ENERGY & ENVIRONMENT AWARDS

Skills for a greener world

EEA Level 3 End-point Assessment for Gas Engineering Operative

Specification

QAN 610/6035/5
ST0155 V1.2

Specification for

EEA Level 3 End-point Assessment for Gas Engineering Operative

QAN 610/6035/5

Updates to this specification

Since the first publication of Energy & Environment Awards Gas Engineering Operative Specification (GEO), the following updates have been made.

Version	Date first published	Section updated	Page(s)
v2.0	August 2025	Rebranded	All
v1.0	August 2024	First published	All

Section 1: At a Glance EPA Summary

Qualification name	EEA Level 3 End-point Assessment for Gas Engineering Operative
Ofqual qualification number	610/6035/5
Standard reference	ST0155
Assessment plan	V1.2
Standard title	Gas Engineering Operative
Level	3
Gateway pre-requisites submitted to Energy & Environment Awards	Apprentice has: • confirmed they are ready to take the EPA • achieved English and mathematics qualifications in line with the apprenticeship funding rules • IGEM IG/1 Supplement 2 Certificate (Natural Gas) or IGEM IG/1 supplement 4 certification (LPG) • Matters of Gas Safety Competency Accreditations • compiled and submitted a portfolio of evidence, which the interview will be based
On-programme duration	Typically 18 months
Gateway readiness	Apprentice has met all Gateway pre-requisites. Employer completes, signs and submits Gateway Eligibility Form (GER) form to Energy & Environment Awards. See Appendix B, Gas Engineering Operative Supporting Documents 'Gateway Eligibility Form.'

End-point assessment duration	Typically 3 months after the Gateway
End-point assessment methods and their order	The assessment components can be delivered in any order. The result of one assessment method does not need to be known before starting the next: • Practical Assessment with questions • Interview (based on a portfolio of evidence) • Multiple-choice Test
End-point assessment methods and component grading	Practical assessment with questions: Fail; Pass; or Distinction Interview based on a portfolio of evidence: Fail; Pass; or Distinction Multiple-choice test: Fail; Pass; or Distinction
Overall Grading	Fail; Pass; Merit or Distinction
Certification	Energy & Environment Awards request Apprenticeship completion certificates from the ESFA
Glossary of Terms	Appendix A, Gas Engineering Operative Supporting Documents

Objective

The purpose of the Gas Engineering Operative (GEO) end-point assessment (EPA) is to confirm 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 job role:

- Gas Engineering Operative

Professional recognition

The apprenticeship standard meets the professional standards of the Institution of Gas Engineers and Managers (IGEM) for Engineering Technician (EngTech)

Gateway Readiness

Gateway takes place before the EPA can start. The employer and training provider will review their apprentice's knowledge, skills and behaviours to see if they have met the minimum requirements of the apprenticeship set out in the apprenticeship standard and are ready to take the assessment. Only apprentices who complete gateway successfully can start the EPA. Gateway pre-requisites are listed in the summary table above. The Gateway Eligibility Form must be completed see GEO Supporting Documents Appendix B.

Recognition of prior learning (RPL)

Energy & Environment Awards 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 Energy & Environment Awards RPL and RPA policy at https://energyenvironmentawards.co.uk/policies-and-fees/

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

- each of the EPA components must be completed in full with Energy & Environment Awards
- where an apprentice transfers to Energy & Environment Awards from another EPAO they have to undertake the entire EPA with Energy & Environment Awards
- 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: Practical Assessment with questions

Overview

In the practical assessment with questions, an independent assessor, approved by Energy & Environment Awards, will observe the apprentice completing a set task or a series of set tasks in an environment agreed with Energy & Environment Awards. The environment must closely relate to their natural working environment. The apprentice will have the opportunity to demonstrate the application of the relevant knowledge, skills and behaviours (KSBs) mapped to the practical assessment with questions.

The independent assessor will ask questions before or during the assessment. To remain as unobtrusive as possible, the independent assessor will ask questions during natural breaks between tasks and after completion of work rather than disrupting the apprentice's flow.

The following table below outlines the procedure for conducting a practical assessment with questions:

Assessors	1 Independent assessor, approved by Energy & Environment Awards.
Practical structure	The practical assessment with questions must take 12 hours and be completed over 2 consecutive days. The independent assessor can increase the duration of the practical assessment by up to 10% to allow the apprentice to complete a task or respond to a question if necessary. The independent assessor must ask a minimum of 3 questions during or after the practical assessment. The assessor must ask questions from Energy & Environment Awards question bank or create their own in line with training from Energy & Environment Awards. The time for questioning is included in the overall assessment time. The independent assessor can ask follow-up questions to clarify answers given by the apprentice. These questions are in addition to the above set number of questions for the practical assessment.

	The practical assessment with questions cannot be split, other than for breaks. There may be breaks during the practical assessment with questions to allow the apprentice to move from one location to another and for meal/comfort breaks. During these breaks, the clock will be stopped and then restarted to ensure that the assessment duration is not reduced. The independent assessor may observe a maximum of 4 apprentices at the same time.
Where will the assessment take place?	The practical assessment with questions must take place in a simulated environment, selected by Energy & Environment Awards, which relates to the apprentice's natural work environment.
What are the tasks that will be covered?	The apprentice must only undertake tasks on appliances or equipment that they have attained '**Matters of Gas Safety Competency Accreditations**'. The apprentice must: • install, commission and decommission three different appliances or pieces of equipment from Table 1 (Primary) and one appliance or piece of equipment from Table 2 (Secondary • also conduct maintenance, servicing and fault-finding procedures on one appliance or piece of equipment from Table 1 (Primary), including the rectification of a pre-loaded fault. **Table 1 (Primary)** • central heating and water heating system • domestic cooker • gas ranger cooker or boiler • ducted air heater • forced draught gas burner • gas fire and wall heater • LPG single gas storage vessel and service pipework • LPG single and multi supply gas storage vessel and service pipework • testing and purging of non-domestic pipework

	Table 2 (Secondary) • swimming pool boiler • domestic tumble dryer • leisure appliance (for example fixed pipework gaslight or barbeque) • instantaneous water heater • gas meter (not exceeding 6m^3 per hour in capacity) • mobile cabinet heater • closed flue gas fire • caravan space heater • single bottle supply leisure equipment (for example LPG barbeque) • caravan or boat refrigerator • caravan or boat warm air heater • caravan water heater • electro-fusion jointing of polyethylene pipework and fittings The independent assessor should observe the following during the assessment: • compliance with health and safety legislation and regulations • use of PPE, safe use of tools and digital equipment • interpret and follow instruction from technical documentation • installation, commissioning and decommissioning of appliances or pieces of equipment • fault-finding procedures and rectification of a fault • reinstation of the work area • provision of guidance specific to the appliance(s) These activities provide the apprentice with the opportunity to demonstrate the KSBs mapped to this assessment method. **For further details refer to 'Knowledge, Skills and Behaviours (KSBs) Coverage' below.**
Who sets the task(s)?	Energy & Environment Awards will work with the employer and/or training provider to review the practical task briefs/job task sheets which are based on the activities described above.

	The assessor must provide the apprentice with information on the tasks they are to complete, including timescales, before the start of the practical assessment.
What resources can the apprentice use?	Apprentices must have access to work instructions/manuals relating to the equipment/service for reference purposes. These can be electronic and/or hard copy. Where practical assessments take place on the employer's site, it is anticipated that the employer will make the necessary equipment and tools available.
How many questions will the apprentice be asked?	The independent assessor: • will ask a minimum of 3 questions • may ask follow-up questions in order to seek clarification
What will the questions focus on?	The purpose of the questioning is to assess the apprentice's level of competence against the grading descriptors.
Grading	Fail, Pass, or Distinction.

Practical Assessment with questions Knowledge, Skills and Behaviours (KSBs) coverage

The practical assessment with questions covers:

Practical Assessment with questions Theme: Health and Safety	Amplification and Guidance (where required)
K2 Gas Industry Unsafe Situations Procedure (IGEM G11) **S15** Identify unsafe situations or conditions and take action under IGEM G/11 Gas industry unsafe situations procedure.	• Dealing with Unsafe Situations • Gas Incidents • Reporting of Injuries, Diseases and Dangerous Occurrences Regulations (RIDDOR) • Categorising situations • Appliance/Installation risk • Classification process • Communication unsafe situations to customers

K3 Risk assessments, associated procedures and documentation
 	
S10 Undertake and document risk assessments.
	• Principles of risk assessment including:
	  ○ identification of hazard
	  ○ think about who might be harmed
	  ○ evaluate the risk (Likelihood/Severity)
	  ○ recording significant findings (Generic or company risk assessment documentation)
	  ○ review the risk assessment
	• Accidents and Near Misses

Practical Assessment with questions Theme: Health and Safety	Amplification and Guidance (where required)

K12 Domestic electrical circuits, safe isolation and electrical safety checks in relation to the work being conducted.
 	
S8 Isolate the electrical supply to the appliance.
 	
S9 Conduct electrical safety checks pre- and post-work.
	• Understanding and performance of Safe Isolation Procedure (Technical Bulletin: TB118a)
	• Knowledge of 'Safe to touch' equipment including:
	  ○ no contact live circuit detectors
	  ○ two pole voltage indicator/test lamps
	  ○ proving Units
	• Locking off methods
	• Understanding and performance of electrical safety checks including:
	  ○ earth continuity
	  ○ resistance to Earth
	  ○ short Circuit
	  ○ polarity
	  ○ fuse ratings
	• Earth equipotential bonding
	• Domestic circuits including central heating wiring
	• Knows the appropriate actions to take where faulty electrical circuits or equipment are found

S1 Comply with health and safety practices. **B1** Prioritise health and safety.	• Understand the responsibilities within Health and Safety at Work Act 1974 • Employer and Employee Duties • Compliance with regulations including the following examples: Control of Asbestos, Electricity at Work, RIDDOR, PUWER, Working at

Practical Assessment with questions Theme: Health and Safety	Amplification and Guidance (where required)
	Heights, PPE, Working on Site, Fire and First Aid *(This is not an exhaustive list)* • Understanding the responsibilities of the Health and Safety Executive (HSE) • The use of signs, safety notices and labels
S13 Select and use personal protective equipment (PPE).	• Requirements of PPE at work regulations or company operational procedures • Care of PPE • Employer and Employee Duties • Information, instruction and training • Procedure for loss or defective PPE

Practical Assessment with questions Theme: Documentation	Amplification and Guidance (where required)
K19 General Data Protection Regulations (GDPR). **S17** Complete and maintain work records including appliance and customer data in accordance with General Data Protection Regulations (GDPR).	• Understanding the personal requirements of UK GDPR and The Data Protection Act 2018 • Data Protection principles • The definition of 'Personal information' • The use of personal data by your business/organisation • Compliance with UK GDPR

Practical Assessment with questions Theme: Documentation	Amplification and Guidance (where required)
S11 Source, read and follow technical documentation associated with equipment and installation requirements.	• Manufacturer Instructions • User documents • British Standards • Building Regulations – Approved Documents • Gas Safety Installation and Use Regulations (GSIUR) 1998 • Electricity at Work Regulations 1989 • Water Regulations 1999
S14 Check and action inspection records and schedules.	• Pre-installation documentation including specification and quotations • Post installation documentation including manufacturer instructions specifically the commissioning criteria and Benchmark • Handover documents including safety instructions, installation and user manuals • Landlord certificates • Unsafe situation records • Service history • Service schedule requirements
S16 Use digital technology to access job, appliance and customer information.	• Customer Service, technical helpdesk/web chat • Online Manufacturer Instructions • Internal and external customer information • Fault finding diagnostics • Company laptops/digital tools examples including: ○ gas rates, pipe sizing

Practical Assessment with questions Theme: Documentation	Amplification and Guidance (where required)
	○ heat loss calculations and radiator sizing • Combustion Analysers

Practical Assessment with questions Theme: Installation	Amplification and Guidance (where required)
K6 Installation and commissioning practices and techniques applicable to primary gas appliances **S2** Install and commission a range of primary appliances, for example central heating boilers, gas cookers, space heaters.	• Appliances include: ○ central heating and water heating systems ○ domestic cookers ○ gas range cooker or boiler ○ ducted air heater ○ forced draught gas burner ○ gas fire and wall heater ○ LPG single gas storage vessel and service pipework ○ LPG single and multi supply gas storage vessel and service pipework ○ testing and purging of non-domestic pipework • System Design • Installation in accordance with the Manufacturer Instructions • Setting up appliance in accordance with the Manufacturer Instructions • Completion of gas safety regulation 26/9 checks • Care of customer's property and reinstate/repair building

Practical Assessment with questions Theme: Installation	Amplification and Guidance (where required)

K7 Installation and commissioning practices and techniques applicable to secondary gas appliances.
 	
S3 Install and commission a range of secondary appliances, for example laundry appliances, water heaters and gas meters (not exceeding 6m^3 in capacity).
	• Appliances include:
	  ○ swimming pool boiler
	  ○ domestic tumble dryer
	  ○ leisure appliance (for example, fixed pipework gaslight or barbeque)
	  ○ instantaneous water heater
	  ○ gas meter (not exceeding 6m^3 per hour in capacity)
	  ○ mobile cabinet heater
	  ○ closed flue gas fire
	  ○ caravan space heater
	  ○ Single bottle supply leisure equipment (for example LPG barbeque)
	  ○ caravan or boat refrigerator
	  ○ caravan or boat warm air heater
	  ○ caravan water heater
	  ○ electro-fusion jointing of polyethylene pipework and fittings
	• Installation in accordance with the Manufacturer Instructions
	• Setting up appliance in accordance with the Manufacturer Instructions
	• Completion of gas safety regulation 26/9 checks
	• Care of customer's property and reinstate/repair building

K22 Tools, equipment and test instrumentation used in gas engineering activities.	• Requirements of Provision and Use of Work Equipment Regulations (PUWER)

Practical Assessment with questions Theme: Installation	Amplification and Guidance (where required)
S12 Select, use and maintain tools, equipment and test instrumentation.	• Suitability of tools and equipment • Trained, authorised and competent for use of relevant tools and equipment • Electrical equipment checks • Test equipment requirements examples include combustion analysers, electrical multi-meters • Calibration, testing and inspections

Practical Assessment with questions Theme: Maintenance servicing and fault-finding	Amplification and Guidance (where required)

K8
Testing and safety-checking practices applicable to gas appliance types.
 	
S4 Carry out testing and safety checks applicable to the appliance chimney or flue type.
	• Checks in accordance with Gas Safety Installation and Use Regulations 26/9 including:
	  ○ effectiveness of flue i.e. flue flow and spillage
	  ○ supply of combustion air
	  ○ operating pressures or heat input or where necessary both
	  ○ operation so as to ensure its safe functioning
	• Testing of safety devices
	• Combustion performance analysis

K9 Routine and reactive servicing and maintenance practices and techniques applicable to gas appliances and components.	• Following manufacturer servicing requirements • Checks in accordance with Gas Safety Installation and Use Regulations 26/9 including: ○ effectiveness of flue i.e. flue flow and spillage

Practical Assessment with questions Theme: Maintenance servicing and fault-finding	Amplification and Guidance (where required)
S5 Carry out routine maintenance and servicing of appliances and components. **B2** Take responsibility for work	○ supply of combustion air ○ operating pressures or heat input or where necessary both ○ operation so as to ensure its safe functioning • Tightness testing and purging • Testing of safety devices • Combustion performance analysis • Care for working environment • Effective communication of activities • Advise of safety, energy efficiency and system improvements
K10 Fault-finding, diagnosis and rectification practices and techniques applicable to gas appliances, their controls and associated systems. **S6** Identify and rectify faults in appliances and components.	• Communication with customer to identify the nature of the fault • Chronological, logical and sequential fault-finding techniques • Testing effectiveness of repair • Checks in accordance with Gas Safety Installation and Use Regulations 26/9 including: ○ effectiveness of flue i.e. flue flow and spillage ○ supply of combustion air ○ operating pressures or heat input or where necessary both • Operation so as to ensure its safe functioning

Practical Assessment with questions Theme: Decommissioning	Amplification and Guidance (where required)

K11 Decommissioning practices and techniques applicable to gas appliances and systems.
 	
S7 Decommission appliances and systems.
	• Safe isolation of all services (Gas, water and electrics)
	• Correct use of documentation and labelling
	• Disposal of waste including:
	  ○ asbestos
	  ○ waste water
	  ○ recyclable metals
	• Care of customer's property
	• Operating in accordance with company procedure

Practical Assessment with questions Roles and Responsibilities

Role	Responsibility
Independent Assessor	Provide written and verbal instructions for the practical assessment with questions. Invigilate and supervise the apprentice during the practical assessment with questions, including moving between tasks and breaks, to prevent malpractice in line with Energy & Environment Awards invigilation procedures. Record and report assessment outcome decisions for each apprentice, following instructions and using assessment recording documentation provided by Energy & Environment Awards.
Employer/Training Provider	The training provider must liaise effectively with the employer to ensure the apprentice is prepared for the practical assessment with questions. Provide the venue for the practical assessment with questions which must be suitably equipped to allow the apprentice to attempt all aspects of the practical assessment with questions. Provide all necessary tools and equipment for the apprentice. Ensure the apprentice has access to the resources used on a daily basis. Use Energy & Environment Awards Practical Assessment review service to review fitness for purpose of the assessment task
Energy & Environment Awards	Arrange for the practical assessment with questions to take place, in consultation with the employer/training provider and independent assessor.

Component 2: Interview (based on a portfolio of evidence)

Overview

The interview is based on the apprentice's portfolio of evidence and focuses on the KSBs. The interview allows for testing of responses where there are a range of potential answers.

The portfolio, compiled throughout the apprenticeship and completed by Gateway must be submitted to Energy & Environment Awards.

The following table outlines the procedure for conducting an interview based on a portfolio of evidence:

Assessors	1 independent assessor approved by Energy & Environment Awards will conduct the interview.
Interview (based on the portfolio) structure	**Types of questions:** • The assessor must ask at least 6 questions to explore the apprentice's level of knowledge, skills and behaviours. • Standardised open questions will be asked based on the contents of the evidence in the portfolio • Additional follow up questions are allowed, to seek clarification. **Locations:** Employer's premises or a suitable venue for example a training provider's premises. **Time:** The interview must last 45 minutes. The independent assessor can increase the time of the interview by up to 10% to allow the apprentice to respond to a question if necessary. **The Interview will be:** • conducted by 1 independent assessor • face to face or remote, as agreed • recorded in writing using the interview record template provided by Energy & Environment Awards • video recorded using relevant technology such as Microsoft Teams or an audio recording device • conducted under examination conditions The apprentice must have access to their portfolio of evidence throughout the interview.

	Portfolio of evidence:
	• The apprentice's Manager/Mentor will typically support the development of the evidence portfolio in accordance with company policy and procedures
	• See 'Portfolio of Evidence Requirements' guidance below on the content of evidence
	• The Portfolio must contain sufficient quality evidence relating to each element of the standard covered by the interview. Typically, this will be 5 discrete pieces of evidence. These may include but are not limited to:
	  ○ workplace documentation and records
	  ○ workplace policies and procedures
	  ○ witness statements
	  ○ annotated photographs
	  ○ video clips with a maximum total duration 10 minutes; the apprentice must be in view and identifiable
	• Although questioning will cover ALL the elements of the standard (listed below in this section of the Specification), they will prioritise areas according to what they see in the portfolio

What topics will be covered?	**For further details refer to 'Knowledge, Skills and Behaviours (KSBs) Coverage below.**
When will the portfolio of evidence be referred to?	The portfolio of evidence: • will be reviewed by the independent assessor before the interview • can be referred to by the apprentice to illustrate their answers **Note**: the portfolio of evidence is not directly assessed.
Grading	Fail, Pass, or Distinction

Portfolio of Evidence Requirements

The requirements are as follows:

Portfolio Mapping Document The apprentice must map their portfolio of evidence to the KSBs as this evidence will be used by the independent assessor to assess the apprentice during the interview. The portfolio mapping document must be clearly referenced and included at the front of the portfolio. For further guidance on mapping refer to: • Section 5 Practice Guidance on portfolio of evidence and apprentice mapping • Appendix G, GEO Supporting Documents 'Portfolio Mapping Document.'
How will the training provider submit the apprentice's portfolio to Energy & Environment Awards? As part of the pre-requisite gateway requirements the apprentice must have compiled and submitted a portfolio of evidence that includes a portfolio mapping document (placed at the front of the portfolio), which the interview will be based on.

Interview Knowledge, Skills and Behaviours (KSBs) coverage

The Interview based on a portfolio of evidence covers:

Interview based on a portfolio of evidence KSBs Theme: Sustainability; Health and Safety	Amplification and guidance (where required)
K1 Health and safety practices including manual handling, working at height and working in confined spaces.	• Understand the responsibilities within Health and Safety at Work Act 1974 • Employer and Employee Duties • Compliance with regulations including the following examples: Control of Asbestos, Electricity at Work, RIDDOR, PUWER, Manual Handling Operations, Confined Spaces, Working at Heights, PPE, Working on Site, Fire and First Aid *(This is not an exhaustive list)* • Understanding the responsibilities of the Health and Safety Executive (HSE) • The use of signs, safety notices and labels • Examples of the contextual application of health and safety practices • Employer health and safety practices as prescribed within Company Operational Procedures
K18 Sustainability and energy efficiency: green technologies, alternative fuels, energy consumption, energy ratings and how they are calculated.	• Awareness of the UK Sustainability Guidance and the gas industries impact on mitigating climate change, minimising waste and promoting resource efficiency • Awareness of technical guidance publications examples include: CIBSE Domestic Heating Design Guide, Building Regulations and Standards: Approved Document Part L, Climate Change Act • Understand the meaning of sustainability, energy efficiency and the environmental impact

Interview based on a portfolio of evidence KSBs Theme: Sustainability; Health and Safety	Amplification and guidance (where required)
	• Understand the principles of Home Energy Ratings and Energy Performance Certificates • Awareness of the Product Characteristics Database (PCDB) formerly SEDBUK • Understanding of alternative fuels including: Biomethane, Hydrogen, Liquid Fuel, Biomass, Heat Pumps, Electric, Solar, Heat Networks
K24 Principles of recycling, reusing and returning defective components and disposal of waste. **S19** Recycle, reuse, return defective components and dispose of waste.	• Understanding your legal responsibilities when dealing with business waste, and the difference between prevent, reuse, recycle and recover. • Defining, describing and classifying waste • Awareness of your business/organisations policy and procedures for waste management • The treatment of waste

Interview based on a portfolio of evidence KSBs Theme: Communication	Amplification and guidance (where required)

K23 Verbal communication techniques. Giving and receiving information. Matching style to audience. Barriers in communication and how to overcome them. Industry terminology.
 	
S18 Communicate verbally with customers, including the provision of guidance on energy and efficiency measures specific to the appliance or system being worked on.
	• Understanding of Verbal and Non-verbal communication
	• Awareness of different styles: Aggressive, Passive, Passive-Aggressive and Assertive
	• The importance of effective verbal communication skills including:
	  ○ thinking before speaking
	  ○ the use of clear and concise language
	  ○ understanding your audience
	  ○ be mindful of tone
	  ○ paying attention to body language
	  ○ active listening
	  ○ speaking with confidence
	  ○ showing authentic self
	  ○ practicing skills
	  ○ obtaining feedback
	• Understanding how to present technical information to a wide audience
	• Available tools to aid communication in circumstances such as where English is not the first language

Interview based on a portfolio of evidence KSBs Theme: Equality, Diversity and Inclusion (EDI)	Amplification and guidance (where required)
K20 Principles of equity, diversity and inclusion in the workplace and the impact on their work. **S21** Apply equity, diversity and inclusion procedures. **B4** Support an equitable, diverse and inclusive culture.	• The definitions of equity, diversity and inclusion • The difference between equity and equality • Understanding of the equity, diversity and inclusion policy and procedures in place in your workplace and how they are communicated • How the culture for equity, diversity and inclusion is created in the workplace

Interview based on a portfolio of evidence KSBs Theme: Mental health	Amplification and guidance (where required)
K21 Common issues, symptoms and warning signs of stress, anxiety and depression, including where to go for help and the resources available.	• Awareness of the Mental Health Act and the regulations • An understanding of mental health conditions, and how to recognise the importance of feelings, symptoms, and behaviours. • 5 steps to mental wellbeing: 1. Connect with people 2. Be physically active 3. Learn new skills 4. Give to others 5. Pay attention to the present moment (mindfulness) • Mental health services and resources including NHS, Mental Health Foundation, Mind

Interview based on a portfolio of evidence KSBs Theme: Continuous Professional Development (CPD)	Amplification and guidance (where required)

S20 Carry out and record planned and unplanned learning and development activities.
 	
B3 Committed to continued professional development (CPD) to maintain and enhance competence in own area of practice.
	• The importance of technical competence, having a licence to operate, and competent persons
	• Awareness of the sources of subject areas for CPD including industry technical updates and industry trade publications
	• Types of professional development:
	  ○ Structured/Active Learning
	  ○ Reflective/Passive Learning
	  ○ Informal/Self-directed Learning
	• Stages of the CPD cycle:
	  ○ Identify and plan
	  ○ Learn
	  ○ Reflect
	  ○ Apply and share
	• The awareness of learning experiences including examples: conversations with colleagues, attending workshops and seminars, reading a piece of research or technical publications, formal learning – online or in person course. This is not an exhaustive list.

Interview based on Portfolio of Evidence Roles and Responsibilities

Role	Responsibility
Independent Assessor	Record and report assessment outcome decisions for each apprentice, following instructions and using assessment recording documentation provided by Energy & Environment Awards.
Employer/Training Provider	The interview must be scheduled with Energy & Environment Awards for a date and time which allow the apprentice to be well prepared. Ensure the apprentice has access to their portfolio before and on the day of the interview.
Energy & Environment Awards	Arrange for the interview to take place, in consultation with the employer/training provider and independent assessor. Develop and produce an assessment specification, question bank and assessment materials in line with the EPA plan.

Component 3: Multiple-choice Test

Overview

The multiple-choice test is a computer-based test which consists of 40 multiple-choice questions. Paper-based tests are available on request.

Apprentices have 60 minutes to complete the test. It consists of 40 multiple-choice questions.

The multiple-choice questions will have four possible answers of which one will be correct.

The Pass mark is 28 correct answers.
The Distinction mark is 34 correct answers.

For this paper:

- a (scientific) calculator is allowed
- access to the internet or intranet is NOT allowed
- apprentices cannot refer to any reference books or materials

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

Multiple-choice Test Coverage

The knowledge assessment consists of 40 core knowledge questions.

The table below lists each of the knowledge elements, assessed in the knowledge assessment. Amplification and Guidance can be found in the table above.

Number of Questions	Knowledge	Amplification and Guidance
3 - 5	**K4:** Environmental and sustainability regulations and guidance.	Environment Regulation and Guidance - Awareness of the Environment Act 2021, Environmental Agency and the gas industries impact on waste and recycling, clean air, nature, and water Sustainability Guidance - Awareness of the sustainability in the workplace and the gas industries impact on mitigating climate change, minimising waste and promoting resource efficiency
4 - 6	**K5:** The range of gas appliances, their suitability, and associated gases.	Range of gas appliances from Table 1: Primary Appliances and Table 2: Secondary Appliances - Confirmation of the suitability of appliances or appliance installations in reference to the requirements of manufacturer's instructions. Natural gas and Liquefied Petroleum Gas - Associated gas awareness including the differences in combustion properties, hazards, ventilation requirements, and storage considerations.

Number of Questions	Knowledge	Amplification and Guidance
6 - 9	**K13** Combustion theories, combustion analysis, gas properties, carbon monoxide and types of burners.	Combustion - Understands complete and incomplete combustion theories, products of combustion, and carbon monoxide 13.1 Combustion Analysis - Understands appropriate testing equipment and procedures to record results of testing Gas Properties - Understands the properties of gas and the impact on combustion 13.4 Type of Burners - Types of burners; simplex and duplex, pre-aerated, and post aerated
6 - 9	**K14:** Chimney and flueing types, design and ventilation principles specific to gas appliances and dwelling types and structures.	Chimneys and Flue Types - Flue or chimney design, route, flue or chimney material, termination, sizing, and testing methods. Ventilation Principles - 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

Number of Questions	Knowledge	Amplification and Guidance
5 - 7	**K15:** Emergency procedures including gas escapes, report of fumes and unsafe situations	Gas Escapes - Correct processes followed for dealing with gas escapes Report of Fumes - Correct processes followed for dealing with report of fumes 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').
4 - 6	**K16:** Heat and hot water system design theory, location, controls including smart controls.	Heating System Design - Understands the variety of heating system designs and locations Hot Water System Design - Understands the variety of hot water system designs and locations Controls - Understands heat and hot water system controls, including smart controls, meet the requirements of manufacturer's instructions and installation circumstances such as room type and usage

Number of Questions	Knowledge	Amplification and Guidance
4 - 6	**K17:** Common construction techniques and features of domestic housing stock including wall types, floor types, glazing, drainage systems and utilities	Common construction techniques including wall types, floor types, and glazing. Understands different construction techniques and considerations within the gas industry Drainage Systems - Awareness of drainage systems and considerations working within the gas industry. Utilities - Awareness of other utilities within a property and the considerations when working in the gas industry

Multiple-choice Test Roles and Responsibilities

Role	Responsibility
Invigilator	Is typically provided by the employer or training provider. Attend induction training as directed by Energy & Environment Awards. Not invigilate an assessment, solely, if they have delivered the assessed content to the apprentice. Invigilate and supervise the apprentice during tests and in breaks during assessment methods to prevent malpractice in line with Energy & Environment Awards invigilation procedures.
Employer/Training Provider	Ensure that the multiple-choice test is scheduled with Energy & Environment Awards for a date and time which allow the apprentice to be well prepared.
Energy & Environment Awards	Arrange for the multiple-choice test to take place, in consultation with the employer/training provider. Mark multiple-choice test answers accurately according to the mark scheme and procedures.

Section 3: Grading and Grading Descriptors

Component 1: Practical Assessment with questions

The apprentice must demonstrate core KSBs in an integrated way.

A Fail will be awarded if an apprentice has not achieved **all** the Pass descriptors..

To gain a Pass, an apprentice must successfully achieve **all** the descriptors for each KSB, as shown below.

To achieve a Distinction an apprentice must successfully achieve **all** the Pass descriptors and **all** of the descriptors from each of the distinction boxes.

Indicative ‘pass’ descriptors for the practical assessment with questions

Practical Assessment with questions - Themed KSBs	To achieve a Pass the apprentice must achieve **ALL** of the following:
Health and safety K2 K3 K12 S1 S8 S9 S10 S13 S15 B1	Undertakes and documents risk assessments in line with employer's procedures to prioritise health and safety in the workplace. (K3, S10, B1) Selects and uses personal protective equipment complying with health and safety practices and manufacturer's guidance. (S1, S13) Isolates the appliance's electrical supply and conducts electrical safety checks before and after undertaking work tasks in line with safety practices and manufacturer's guidance. (K12, S8, S9)

Practical Assessment with questions - Themed KSBs	To achieve a Pass the apprentice must achieve **ALL** of the following:
	Identifies unsafe situations or conditions and takes action in line with the gas industry unsafe situations procedure (IGEM G/11). (K2, S15)
Documentation K19 S11 S14 S16 S17	Sources, reads and follows technical documentation associated with equipment and installation requirements to meet the needs of the task. (S11) Checks and actions inspection reports and schedules, using digital technology to access job, appliance and customer information to complete the task. (S14, S16) Completes and maintains work records including appliance and customer data in accordance with General Data Protection Regulations (GDPR). (K19, S17)
Installation K6 K7 K22 S2 S3 S12	Installs and commissions primary gas appliances or equipment in line with manufacturer's guidelines. (K6 S2) Installs and commissions secondary gas appliances or equipment in line with manufacturer's guidelines. (K7, S3) Selects, uses and maintains tools, equipment and test instrumentation to complete the needs of gas engineering tasks. (K22, S12)

Practical Assessment with questions - Themed KSBs	To achieve a Pass the apprentice must achieve **ALL** of the following:
Maintenance, service and fault-finding K8 K9 K10 S4 S5 S6 B2	Carries out testing and safety checks to meet the needs of the appliance chimney or flue type. (K8, S4) Carries out routine maintenance and servicing of the appliances and components taking responsibility for their own work to meet the needs of the task. (K9, S5, B2) Identifies and rectifies faults in appliances and components to meet the needs of the task. (K10, S6)
Decommissioning K11 S7	Decommissions appliances and systems in line with manufacturer guidance and to meet the needs of the task. (K11, S7)

Indicative ‘distinction’ descriptors for the practical assessment with questions

Practical Assessment with questions - Themed KSBs	To achieve a Distinction the apprentice must achieve **ALL** of the Pass descriptors and **ALL** of the Distinction descriptors
Health and safety K2 K3 K12 S1 S8 S9 S10 S13 S15 B1	Explains the importance for themselves and the business of working in line with health and safety practices (S1)

Practical Assessment with questions - Themed KSBs	To achieve a Distinction the apprentice must achieve **ALL** of the Pass descriptors and **ALL** of the Distinction descriptors
Documentation K19 S11 S14 S16 S17	N/A
Installation K6 K7 K22 S2 S3 S12	Installs and commissions primary and secondary gas appliances or equipment, in line with manufacturer guidelines achieving the outcome right-first-time in line with the task requirements. (K6, K7, S2, S3)
Maintenance, service and fault-finding K8 K9 K10 S4 S5 S6 B2	Rectifies faults in appliances and components achieving a right-first-time outcome to meet the needs of the task. (K10, S6)
Decommissioning K11 S7	Decommissions an appliance and system in line with manufacturer guidance, achieving the result right-first-time. (K11, S7)

Component 2: Interview based on the portfolio of evidence

The apprentice must demonstrate core KSBs in an integrated way for their pathway.

To gain a Pass, an apprentice must successfully achieve **all** the assessment descriptors for each KSB, as shown below.

To achieve a Distinction, an apprentice must successfully achieve **all** the Pass assessment descriptors and **all** descriptors from each of the distinction boxes.

Interview based on a portfolio of evidence - Themed KSBs	To achieve a Pass the apprentice must achieve **ALL** of the following:
Sustainability and health and safety K1 K18 K24 S19	Describes how they recycle, reuse and return defective components and disposes of waste to support organisational and regulatory sustainability and energy efficiency practices. (K24, S19) Explains the following sustainability and energy efficiency topics and outlines how they impact their role: green technologies, alternative fuels, energy consumption, energy ratings and how they are calculated (K18) Explains health and safety practices including manual handling, working at height and working in confined spaces. (K1)
Communication K23 S18	Describes how they communicate verbally with customers to provide guidance on energy and efficiency measures specific to the appliance or system being worked on to meet the needs of the audience. (K23, S18)

Interview based on a portfolio of evidence - Themed KSBs	To achieve a Pass the apprentice must achieve **ALL** of the following:
EDI K20 S21 B4	Describes how they apply procedures and support an equitable, diverse and inclusive culture and explains how this impacts their work. (K20, S21, B4)
Mental health K21	Describes common issues, symptoms and warning signs of stress, anxiety and depression, and explains where to go for help and the resources available in their workplace. (K21)
CPD S20 B3	Explains how they carry out and record planned and unplanned learning and development activities in line with organisational CPD requirements. (S20, B3)

Indicative ‘distinction’ descriptors for the interview

Interview based on a portfolio of evidence - Themed KSBs	To achieve a Distinction the apprentice must achieve **ALL** of the Pass descriptors and **ALL** of the Distinction Descriptors:
Sustainability and health and safety K1 K18 K24 S19	Describes the importance for the business, their role and the wider gas industry of recycling, reusing and returning defective components and following waste disposal practices. (K24, S19)
Communication K23 S18	Explains the impact on customers and the business of meeting the needs of the audience when providing guidance to customers using verbal communication. (K23, S18)
EDI K20 S21 B4	Explains the importance to the business of applying equity, diversity and inclusion procedures. (K20, S21)
Mental health K21	N/A
CPD S20 B3	N/A

Component 3: Multiple-choice Test

The following grade boundaries apply to the knowledge assessment:

Grade	Minimum mark	Maximum mark
Fail	0	27
Pass	28	33
Distinction	34	40

Overall grading

The apprenticeship will be graded fail, pass, merit or distinction. The final grade will be determined by collective performance in the three assessment components.

In order to gain a pass, an apprentice must achieve at minimum of a pass in each EPA component. A pass represents full competence against the standard. To achieve a merit grade, an apprentice must achieve a distinction in the practical assessment with questions and one other assessment component. To achieve an overall distinction the apprentice must achieve a distinction in each EPA component.

The practical assessment with questions, interview based on a portfolio of evidence and multiple-choice test are all marked separately and awarded a fail, pass, or distinction.

The multiple-choice test is based on the percentage score achieved. The grade and mark for the practical assessment with questions and interview is based on the number and level of descriptors achieved.

The overall grade for the GEO Standard is based on the grades in individual components as follows:

Practical Assessment with questions	Interview based on a portfolio of evidence	Multiple-choice Test	Overall grading
Fail	Any grade	Any grade	Fail
Any grade	Fail	Any grade	Fail
Any grade	Any grade	Fail	Fail
Pass	Pass	Pass	Pass
Pass	Pass	Distinction	Pass
Pass	Distinction	Pass	Pass
Distinction	Pass	Pass	Pass
Pass	Distinction	Distinction	Pass
Distinction	Distinction	Pass	Merit
Distinction	Pass	Distinction	Merit
Distinction	Distinction	Distinction	Distinction

The grading descriptors that will be applied for each assessment descriptors along with additional details can be found in Section 3 of this Specification.

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 Energy & Environment Awards should agree the timescale for a re-sit or re-take. A re-sit is typically taken within 2 months of the EPA outcome notification. The timescale for a re-take is dependent on how much re-training is required and is typically taken within 4 months of the EPA outcome notification.

Failed assessment methods must be re-sat or re-taken within a 6-month period from the EPA outcome notification, otherwise the entire EPA will need to be re-sat or re-taken in full.

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

The apprentice will get a maximum EPA grade of a pass if they need to re-sit or re-take one or more assessment methods, unless Energy & Environment Awards determines there are exceptional circumstances.

Energy & Environment Awards resit and re-take policy can be found at:
https://energyenvironmentawards.co.uk/policies-and-fees/

Section 5: Practical Guidance

L3 GEO Practical Assessment Planning Form

Purpose

Energy & Environment Awards provide a mandatory Practical task(s) review service to assist with planning with planning for all employers/training providers with apprentices registered on this standard. To access the service, see Appendix D, GEO Supporting Documents 'Level 3 GEO Practical Assessment 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 examination 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 GEO specification. 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. Practical assessment must be conducted in a simulated environments.
The employer/training provider must ensure:

- the practical assessment enables the assessment of core and specific knowledge, skills and behaviours in a simulated environment
- 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 assessor to observe the apprentice synoptically demonstrate core and specific KSBs.

Submitting the form to Energy & Environment Awards

The employer/training provider should complete and submit the 'Level 3 GEO Practical Assessment Planning Form' to Energy & Environment Awards Service Delivery Team for approval 1 month before the Practical Assessment. The form should be accompanied by photographs and/or video(s) of the plant, machinery,

equipment areas, including practical tasks/briefs which the apprentice will be working on.

Energy & Environment Awards Review Process

Once the approval form has been received the review process will be conducted by Energy & Environment Awards. The outcomes will be shared with the employer/training provider no later than 5 working days following the review.

Please be aware:

- Practical task/briefs review does not guarantee that the apprentice will pass the practical task
- No health and safety risk assessment has been carried out by Energy & Environment Awards
- Energy & Environment Awards review does not remove any of the training provider obligations to ensure full coverage of the standard, and full compliance with relevant legislation
- Energy & Environment Awards review is based only on information supplied and is not a guarantee that the practical tasks/briefs, selected plant/machinery/equipment on the day of the practical will be sufficient for an EPA practical task
- The information provided in this Level 3 GEO Practical Assessment Planning Form must not be shared with the apprentice

Preparing for the Practical Assessment with questions

Where possible, the employer/training provider should provide the apprentice with the opportunity to carry out a practice practical assessment with questions as close to the real assessment described in Section 2 of the 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 practical assessment will give complete coverage of the standard. See Appendix E, GEO Supporting Documents ‘Practice Practical Assessment with questions Template.’

Preparing for the Interview based on a portfolio of evidence

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

Guidance on Portfolio of Evidence

The apprentice must compile a portfolio of evidence during the on-programme period of the apprenticeship. The portfolio is not assessed. It serves the following purpose:

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

Quality vs Quantity

The apprentice should be supported in selecting and mapping evidence for their portfolio in the mapping document. It should only contain evidence related to the KSBs that will be assessed by the interview.

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

The portfolio will typically contain **5 discrete pieces of evidence**. Evidence must be mapped against the KSBs. Evidence may be used to demonstrate more than one KSB; a qualitative as opposed to quantitative approach is suggested.

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 portfolio. 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 a minimum of two pieces of evidence, and no more than three, mapped to each KSB. This should ensure that the apprentice has quality evidence to draw on in the interview. Progress review documents should also be included.

What to include in the Portfolio?

The portfolio 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 G, GEO Supporting Documents 'Portfolio Mapping Document.'
- must contain **at least one piece of quality evidence relating to each KSB**. This piece of quality evidence must demonstrate the KSBs as outlined in Section 2 of this Specification which will be assessed by the interview based on the portfolio
- must include evidence that **covers all KSBs** required
- **written accounts of activities** that have been completed and referenced against the KSBs supported by appropriate photographic evidence and work products, for example work instructions, safety documentation, company policies and procedures as appropriate to the activities
- will contain quality pieces of evidence
- must be available, during the interview, allowing the apprentice to refer to it
- must contain demonstrations of work carried out over a period of time and must include evidence of work carried out within the last three months of the on programme period
- must contain a minimum of 2 and no more than 3 activities carried out by the apprentice that demonstrates the higher order knowledge, skills and behaviours
- where practicable this should include:
    - workplace documentation and records
    - workplace policies and procedures
    - witness statements
    - annotated photographs
    - video clips with a maximum total duration 10 minutes; the apprentice must be in view and identifiable
    - situations that have been difficult and challenging, and how these have been overcome e.g. equipment breakdown which has results in a change in working practice while still adhering to company procedures
    - any employer contributions must focus on direct observation of evidence (e.g. review/witness statements) of competence rather than opinions

The above is not a definitive list. The apprentice can include other relevant evidence sources. The portfolio must not contain reflective accounts or 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 can the apprentice do?

The apprentice should:

- be familiar with the structure of their portfolio
- know the KSBs covered by the interview
- know the grading descriptors
- ensure there is evidence to cover every KSB in the interview
- 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 portfolio by:

- clarifying responsibility for supporting the apprentice to select and map evidence for the portfolio, 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 portfolio
- submitting the portfolio to Energy & Environment Awards as part of Gateway

What to expect in the practice interview?

The practice interview will be based on the portfolio which will provide the apprentice with the opportunity to practice discussing their KSBs gained throughout their on-programme and by referring to the evidence from their portfolio using the portfolio

mapping document. A suitable person should be chosen to play the part of the assessor.

A practice interview based on a portfolio of evidence template is provided for use to prepare the appropriate questions to ask and to record the apprentices' performance. See Appendix F, GEO Supporting Documents 'Practice Interview Template.'
As part of the practice exercise, apprentices should have access to their portfolio to support their responses.

Preparing for the Multiple-choice Test

While on-programme, the employer and/or training provider should brief the apprentice on the areas to be assessed by the multiple-choice 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 multiple-choice 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 GEO role as a whole and not focussed on specific plant, machinery, or employer-specific processes.

In readiness for end-point assessment, the apprentice should complete a practice multiple-choice test. This should be undertaken in advance of the live multiple-choice test, with enough time to mark the test, and provide feedback to the apprentices. See Appendix C, GEO Supporting Documents 'Practice Multiple-choice 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 portfolio, training providers and employers must be satisfied that the evidence in the portfolio 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 assessor, approved by Energy & Environment Awards. 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 assessors, approved by Energy & Environment Awards 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