS. The same independent/employer assessor may carry out all assessments.
Competency Test structure	<p><b>Time:</b> Typically takes <b>half a day</b> to enable the assessment of four appliances in different realistic working environments</p> <p><b>Questioning:</b> will take place during the competency Test and will focus on underpinning knowledge and/or skills and behaviours where an opportunity to observe them has not occurred. There will also be some questions on Unsafe Situations at the end of the competency Test. There may be breaks during the competency test to allow the apprentice to move from one location to another and for meal/comfort breaks.</p> <p>During these breaks, the clock will be stopped to ensure that the assessment duration is not reduced</p> <p><b>The competency test will be:</b></p> <ul style="list-style-type: none"> <li>• completed in the last three months after the achievement of Gas Safe ® registration</li> <li>• a demonstration of core and specific skills, knowledge and behaviours in a ‘real world (realistic working)’ environment to an employer/independent assessor</li> <li>• typically assessed on a range that could include: <ul style="list-style-type: none"> <li>○ the safe gas and electrical installation</li> <li>○ commissioning</li> <li>○ decommissioning and/or ongoing service and repair</li> </ul> </li> </ul>

	<ul style="list-style-type: none"> <li>• on a minimum of four appliances. Appliances can include but are not limited to:</li> <li>• a range of work categories such as: <ul style="list-style-type: none"> <li>○ central heating boilers</li> <li>○ unvented hot water storage</li> <li>○ ducted air heaters</li> <li>○ cookers</li> <li>○ space heaters</li> <li>○ meters</li> <li>○ boosters</li> <li>○ testing and purging of industrial pipework</li> </ul> </li> </ul> <p>For example, the apprentice could be assigned a task to diagnose and rectify fault(s). See Appendix F in GEO Supporting Documents for the ‘Four Appliance Categories – Amplification and Guidance.’</p> <p><b>Marks allocated</b> towards the Portfolio score: 20  <b>Minimum marks</b> for this element to achieve a pass: 16</p>
Where will the assessment take place?	<ul style="list-style-type: none"> <li>• Assessments may take place both in the workplace (customer’s home), or in a ‘Realistic Work Environment (RWE)’, (training centre)</li> </ul>
What are the tasks or topics that will be covered?	<ul style="list-style-type: none"> <li>• safe installation and commissioning of an appliance</li> <li>• servicing and maintaining an appliance or system</li> <li>• repairing a fault on an appliance and system</li> </ul>

	<ul style="list-style-type: none"> <li>• decommissioning an appliance or system</li> <li>• excellent communication</li> <li>• recording and providing customer service skills which must include relevant energy advice</li> </ul>
Who sets the task(s) for the competency test?	Employers set the task based on the EUIAS template provided within Supporting Documents. The task must provide apprentices with the opportunity to achieve all the KSBs assessed in the competency test.
What resources can the apprentice use during the competency test?	<p>Equipment and resources needed for the competency test must be:</p> <ul style="list-style-type: none"> <li>• provided by the employer or training provider</li> <li>• the tools, equipment and PPE required for the job</li> <li>• in good and safe working condition</li> </ul> <p>Work instructions/manuals must be available in hard copy or electronically.</p>
Will the apprentice be asked questions during the competency test?	During the competency test, apprentices will be asked questions to confirm their understanding of the rationale for actions and choices made during the test. Questions will also cover Unsafe Situations. The content of this competency test will relate to the four appliances for which the apprentice has received Gas Safe® certification.
<b>Stage 3</b>	<b>Work Log Review</b>
Assessors	1 independent or employer assessor, appointed by the EUIAS. The same independent/employer assessor may carry out all assessments.

Work log review structure	<p><b>The Work Log:</b></p> <ul style="list-style-type: none"> <li>• is marked by an independent assessor</li> <li>• can be referred to by the apprentice to illustrate their answers during the Interview which is based on their work log</li> <li>• must only contain evidence mapped to the KSBs assessed in the interview and included in the mapping document – a sample Work Log mapping document is included with the Supporting Documents</li> </ul> <p><b>Marks allocated</b> towards the Portfolio score: 50  <b>Minimum marks</b> for this element to achieve a pass: 34</p>
What are the tasks or topics that will be covered?	<ul style="list-style-type: none"> <li>• Knowledge, skills and behaviours (KSBs) are grouped in to six areas, each with a minimum and maximum number of marks. See this section of the Specification for Amplification and Guidance</li> </ul>
Stage 4	Interview based on the Work Log
Assessors	1 independent or employer assessor, appointed by the EUIAS. The same independent/employer assessor may carry out all assessments.
Interview assessment structure	<p><b>Number of questions:</b> 10 standardised questions will be asked.</p> <p><b>Time:</b> Typically, last 1 hour.</p> <p><b>The Interview based on the Work Log will be:</b></p> <ul style="list-style-type: none"> <li>• conducted by an employer/independent assessor</li> </ul>

	<ul style="list-style-type: none"> <li>• face to face or remote, as agreed</li> <li>• recorded in writing using an interview record template provided by EUIAS</li> <li>• video recorded using relevant technology such as Microsoft Teams or an audio recording device</li> <li>• conducted under examination conditions</li> </ul> <p>The apprentice will have access to their work log throughout the interview.</p> <p>The apprentice will have at least two weeks' notice of the interview.</p> <p><b>Marks allocated</b> towards the Portfolio score: 20</p> <p><b>Minimum marks</b> for this element to achieve a pass:10</p>
Where will the assessments take place?	<ul style="list-style-type: none"> <li>• a quiet room, free from distractions and influence</li> </ul>
What are the tasks or topics that will be covered?	<ul style="list-style-type: none"> <li>• Knowledge, skills and behaviours (KSBs) are covered in amplification and guidance in this section of the specification</li> </ul>
How many questions will the apprentice be asked?	During the interview based on the work log the apprentice will be asked 10 questions some of which will be in two parts.

## Component 2: Knowledge Test

### Overview

The knowledge test is paper based. Apprentices have 60 minutes to complete the test. It consists of 40 questions.

The knowledge test questions will have four possible answers of which one will be correct.

The Pass mark is 32 correct answers.

The Distinction mark is 36 correct answers.

Apprentices must take the test in a quiet space, free from distractions and influence, in the presence of an invigilator.

**IMPORTANT NOTE:** Apprentices will **ONLY** be allowed **ONE RE-SIT** if they fail their knowledge test.

### Knowledge coverage

The knowledge test consists of 4 core knowledge and 12 technical knowledge questions.

The table below lists each of the knowledge elements, assessed in the knowledge test. Each of these elements is also assessed by the Competency Test and/or Work Log Review and Interview based on the Work Log . Amplification and Guidance can be found in the table above.

Number of Questions	Knowledge
1 - 3	<b>K1:</b> Current Health, Safety and Environmental legislation and regulations applicable to work in the gas industry
1 - 4	<b>K3:</b> Gas and electrical theories and procedures involved in the practical installation, commissioning, decommissioning and/or ongoing service and repair of gas installations, appliances and associated equipment

Number of Questions	Knowledge
1 - 4	<b>K4:</b> Relevant electrical/mechanical principles and how they are applied in work processes and procedures
1 - 4	<b>K7:</b> Current regulatory compliance, current Gas Safety (Installation and Use) Regulations and the current Electricity at Work Regulations
1 – 3	<b>TK1</b> Electrical awareness and be able to carry out safe isolation and essential electrical safety checks
1 – 5	<b>TK2</b> Combustion, combustion analysis, gas properties, carbon monoxide (CO), and types of burners
1 – 4	<b>TK3</b> Flues and ventilation principles
1 – 3	<b>TK4</b> The necessary safety checks following gas work on an appliance (regulation 26/9)
1 – 3	<b>TK5</b> The range and suitability of appliances
1 – 4	<b>TK6</b> The statutory and normative documentation including building regulations, water regulations and electrical regulations
1 – 4	<b>TK7</b> Emergency procedures, including gas escapes, report of fumes and for unsafe situations
1 – 4	<b>TK8</b> A knowledge and understanding of appliances
1 – 5	<b>TK9</b> System design, location, controls, flue types for appliances and smart controls
1 – 2	<b>TK10</b> An awareness of green technologies
1 – 2	<b>TK11</b> The properties of Liquid Petroleum Gas (LPG)
1 – 2	<b>TK12</b> An awareness of fuel storage – tanks and bottles (Liquid Petroleum Gas - LPG)



## Knowledge Test Roles and Responsibilities

Role	Responsibility
Invigilator	Is typically provided by the employer or training provider. Attend induction training as directed by EUIAS.
Employer/Training Provider	Ensure that the knowledge test is scheduled with EUIAS for a date and time which allow the apprentice to be well prepared.
EUIAS	Arrange for the knowledge test to take place, in consultation with the employer/training provider. Mark knowledge test answers accurately according to the mark scheme and procedures.

### Knowledge, Skills and Behaviours (KSBs) coverage, by assessment method

The portfolio assessment covers four stages as outlined below:

**Stage 1: Gas Safe® registration** for a minimum of four appliances – **NOT Assessed by the EUIAS**

**Stage 2: Competency Test** (practical assessment) – Assessed by EUIAS as part of the portfolio

**Stage 3: Work Log Review** (typically developed during the apprenticeship)- Assessed by EUIAS as part of the portfolio.

See Appendix I in GEO Supporting Documents for the ‘Work Log Mapping Document.’

**Stage 4: Interview based on the Work Log** – Assessed by EUIAS as part of the portfolio.

**Key to identify the assessment method in the table below:**

**KT** – Knowledge Test

**CT** – Competency Test

**WL** – Work Log

Key	Portfolio Assessment Elements: Knowledge	Amplification and Guidance
	<b>Core Knowledge</b>	
<b>KT WL</b>	<b>K1</b> Current Health, Safety and Environmental legislation and regulations applicable to work in the gas industry	<p>Health and Safety at Work Act</p> <p>Control of Substances Hazardous to Health procedures</p> <p>Working at Height Regulations</p> <p>Provision and Use of Work Equipment Regulations (PUWER)</p> <p>Reporting of Injuries, Diseases and Dangerous Occurrences Regulations (RIDDOR)</p> <p>Building Regulations (England &amp; Wales)</p> <p>Building Standards (Scotland)</p>
<b>CT WL</b>	<b>K2</b> Safe gas and electrical installation, commissioning, decommissioning and or ongoing service and repair procedures of gas installations and appliances needed to establish the safe operation of	Demonstration that all installation, commissioning, decommissioning, service and repair work operations is/are carried out in accordance with manufacturer's instructions

Key	Portfolio Assessment Elements: Knowledge	Amplification and Guidance
	the equipment and installation in accordance with industry standards	<p>Compliance with the requirements set out in Gas Safety (Installation &amp; Use) Regulation 26 (9):</p> <p>‘Where a person performs work on a gas appliance, he or she shall immediately thereafter examine -</p> <ul style="list-style-type: none"> <li>(a) the effectiveness of any flue</li> <li>(b) the supply of combustion air</li> <li>(c) its operating pressure or heat input or, where necessary, both</li> <li>(d) its operation to ensure its safe functioning’</li> </ul>
<b>KT WL</b>	<b>K3</b> Gas and electrical theories and procedures involved in the practical installation, commissioning, decommissioning and/or ongoing service and repair of gas installations, appliances and associated equipment	<p>Correct practical application of the scientific principles aligned to the safe installation, commissioning, decommissioning and/or ongoing service and repair of gas installations and associated equipment. Specifically, these principles are properties of gas, recognition of good and bad combustion, application of the combustion equation for methane</p> <p>Ability to follow installation, commissioning, service and repair processes as outlined in manufacturer’s instructions</p>

Key	Portfolio Assessment Elements: Knowledge	Amplification and Guidance
		<p>Correct interpretation of flame picture and recording of Working Pressure across the appliance range and or pathway</p> <p>The correct ventilation requirement criteria are applied to each appliance installation relevant to the situation as found or as described</p> <p>Chimneys and flues meet manufacturer's instructions, are installed</p> <p>Safe isolation of electrical procedures applied</p> <p>Electrical systems are deemed safe through the proper completion of preliminary electrical systems checks. Specifically, mains voltage check, polarity check, resistance to earth check, short circuit check and earth loop impedance testing</p> <p>The correct process for earth loop impedance testing is applied</p>
<b>KT WL</b>	<b>K4</b> Relevant electrical/mechanical principles and how they are applied in work processes and procedures	Demonstration of understanding of the operation of electrical and mechanical systems/components, and how these are applied within appliances or control-systems

Key	Portfolio Assessment Elements: Knowledge	Amplification and Guidance
		Understanding and application of safe working processes, procedures, practices when dealing with electrical or mechanical equipment, as well as controls, systems and functions
<b>CT WL</b>	<b>K5</b> Up to date energy efficiency advice and guidance to be given to the customer	<p>The provision of energy efficiency advice that is relevant and applicable to each customer's situation</p> <p>Demonstration of knowledge of up to date energy efficiency measures, tariffs and options</p> <p>Acting within guidelines for the provision of energy efficiency advice as outlined within government produced best-practice guides, publications and relevant company policies</p>
<b>CT WL</b>	<b>K6</b> Product knowledge to be able to discuss and advise the customer	<p>Understanding of the product range or system upgrades that would be of benefit each customer's circumstances i.e., central heating system upgrades that provide fuel efficiency</p> <p>Demonstration of discussions with customers where the product knowledge is provided under best-advice guidelines</p>

Key	Portfolio Assessment Elements: Knowledge	Amplification and Guidance
<b>KT WL</b>	<b>K7</b> Current regulatory compliance, current Gas Safety (Installation and Use) Regulations and the current Electricity at Work Regulations	Evidence of understanding and correct application of compliance of the following legislative items:  Gas Safety (Installation and Use) Regulations 1998  Electricity at Work Regulations 1989
<b>CT WL</b>	<b>K8</b> Company rules, policies and procedures as defined by the employer	Understanding of the use and application of company rules, policies and procedures as outlined within:  Technical Operating Procedures Company Code/Rules of Conduct Company codes of practice Company policies Company vision and values
	<b>Technical Knowledge</b>	
<b>KT WL</b>	<b>TK1</b> Electrical awareness and be able to carry out safe isolation and essential electrical safety checks	Competency in carrying out the safe isolation process and the correct electrical safety checks. Specifically, mains voltage check, polarity check, resistance to earth check, short circuit check and earth loop impedance testing

Key	Portfolio Assessment Elements: Knowledge	Amplification and Guidance
KT WL	<b>TK2</b> Combustion, combustion analysis, gas properties, carbon monoxide (CO), and types of burners	Types of burners; simplex and duplex, pre-aerated, post aerated
KT WL	<b>TK3</b> Flues and ventilation principles	Flue or chimney route, flue or chimney material, termination, sizing and testing methods  Ventilation calculations and confirmation of ventilation provisions for appliance types and installation circumstances such as location and types of room, other factors within the room i.e., extractor systems
KT WL	<b>TK4</b> The necessary safety checks following gas work on an appliance (regulation 26/9)	Examples of compliance with the requirements set out in Gas Safety (Installation & Use) Regulation 26 (9):  'Where a person performs work on a gas appliance, he/she shall immediately thereafter examine — (a) the effectiveness of any flue (b) the supply of combustion air (c) its operating pressure or heat input or, where necessary, both (d) its operation so as to ensure its safe functioning.'



Key	Portfolio Assessment Elements: Knowledge	Amplification and Guidance
WL KT	<b>TK5</b> The range and suitability of appliances	Confirmation of the suitability of appliances or appliance installations in reference to the requirements of manufacturer's instructions
WL KT	<b>TK6</b> The statutory and normative documentation including building regulations, water regulations and electrical regulation	Interpretation of regulations and standards and how they apply to situation Knowledge of the statutory and normative documentation that govern gas engineering roles
KT WL	<b>TK7</b> Emergency procedures, including gas escapes, report of fumes and for unsafe situations	Application of the appropriate emergency actions and procedures that apply to each situation where unsafe circumstances were encountered (Whether 'At Risk,' 'Immediately dangerous,' or 'RIDDOR') Correct processes followed for dealing with gas escapes
KT WL	<b>TK8</b> A knowledge and understanding of appliances	Work activities across the stated range of appliance types that consist of the chosen pathway for apprenticeship (See Annex for list of appliance types)

Key	Portfolio Assessment Elements: Knowledge	Amplification and Guidance
KT WL	<b>TK9</b> System design, location, controls, flue types for appliances and smart controls	Checks that all designs, locations, control systems and the rest meet the requirements of manufacturer's instructions and installation circumstances such as room type and usage
KT WL	<b>TK10</b> An awareness of green technologies	Customer conversations where green technology advice has been given. Areas such as ground source heat pumps, biomass and solar panels are discussed
KT WL	<b>TK11</b> The properties of Liquid Petroleum Gas (LPG)	<p>Hydrocarbon, constituting Propane and Butane</p> <p>Storage</p> <p>One of the cleanest of all alternative fuels</p> <p>Liquid under normal pressure but at ambient conditions, it is found to be gaseous</p> <p>LPG in vaporous form is two times heavier than air</p> <p>The boiling point of LPG (normally ranges between -42 degrees to 0 degree, including what the boiling point depends on (proportions are Butane and Propane present in the mixture)</p> <p>LPG's Flash point is -76 degrees Fahrenheit</p>

Key	Portfolio Assessment Elements: Knowledge	Amplification and Guidance
		Nontoxic substance. Understand the dangers if not handled carefully
<b>KT WL</b>	<b>TK12</b> An awareness of fuel storage – tanks and bottles (Liquid Petroleum Gas - LPG)	LPG awareness including the combustion properties of Liquid Petroleum Gas, its ventilation requirements, safe tank and bottle storage considerations

Key	Portfolio Assessment Elements: Skills	Amplification and Guidance
	<b>Core Skills</b>	
<b>CT WL</b>	<b>S1</b> Undertake and document rigorous risk assessments to ensure the safety of all affected by the work activities	Recording of ongoing risk assessments related to work activities, and  the application of safety measures required resulting from risk assessment
<b>CT WL</b>	<b>S2</b> Take personal responsibility for maintaining safety standards and achieving job objectives	Demonstration of safety awareness through information recorded on job records and through mentor comments

Key	Portfolio Assessment Elements: Skills	Amplification and Guidance
WL	<b>S3</b> Use and maintain tools, equipment and personal protective equipment (PPE) in a safe and appropriate manner	Safe tool and equipment usage, and selection and deployment of the appropriate PPE demonstrated
CT WL	<b>S4</b> Safe gas and electrical installation, commissioning, decommissioning and/or ongoing service and repair of gas installations and appliances needed to establish the safe operation of the equipment and installation accordance with industry standards	<p>Installation, commissioning, decommissioning, service and repair work operations being carried out in accordance with manufacturer's instructions</p> <p>Compliance with the with the requirements set out in Gas Safety (Installation &amp; Use) Regulation 26 (9):</p> <p>“Where a person performs work on a gas appliance, he/she shall immediately thereafter examine —</p> <ul style="list-style-type: none"> <li>(a) the effectiveness of any flue</li> <li>(b) the supply of combustion air</li> <li>(c) its operating pressure or heat input or, where necessary, both</li> <li>(d) its operation so as to ensure its safe functioning”</li> </ul>

Key	Portfolio Assessment Elements: Skills	Amplification and Guidance
<b>CT</b> <b>WL</b>	<b>S5</b> Work with focus and clear purpose in all conditions and locations, covering business requirements, including lone working and safely adapt working methods to reflect changes in working environments	<p>The planning of activities to successfully achieve job objectives across a range of conditions and locations</p> <p>Demonstrate knowledge of the business 'lone working' policy and knowledge of the safety measures to apply when lone working</p> <p>Can adapt working methods to suit circumstances of job</p>
<b>CT</b> <b>WL</b>	<b>S6</b> Work on customer premises/property showing appropriate care and respect whilst focusing on safety	
<b>CT</b> <b>WL</b>	<b>S7</b> Use a variety of appropriate and effective communication methods to interact with customers and others to give/receive information accurately, in a timely and positive manner in order to deliver the best possible service	<p>Customer interactions across a range of circumstances</p> <p>Communication occasions such as preparing to arrive at the job, listening to customer comments, providing best advice, completing the job, explaining the use of appliances and equipment are carried out in a manner that shows honesty, respect and professionalism</p> <p>Communication methods are appropriate in situations where difficult conversations are required i.e. the explaining to the customer why an appliance or system has been deemed to be unsafe</p>

Key	Portfolio Assessment Elements: Skills	Amplification and Guidance
<b>CT</b> <b>WL</b>	<b>S8</b> Identify where situations or conditions are to unsafe standards and take appropriate actions within your range of competency	Confirmation of understanding and application of the gas industry unsafe situations procedure (publication - IGEM/G/11)
<b>WL</b>	<b>S9</b> Achieve individual and team tasks which align to overall work objectives, be self-motivated and disciplined in the approach to work activities	Completed allocated jobs to required standards within expected time scales
<b>WL</b>	<b>S10</b> Work effectively and efficiently with people from different trades/disciplines, backgrounds and expertise to accomplish an activity in a safe manner, on time, to meet customer expectations	Comments from mentor where other trades / alternative backgrounds are encountered throughout the completion of job activities  Apprentices can recognise circumstances where activities cannot be accomplished in a safe manner in relation to the circumstances presented by other people who may have influence on the job outcome
<b>CT</b> <b>WL</b>	<b>S11</b> Identify, organise and use resources effectively and sustainably to complete the task with consideration to cost, quality, safety, security and environmental impact	Carry out tasks in an efficient manner, and apply an awareness of cost-effectiveness on tasks related to the successful completion of the job  Demonstrates consideration to safety and security in every situation

Key	Portfolio Assessment Elements: Skills	Amplification and Guidance
		Applies business and personal environmental considerations where applicable i.e., the disposal of hazardous waste, application of the company 'stock' policy
<b>CT WL</b>	<b>S12</b> Be able to read and follow technical documentation associated with equipment and installation requirements	<p>Apprentices can demonstrate successful interpretation of data contained within Manufacturer's instructions, Technical Operating Procedures and standards</p> <p>Apprentices demonstrate an ability to source and interpret technical data from online sources</p>

Key	Portfolio Assessment Elements: Technical Skills	Amplification and Guidance
	<b>Technical Skills</b>	
<b>CT WL</b>	<b>TS1</b> Carry out safe isolation essential electrical safety checks	<p>Select correct point of isolation</p> <p>Utilise Mains approved test equipment</p> <p>Apply correct means of isolation The individual elements of the test at the correct phases of the isolation process</p>

Key	Portfolio Assessment Elements: Technical Skills	Amplification and Guidance
	<b>Technical Skills</b>	
		<p>Re-test the test-kit to prove working</p> <p>Utilise Safe Isolation workflow diagram where appropriate</p> <p>Use of the correct safe isolation kit</p> <p>Comply with Regulation 14 of the Electricity at Work Regulations</p>
<b>CT WL</b>	<b>TS2</b> Demonstrate ambient air testing/carbon monoxide/dioxide atmosphere testing	<p>Utilise appropriate testing equipment and procedures to record results of testing</p> <p>Correct application of the Gas Industry Unsafe Situations Procedure when testing results demonstrate failure of conditions or atmospheres</p> <p>Apply the requirements of RIDDOR where required</p>
<b>CT WL</b>	<b>TS3</b> Carry out flue testing	<p>For new and existing flues or chimneys</p> <p>Builders' openings, masonry and pre-cast flue chimneys</p> <p>New factory-made metal flues / chimneys</p> <p>Flue tests appropriate to appliance types</p>



Key	Portfolio Assessment Elements: Technical Skills	Amplification and Guidance
	<b>Technical Skills</b>	
		<p>Flue Test as per company procedures</p> <p>Recognition of termination points, distances and hazards</p>
<b>CT WL</b>	<b>TS4</b> Undertake the necessary safety checks following gas work on an appliance (regulation 26/9)	<p>Completion of the checks required as stated previously:</p> <p>“Where a person performs work on a gas appliance, he/she shall immediately thereafter examine —</p> <ul style="list-style-type: none"> <li>(a) the effectiveness of any flue</li> <li>(b) the supply of combustion air</li> <li>(c) its operating pressure or heat input or, where necessary, both</li> <li>(d) its operation so as to ensure its safe functioning”</li> </ul>
<b>CT WL</b>	<b>TS5</b> Identify faults and take the appropriate action	<p>Application of a logical fault-finding process</p> <p>Correct fault diagnosis following logical process</p> <p>Repair of faults</p>

Key	Portfolio Assessment Elements: Technical Skills	Amplification and Guidance
	<b>Technical Skills</b>	
		<p>Ordering of correct part(s) where fault cannot be rectified during initial visit</p> <p>Application of the Gas Industry Unsafe Situations Procedure where fault diagnosis uncovers unsafe circumstances</p> <p>Apply the requirements of RIDDOR where required</p>
<b>CT WL</b>	<b>TS6</b> Identify gas safety controls and prove their safe operation	<p>Demonstration of understanding the operation of the gas safety controls per appliance type</p> <p>Correct test procedures for gas safety controls applied across the range of appliance types</p>
<b>CT WL</b>	<b>TS7</b> Undertake the installation and/or repair and maintenance of appliances	<p>Carry out appliance installations in full accordance with manufacturer's instructions</p> <p>Ensuring flueing and ventilation requirements are met</p> <p>Maintain and repair appliances utilising safe working techniques, and operate in compliance with manufacturer's instructions and company technical procedures</p>

Key	Portfolio Assessment Elements: Technical Skills	Amplification and Guidance
	<b>Technical Skills</b>	
<b>CT WL</b>	<b>TS8</b> Complete records and maintain records accordingly	<p>Evidence of completed:</p> <p>Job Reports including test results</p> <p>Method statements</p> <p>Risk assessments</p> <p>Unsafe situation and/or RIDDOR reports and labels</p>
<b>CT WL</b>	<b>TS9</b> Reinstate following completion of works cleaning up and making good	<p>All hazardous waste removed from work area in accordance with company or COSHH procedures</p> <p>Work areas is left as found</p> <p>All appliances affected by work operations are inspected and confirmed as returned to safe operation</p>
<b>CT WL</b>	<b>TS10</b> Work in compliance with statutory and normative documentation including	<p>Health &amp; Safety at Work Act</p> <p>Control of Substances Hazardous to Health procedures</p> <p>Working at Height Regulations</p>

Key	Portfolio Assessment Elements: Technical Skills	Amplification and Guidance
	<b>Technical Skills</b>	
	building regulations, water regulations and electrical regulations	<p>Provision and Use of Work Equipment Regulations (PUWER)</p> <p>Reporting of Injuries, Diseases and Dangerous Occurrences Regulations (RIDDOR)</p> <p>Building Regulations (England &amp; Wales)</p> <p>Building Standards (Scotland)</p> <p>Gas Safety (Installation &amp; Use) Regulations</p> <p>Electricity at Work Act</p>
<b>CT WL</b>	<b>TS11</b> Access and comply with technical guidance, bulletins and safety alerts e.g., Gas Industry Unsafe Situations Procedures (GIUSP)	<p>Evidence of accessing and interpreting technical guidance and standards</p> <p>Evidence of research to locate the appropriate technical guidance</p> <p>Knowledge of standards and guidance that apply to the role of Gas Engineering Operative</p>
<b>CT WL</b>	<b>TS12</b> Demonstrate tightness testing, purging and relight procedures on gas installations	<p>Evidence of the application and the recording of the outcome of the tightness testing procedure relevant to all jobs and work types</p>

Key	Portfolio Assessment Elements: Technical Skills	Amplification and Guidance
	<b>Technical Skills</b>	
		Installations and appliances are purged by the passage of the appropriate volume of gas and through the application of the correct procedure to ensure safety during purging and relight operations
<b>CT WL</b>	<b>TS13</b> Demonstrate pipework installations/pipework skills, pressure and flow/pipework sizing, meter installations	<p>Pipe installation work to include:</p> <p>Pipework sizing calculations</p> <p>The use of fittings</p> <p>Pipe bending</p> <p>Meter work during installations (safe removal and capping)</p> <p>Pressure and flow of gas</p> <p>Standing and working pressure – results and recording</p> <p>Heat Input calculations</p>

Key	Portfolio Assessment Elements: Behaviours	Amplification and Guidance
<b>CT</b> <b>WL</b>	<b>B1</b> Ensure personal wellbeing and the safety of customers and others is a priority	Dynamic risk-assessment throughout the job, taking account of environmental and human circumstances which may or may not change
<b>CT</b> <b>WL</b>	<b>B2</b> Be risk aware showing the desire to reduce risks through systematic monitoring and checking information and the strict compliance with appropriate regulations and normative documents	Constant application of the correct measures to mitigate risks to self and others Recording of risks, mitigating actions, and the application of method statements
<b>CT</b> <b>WL</b>	<b>B3</b> Demonstrate an awareness of how the work impacts on others in the work environment	Records of discussions with customers or other persons present around potential risks, the counter measures applied, and what individuals present must do to comply with the safety requirements of the environment
<b>CT</b> <b>WL</b>	<b>B4</b> Confidently deliver a polite, courteous, professional service to all customers and members of the public whilst safeguarding customer welfare and recognising vulnerability, equality and diversity	Excels in interactions with customers and members of the public  Recognition of vulnerable customers and the application of the measures or actions appropriate to the circumstances  Application of the employing business equality and diversity policy

Key	Portfolio Assessment Elements: Behaviours	Amplification and Guidance
<b>CT</b> <b>WL</b>	<b>B5</b> Undertake Continuous Professional Development to enhance knowledge and skills to maintain competence	Evidence of further training/learning such as new product or new equipment training programmes / courses attended
<b>CT</b> <b>WL</b>	<b>B6</b> Recognise personal and professional limitations and seek appropriate advice when necessary	Evidence of advice sought from mentors, line managers, coaches, manufacturers and other specialists
<b>CT</b> <b>WL</b>	<b>B7</b> Display self-discipline and self-motivated approach	Recognition through review process of attitude and approach to work and to work-life balance
<b>CT</b> <b>WL</b>	<b>B8</b> Exercise responsibilities in an ethical manner	Evidence of judging situations with fairness, taking account of all mitigating factors and the effect of one's actions on other people

## Portfolio Assessment Roles and Responsibilities

Role	Responsibility
Independent/Employer Assessor, appointed by the EUIAS	Record and report assessment outcome decisions for each apprentice, following instructions and using assessment recording documentation provided by EUIAS.
Employer/Training Provider	<p>Provide the venue for the Competency Test (practical assessment), and Interview based on the Work Log which must be suitably equipped to allow the apprentice to attempt all aspects of both assessments.</p> <p>Provide all necessary tools and equipment for the apprentice.</p> <p>Ensure the apprentice has access to the resources used on a daily basis.</p>
EUIAS	Arrange for the Competency Test (practical assessment), Work Log Review and Interview based on the Work Log to take place, in consultation with the employer/training provider and independent assessor.



## Section 3: Grading and Grading Criteria

### Component 1: Portfolio

The Portfolio Assessment component is marked out of 100.

A mark of 70 – 84 is a Pass and 85 or more is a Distinction.

The Portfolio mark is made of marks from each of the four stages.

#### Portfolio Assessment – Stage 1: Gas Safe® Registration

Gas safe® registration for the relevant appliances contributes 10 marks to the overall Portfolio score.

#### Portfolio Assessment – Stage 2: Competency Test (Practical Assessment)

There are four tasks in this competency test. The four tasks will be based on the apprentice's four appliance categories for which the apprentice gained Gas Safe® registration and must be submitted at Gateway.

##### The four tasks are:

**Task 1:** Install and commission appliance or system

**Task 2:** Service /maintain appliance or system

**Task 3:** Repair fault on appliance or system

**Task 4:** Decommission appliance or system

There are a maximum of 20 marks available for the competency test. The minimum mark to pass this stage is 16 marks. The knowledge, skills and behaviours are grouped into 11 areas.

Competency Test (Practical Assessment) KSBs	Indicative Pass Criteria
<b>Group 1:</b> Operational /Installation	<ol style="list-style-type: none"> <li>1. Appliance location deemed suitable</li> <li>2. Appliance clearances correct</li> <li>3. Flue chimney installed correctly</li> <li>4. Appliance Ventilation deemed correct</li> </ol>



Competency Test (Practical Assessment) KSBs	Indicative Pass Criteria
	<ul style="list-style-type: none"> <li>5. Appliance commissioned correctly</li> <li>6. Flue/spillage-testing is correctly carried out</li> <li>7. Safety information correctly recorded</li> <li>8. Identifies gas safety controls and proves safe operation</li> <li>9. Completes and maintains records accordingly</li> <li>10. Gas supply installed satisfactorily</li> <li>11. Pipe jointing methods are correct</li> <li>12. Gas supply pipe correctly sized</li> </ul>
<b>Group 2:</b> Electricity Safety	1. Applies correct electrical test requirements:
	I. Confirms correct polarity
	II. Understands company policy requirements
	III. Applies the correct policy requirements
	IV. Safe procedure for electrical isolation
	V. Fuse Rating Check
	VI. Proves isolation through appropriate testing
<b>Group 3:</b> Health, Safety and Environment	VII. Applies measures to ensure supply remains isolated throughout the works
	1. Continuous risk assessment throughout job
	2. Maintains safety standards throughout job
	3. Appropriate customer safety management
	4. Risk Assessments are documented

Competency Test (Practical Assessment) KSBs	Indicative Pass Criteria
	<b>5.</b> Correct PPE worn and utilised throughout
	<b>6.</b> Re-instate following completion of works
	<b>7.</b> Takes account of any customer vulnerability
	<b>8.</b> Job objectives achieved
<b>Group 4:</b> Tightness Testing and Purging	Tightness testing and purging must be carried out correctly as per IGEM/UP/1B
<b>Group 5:</b> Ventilation Checks + Sizing	Ventilation sizing and checks must be carried in accordance with Manufacturer's Instructions or where Manufacturer's Instructions are absent, BS 5440-2
<b>Group 6:</b> Operating Pressure and Gas Rate	Correlation between operating pressure, heat input and gas rates of an appliance
<b>Group 7:</b> Service and Maintenance	<b>1.</b> Checks operation of appliance
	<b>2.</b> Combustion Performance Tests carried out (Complete Report Below)
	<b>3.</b> Isolates gas/electric/water as necessary
	<b>4.</b> Strip Down service as per Manufacturer's instructions
	<b>5.</b> Carries out appropriate flue tests including flue-flow and spillage
	<b>6.</b> Checks ventilation size and route
	<b>7.</b> Heat exchanger and case seal tests
	<b>8.</b> Gas Safety Reg. 26 (9) checks after work
	<b>9.</b> Provides Energy Efficiency and product advice and guidance

Competency Test (Practical Assessment) KSBs	Indicative Pass Criteria
<b>Group 8:</b> Fault Diagnosis and repair 26 (9)	Trace and repair the fault in a safe manner utilising recognised checks and tests to confirm cause and effect
<b>Group 9:</b> Decommission Appliance and/or system	Decommission work in accordance with manufacturer's instructions and the relevant regulations, standards, codes of practice and company operating procedures
<b>Group 10: Behaviours &amp; Core Skill 7</b> <b>B1</b>	Ensure personal wellbeing and the safety of customers and others is a priority, working on customer premises/property showing appropriate care and respect whilst focussing on safety
<b>B2</b>	Be risk aware showing the desire to reduce risks through systematic monitoring and checking information and the strict compliance with appropriate regulations and normative documents
<b>B3</b>	Demonstrate an awareness of how the work impacts on others in the work environment and identify, organise and use resources effectively and sustainably to complete the task with consideration to cost, quality, safety, security and environmental impact
<b>B4</b>	Confidently deliver a polite, courteous, professional service to all customers and members of the public whilst safeguarding customer welfare and recognising vulnerability, equality, and diversity
<b>CS7</b>	Uses a variety of communication methods to interact with customers and others to give / receive information accurately, in a timely and positive manner in order to deliver the best possible service

Competency Test (Practical Assessment) KSBs	Indicative Pass Criteria
<b>B8</b>	Display self-discipline and self-motivated approach, working with focus and clear purpose in all conditions and locations. Can state the business requirements around lone working
<b>Group 11</b> Unsafe Situations (assessed with supplementary questions)	At Risk and Immediately Dangerous situation (IGEM/G/11) and RIDDOR

### Portfolio Assessment – Stage 3: Work Log Review

The apprentice must demonstrate all core KSBs including the specific technical knowledge and skills in an integrated way. The Work Log Review is assessed and carried by the employer/independent assessor approved by the EUIAS.

The work log is marked out of 50. The minimum mark to pass this stage is 34 marks. The knowledge, skills and behaviours are grouped in to six areas, each with a maximum number of marks available which are shown below:

1. Working Safely (10)
2. Demonstrating Technical Knowledge (10)
3. Industry Standards, Legislation, Processes and Procedures (6)
4. Demonstrating Technical Skills (12)
5. Customer Service / Working with others (6)
6. Behaviours (6)

The table below provides the standard that is to be met. There are 6 areas and, in each area, a minimum score of 1 mark for each standard can be achieved, and 2 marks where quality exceeds the minimum requirement to a maximum score of 10.

A mapping document has been provided that the apprentice can use to reference and record evidence in their work log. See Appendix H in GEO Supporting Documents 'Practice Interview based on the Work Log Template.'

Work Log Review KSBs	Indicative Pass Criteria
<b>Group 1: Working Safely</b>	
<b>S1</b>	Undertake and document rigorous risk assessments to ensure the safety of all affected by the work activities
<b>S2</b>	Take personal responsibility for maintaining safety standards and achieving job objectives
<b>S3</b>	Use and maintain tools, equipment, and personal protective equipment (PPE) in a safe and appropriate manner
<b>S5</b>	Work with focus and clear purpose in all conditions and locations, covering business requirements, including lone working and safely adapt working methods to reflect changes in working environments
<b>S6</b>	Work on customer premises/property showing appropriate care and respect whilst focusing on safety
<b>Group 2: Demonstrating Technical Knowledge</b>	
<b>K2; S4</b>	Safe gas and electrical installation, commissioning, decommissioning and/or ongoing service and repair procedures of gas installations and appliances needed to establish the safe operation of the equipment and installation in accordance with industry standards
<b>K3</b>	Gas and electrical theories and procedures involved in the practical installation, commissioning, decommissioning and/or ongoing service and repair of gas installations, appliances, and associated equipment
<b>TK1</b>	Electrical awareness and be able to carry out safe isolation and essential electrical safety checks
<b>TK6</b>	The statutory and normative documentation including building regulations, water regulations and electrical regulations

Work Log Review KSBs	Indicative Pass Criteria
<b>TK7</b>	Emergency procedures, including gas escapes, report of fumes and for unsafe situations
<b>Group 3: Industry Standards, Legislation, Processes and Procedures</b>	
<b>S8</b>	Identify where situations or conditions are to unsafe standards and take appropriate actions within your range of competency
<b>S12</b>	Be able to read and follow technical documentation associated with equipment and installation requirements
<b>TS8</b>	Complete and maintain records accordingly
<b>TS11</b>	Access and comply with technical guidance, bulletins, and safety alerts e.g., Gas Industry Unsafe Situations Procedures (GIUSP)
<b>Group 4: Demonstrating Technical Skills</b>	
<b>K4</b>	Application of relevant electrical/mechanical principles and how they are applied in work processes and procedures
<b>TS1</b>	Carry out safe isolation essential electrical safety checks
<b>TS2 TS3</b>	Demonstrate ambient air testing/carbon monoxide/dioxide atmosphere testing, flue-flow and spillage testing
<b>TS4</b>	Undertake and record the details of the necessary safety checks following gas work on an appliance (Reg. 26/9)
<b>TS5</b>	Identify faults and take the appropriate action to rectify
<b>TS6 TS7</b>	Undertake the installation and commissioning of appliances, including identification of gas safety controls and prove their safe operation
<b>TS7</b>	Undertake the maintenance AND repair of appliances/systems
<b>TS9</b>	Reinstate following completion of works cleaning up and making good

Work Log Review KSBs	Indicative Pass Criteria
<b>TS12</b>	Demonstrate tightness testing, purging and relight procedures on gas installations
<b>TS13</b>	Demonstrate pipework installations/pipework skills, pressure and flow/pipework sizing, meter installation
<b>Group 5: Customer service and working with others</b>	
<b>K5</b>	Up to date energy efficiency advice and guidance to be given to the customer
<b>K6</b>	Product knowledge to be able to discuss and advise the customer
<b>S7</b>	Use a variety of appropriate and effective communication methods to interact with customers and others to give/receive information accurately, in a timely and positive manner in order to deliver the best possible service
<b>S9</b>	Achieve individual and team tasks which align to overall work objectives, be self-motivated and disciplined in the approach to work activities
<b>S10</b>	Work effectively and efficiently with people from different trades/disciplines, backgrounds and expertise to accomplish an activity in a safe manner, on time, to meet customer expectations
<b>S11</b>	Identify, organise, and use resources effectively and sustainably to complete the task with consideration to cost, quality, safety, security, and environmental impact
<b>Group 6: behaviours</b>	
<b>B1</b>	Ensure personal wellbeing and the safety of customers and others is a priority



Work Log Review KSBs	Indicative Pass Criteria
<b>B2</b>	Be risk aware showing the desire to reduce risks through systematic monitoring and checking information and the strict compliance with appropriate regulations and normative documents
<b>B3</b>	Demonstrate an awareness of how the work impacts on others in the work environment
<b>B4</b>	Confidently deliver a polite, courteous, professional service to all customers and members of the public whilst safeguarding customer welfare and recognising vulnerability, equality, and diversity
<b>B5</b>	Undertake Continuous Professional Development to enhance knowledge and skills to maintain competence
<b>B6</b>	Recognise personal and professional limitations and seek appropriate advice when necessary
<b>B7</b>	Display self-discipline and self-motivated approach
<b>B8</b>	Exercise responsibilities in an ethical manner

#### Portfolio Assessment – Stage 4: Interview based on the Work Log

The interview based on the Work Log is conducted under examination conditions and recorded. The apprentice will be asked 10 questions in total. Each question has two parts and each question has two marks available. There are a maximum of **20 marks** for the interview. The apprentice must score at least one mark for each question in order to achieve a Pass in the Interview based on the Work Log.

Interview based on the Work Log KSBs	Indicative Pass Criteria
<b>K1</b>	Current health and safety standards, regulations, legislations and environmental regulatory requirements

Interview based on the Work Log KSBs	Indicative Pass Criteria
<b>K7</b>	Gas and Electrical regulations concerning the practical installation, commissioning, decommissioning and/or on-going service and repair of gas installations, appliances and associated equipment
<b>K8 TS10</b>	The statutory and normative documentation including building regulations, water regulations and electrical regulations, company rules, policies and procedures as defined by the employer
<b>K2 S4</b>	Safe gas and electrical theories and procedures involved in the practical installation, commissioning, decommissioning and / or on-going service and repair of gas installations, appliances and associated equipment
<b>TK2</b>	Combustion, combustion analysis, gas properties, carbon monoxide (CO), and types of burners
<b>TK3</b>	Flues and ventilation principles
<b>TK4</b>	The necessary safety checks following gas work on an appliance (GSR 26/9)
<b>TK5 TK8 TK9 TK10</b>	The range and suitability of appliances, a knowledge and understanding of appliances, system design, location, controls, flue types for appliances and smart controls, an awareness of green technologies
<b>TK7</b>	Emergency procedures, including gas escapes, report of fumes and unsafe situations
<b>TK11 TK12</b>	The properties of Liquid Petroleum Gas (LPG) An awareness of fuel storage – tanks and bottles (Liquid Petroleum Gas - LPG)

Interview based on the Work Log KSBs	The apprentice will be asked a question on each of the following:
<b>K1</b>	Health and safety standards, regulations, environmental legislations and regulatory requirements
<b>K7</b>	Gas and Electrical regulations concerning the practical installation, commissioning, decommissioning and/or on-going service and repair of gas installations, appliances and associated equipment
<b>K8 TS10</b>	The statutory and normative documentation including building regulations, water regulations and electrical regulations, company rules, policies and procedures as defined by the employer.
<b>K2 S4</b>	Safe gas and electrical theories and procedures involved in the practical installation, commissioning, decommissioning and/or on-going service and repair of gas installations, appliances and associated equipment.
<b>TK2</b>	Combustion, combustion analysis, gas properties, carbon monoxide (CO), and types of burners.
<b>TK3</b>	Flues and ventilation principles.
<b>TK4</b>	The necessary safety checks following gas work on an appliance (GSR 26/9).
<b>TK5 TK8 TK9 TK10</b>	The range and suitability of appliances, a knowledge and understanding of appliances, system design, location, controls, flue types for appliances and smart controls, an awareness of green technologies.
<b>TK7</b>	Emergency procedures, including gas escapes, report of fumes and unsafe situations.
<b>TK11 TK12</b>	The properties of Liquid Petroleum Gas (LPG) An awareness of fuel storage – tanks and bottles (Liquid Petroleum Gas - LPG).

## Component 2: Knowledge Test

The following grade boundaries apply to the knowledge test:

Grade	Minimum mark	Maximum mark
Fail	0	31
Pass	32	35
Distinction	36	40

### Overall grading

The apprenticeship will be graded distinction, pass or fail. The final grade will be determined by collective performance in the two assessment components. A points system will determine if the apprentice has achieved a distinction, pass or fail and is described below:

- **Distinction – 10 points** (7.0 points for the portfolio + 3 points for the knowledge test).
  - An apprentice will only achieve a distinction if they have performed at distinction level in both the portfolio and knowledge test.
- **Pass – 5 points** (3.5 points for the portfolio + 1.5 points for the knowledge test).
  - An apprentice will only achieve a pass if they have performed at pass level in both the portfolio and knowledge test.

Portfolio %	Points	Grade	Knowledge Test %	Points	Grade
85 – 100	7.0	Distinction	90 – 100	3.0	Distinction
70 – 84	3.5	Pass	80 – 89	1.5	Pass
<69	0	Fail	<79	0	Fail

## Section 4: Resits and retakes

Apprentices who fail one or more EPA components can re-sit or re-take the failed component at the employer's discretion. The apprentice's employer needs to agree that a re-sit or re-take is appropriate. A re-sit does not need further learning, but a re-take does. Apprentices should have a supportive action plan to prepare for a re-sit or a re-take.

The employer and EUIAS agree the timescale for a re-sit or re-take. Failed EPA components must be re-sat or re-taken within the 3 month end-point assessment period, otherwise the EPA will need to be re-sat or re-taken in full.

**IMPORTANT NOTE:** Apprentices will **ONLY** be allowed **ONE RE-SIT** if they fail their knowledge test.

Re-sits and re-takes are not offered to apprentices wishing to move from pass to a higher grade.

An apprentice will get a maximum EPA grade of pass for a re-sit or re-take.

The EUIAS re-sit and re-take policy can be found at:  
<https://www.euias.co.uk/end-point-assessment/policies-and-fees/>

## Section 5: Practice Guidance

### Competency Test (Practical Assessment) and Planning Form

#### Purpose

The EUIAS provide an optional Practical task(s) review service to assist with planning for all employers/training providers with apprentices registered on this standard. To access the service, see Appendix D in GEO Supporting Documents 'Level 3 GEO Competency Test (Practical Assessment) and Planning Form.'

The purpose of the review service is to provide support in ensuring that the practical task(s), test facilities, necessary equipment, tools and controlled conditions are in place to allow the practical task(s) to take place. The review helps ensure the proposed practical task(s) are sufficiently complex to allow the apprentice to demonstrate the required knowledge, skills and behaviours against the relevant elements of the Gas Engineering Operative (GEO) Assessment Plan.

Details of the relevant elements are included in Section 2 of the Specification.

Tasks should be designed to allow variation to be introduced, reducing predictability.

Competency test must be conducted in different realistic working environments.

The employer/training provider must ensure:

- the competency test enables the assessment of four appliance in different working environments
- it makes use of existing test facilities, which will be familiar to the apprentice and therefore allow them to perform at their best
- the equipment and tools are available

The employer/training provider must ensure that the practical task(s) is developed to allow the independent/employer assessor to observe the apprentice synoptically demonstrate core and specific KSBs.

#### Submitting the form to EUIAS

The employer/training provider should complete and submit the 'Level 3 GEO Competency Test (Practical Assessment) Planning Form' to the EUIAS Service Delivery Team for approval 1 month before the Competency Test (Practical

Assessment). The form should be accompanied by photographs and or videos of the four appliances and equipment areas, including practical tasks/ briefs which the apprentice will be working on.

### EUIAS Review Process

The EUIAS review process will be conducted by EUIAS. The outcomes will be shared with the employer/training provider no later than 5 working days following the review.

**Please be aware:**

- Practical task(s) review does not guarantee that the apprentice will pass the practical task
- No health and safety risk assessment will be carried out by EUIAS
- EUIAS review does not remove any of the training provider obligations to ensure full coverage of the standard, and full compliance with relevant legislation
- EUIAS review is based only on information supplied and is not a guarantee that the Competency Test (Practical Assessment) task(s), selected equipment and tools on the day will be sufficient for an EPA practical task
- The information provided in this Level 3 GEO Competency Test (Practical Assessment) Planning Form must not be shared with the apprentice

### Preparing for the Competency Test (Practical Assessment)

Where possible, the employer/training provider should provide the apprentice with the opportunity to carry out a practice competency test as close to the real assessment described in Section 2 of this Specification (Component 1).

The employer/training provider should prepare a practical task similar to (but not identical to) the tasks being used for the live assessment. A suitable person should be chosen to play the part of the assessor.

A template is provided to help ensure that the activities assessed during the competency test will give complete coverage of the standard. See Appendix E in GEO Supporting Documents 'Practice Competency Test (Practical Assessment) Template.'

## Preparing for the Interview

A practice interview should take place between the apprentice and the person acting the role of an assessor. The apprentice should draw on evidence in their work log during the discussion.

## Guidance on the Work Log

The work log is assessed. It serves the following purpose:

- Provides the opportunity to demonstrate the core and specific KSBs required across the standard
- The assessor reviews and assesses the work log before the interview to help focus and contextualise their questions
- A carefully prepared mapped work log supports the apprentice during the interview

### Quality vs quantity

The apprentice should be supported in selecting and mapping evidence for their work log in the mapping document. They must gather evidence on the full range of KSBs required by the standard and be assessed on particular tasks or procedures or items of equipment during their competency test (practical assessment). Safe isolation of operational equipment for maintenance is one example of this type of competency test (practical assessment), applicable to those working in gas engineering.

The work log must be sufficient to evidence the apprentice can apply the KSBs required in a variety of tasks.

In theory one comprehensive job-write up could cover all the required KSBs. In practice, this is more likely to be in several job write-ups plus a few smaller pieces of evidence targeting specific elements of the standard.

Choose the best pieces of evidence that have been mapped for each KSB covered by the Interview based on the work log. An independent assessor will look for one suitable piece of evidence for each KSB. To be confident of meeting the standard, apprentices should aim to have two pieces of evidence mapped to each KSB. Progress review documents should also be included.



Examples of acceptable evidence:

- that is mapped against the relevant KSBs that will be assessed by the interview based on the work log
- workplace documentation/records, for example job task sheets/job card/times sheets, equipment maintenance /service records related to the apprentice
- witness statements signed and dated by coaches/trainers
- any employer contributions should focus only on direct observation of evidence (for example witness statements) rather than opinions
- annotated photographs/diagrams
- video clips (maximum total duration 10-minutes); the apprentices must be in a view and identifiable

The above is not a definitive list. The apprentice can include other relevant evidence sources. The portfolio must not contain any methods of self-assessment.

Evidence must be:

- produced by the apprentice (authentic)
- relevant to the standard (K, S or B) that it is mapped to
- produced during the time the apprentice is carrying out their on-programme training

### What to include in the Work Log?

The work log of evidence:

- must contain a mapping document where evidence is mapped against the KSBs. A template has been produced to help the apprentices with collecting and mapping their evidence. A copy of the template is included. See Appendix I in GEO Supporting Documents 'Work Log Mapping Document'
- must contain evidence related to the KSBs that will be assessed by the interview based on the work log
- must contain progress review documentation
- will typically contain ten quality discrete pieces of evidence
- will be available, during the interview, allowing the apprentice to refer to it

### What can the apprentice do?

The apprentice should:

- be familiar with the structure of their work log
- know the KSBs covered by the Interview based on the work log
- know the grading criteria
- ensure there is evidence to cover every KSB in the Interview based on the work log
- practise mapping evidence and completing the evidence mapping grid

### The role of the employer/training provider

Employer/training providers are expected to support the apprentice in preparing their work log by:

- clarifying responsibility for supporting the apprentice to select and map evidence for the work log, including employer coaches/mentors where applicable
- advising on which pieces of evidence to select to ensure that when looked at as a whole, they provide coverage of all the required elements of the standard assessed in the interview
- supporting the mapping of evidence and production of a mapping document
- authenticating evidence as valid
- signing off the work log
- submitting the work log to EUIAS as part of Gateway

### What to expect in the practice Interview based on the Work Log?

The practice Interview based on the work log provides the apprentice with the opportunity to practice discussing their KSBs gained throughout their on-programme and by referring to evidence from their work log using the mapping document. A suitable person should be chosen to play the part of the assessor. A practice Interview based on work log template is provided to use to prepare the appropriate questions to ask and to record the apprentices' performance in the practice Interview based on the work log. See Appendix H in GEO Supporting Documents -Practice Interview based on the Work Log Template.'

As part of the practice exercise, apprentices should have access to their work log to support their responses.

## Preparing for the Knowledge Test

While on-programme, the employer and/or training provider should brief the apprentice on the areas to be assessed by the knowledge test, as detailed in Section 2 in this specification. It is good practice to identify the areas within the learning programme where the relevant knowledge is delivered, ensuring that apprentices are aware that elements of these might come up in the test.

The knowledge test is aligned to the standard rather than a specific job role that the apprentice may be doing. The questions have been written to reflect the gas engineering operative role as a whole and are not focussed on specific plant, machinery, or employer-specific processes.

In readiness for end-point assessment, the apprentice should complete a practice knowledge test. This should be undertaken in advance of the live knowledge test, with enough time to mark the test, and provide feedback to the apprentices. See Appendix C in GEO Supporting Documents for 'Practice knowledge test.'

For maximum effect, ensure the test is taken in exam conditions similar to those that will be experienced in a live test.

## Section 6: Authenticity and security of apprentice work

The apprentices must be advised by their training provider and employer that copying of any work (whether it is from another apprentice or from internal, external documents or source) and presenting it as their own will be deemed as malpractice and will lead to their work being disqualified. Apprentices must not share their work or allow any person to copy their work as this is not allowed and would also be deemed as malpractice.

In signing off the work log, training providers and employers must be satisfied that the evidence in the work log is:

- **adequate:** evidence must cover all relevant KSBs within the assessment plan. Adequate does not mean a large quantity of evidence. The evidence should focus on quality rather than quantity
- **authentic:** apprentices must be able to confirm and talk about the evidence that they submit with the independent/employer assessor, appointed by the EUIAS. It is vitally important apprentices only submit evidence relating to them
- **appropriate:** all evidence must be relevant to the KSBs assessed during the interview
- **recent and up to date:** all evidence linked to KSBs must be recent and current which demonstrate the apprentice's competence. The independent/employer assessor, appointed by the EUIAS will assess current competencies, and the apprentice must map the evidence to demonstrate the relevant work to the KSB. Apprentices must gather the evidence during their on-programme training.



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