ENERGY & UTILITIES
INDEPENDENT
ASSESSMENT SERVICE

EPA Specification
Gas Engineering Operative

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Level 3 EPA Gas Engineering Operative

EPA Specification Section 1 – Introduction

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This specification has been designed to provide all the advice and guidance you need to prepare yourself and your apprentices for end-point assessment. However, if you have any further questions please contact the EUIAS Help Desk using one of the following:

Help Desk email: enquiries@euias.co.uk

Help Desk telephone: 0121 0779922 option 2

About the Energy and Utilities Independent Assessment Service (EUIAS)

The EUIAS is an independent end-point assessment organisation (EPAO) approved by the Education and Skills Funding Agency (ESFA) (number EPA0009) to offer and carry out the end-point assessments (EPA) for the Level 3 Gas Engineering Operative Apprenticeship Standard (ST0155). This specification relates to assessment plan ST0155/AP02.

The EUIAS was established in 2014 and is part of Energy & Utility Skills Limited. The EUIAS delivers rigorous and robust apprenticeship end-point assessment services for the energy and utilities sector, and for technical and safety-critical sectors. In May 2016, The EUIAS became the first end-point assessment provider to have achievers on the English Trailblazer apprenticeship standards.

About end-point assessment

End-point assessment is the term given to the assessments taken by apprentices at the end of their apprenticeship, and which must be passed in order for the apprentice to be awarded a certificate of achievement. Apprentices must be trained by training providers approved by the ESFA and their end-point assessments must be carried out by an end-point assessment organisation approved by the ESFA. The assessment is designed, delivered, assessed and quality assured by the EPAO, with further external quality assurance provided by and external quality assurance (EQA) provider.

The EPA typically consists of three assessment components each of which must be passed in order to achieve an overall pass. For the Gas Engineering Operative standard, the assessments are a knowledge test, a practical assessment which include the Gas Safe® registration, competency test, work log review and a technical interview.

End-point assessment is based on two documents that have been written by an employer group – the Standard and the Assessment Plan, both of which can be found on the website of the Institute for Apprenticeships and Technical Education, www.instituteforapprenticeships.org.

The EPAO designs the assessments to cover the standard, while complying with the assessment plan.

It is important for training providers supporting apprenticeships:

- to ensure their training programmes cover all the elements required by the standard
- to have access to suitable premises, plant, machinery and equipment for the practical observation

How to Use This EPA Specification for Gas Engineering Operative Technician

Welcome to the EUIAS EPA Specification for the Gas Engineering Operative Technician (GEO) Apprenticeship Standard.

The EUIAS internally quality assures all end-point assessments in accordance with its IQA process and IfATE requirements. This standard is externally quality assured by Open Awards on behalf of the IfATE.

This Specification is available from the EUIAS website (www.euias.co.uk) as a complete document, and also in its individual sections to allow customers to download what they require. **Important: the web site will always contain the latest version of this document so please check back to ensure you are using the latest version.**

This Specification outlines what you need to know about the end-point assessments for this standard and provides details of the on-programme delivery requirements. It provides advice and guidance for trainers on how to prepare apprentices for the end-point assessment.

The Specification provides end-to-end details of the how the EUIAS works with customers, from initial engagement to the completion of end-point assessment.

Audience:

Section 2 will be of interest mainly to the external quality assurance body to ensure the assessment methods cover the standard.

Section 3 will be of interest mainly to administrators and those responsible for planning and scheduling end point assessments.

Section 4 will be of interest to those ensuring that apprentices have covered all the required elements of the standard during their apprenticeship, and to apprentices themselves.

Sections 5 and 6 will be of interest to those who support apprentices in preparing for the end-point assessments, and to apprentices themselves.

At a glance

Apprenticeship standard: Gas Engineering Operative

Assessment Plan: ST0155/AP02

Level: 3

On-programme duration: Typically 18 months

Grading: Pass/distinction

End-point assessment duration: Typically 3 months

End-point assessment methods:

- Knowledge assessment
- Portfolio Assessment, including Gas Safe® Registration, Competency Test, Worklog Review and Worklog Work Log Interview

Quality Assurance:

This standard does allow an option to use employer-nominated assessors for the practical observation.

Quality assurance of the end-point assessment is designed in accordance with the Assessment Plan. The main features of EUIAS quality assurance are:

- Assessments carried out by assessors standardised by EUIAS
- Ongoing internal quality assurance
- Moderation and final grading by EUIAS

External quality assurance is provided by Open Awards on behalf of the IfATE.

In this guide, you will find:

- Detailed Amplification and Guidance of the standard and guidance on how to prepare the apprentice for gateway
- detailed information on which part of the standard is assessed by which assessment method
- a section focused on the end-point assessment method where the assessment criteria are presented in a format suitable for carrying out 'mock' assessments
- suggestions on how to prepare the apprentice for each part of the end-point assessment
- a practice test that you can use with apprentices

Is this the right standard for you?

The Gas Engineering Operative standard has been designed by the trailblazer group of employers specifically for gas engineers involved in the safe installation, commission, decommission and the ongoing service and repair of a range of gas appliance types. A substantial part of the assessment activity is through practical observation where the apprentice carries out a set of tasks across a specified range of appliances or systems. It is important that the setting provides the opportunity to cover all the requirements of the standard. It is essential that the employer and provider check that they can provide a site or setting that is suitably equipped to enable the apprentice to undertake the requirements of the assessment. The apprentice will be assessed on the requirements of the standard.

Standard overview

Gas Engineering Operative standard requires the apprentice to safely install, commission, decommission and provide continuous service by repairing gas appliances in either a domestic or non-domestic setting. The apprentice would be expected in their job role to:

- explain how installations and appliances work;
- provide energy efficiency advice
- ensure customer service excellence at all times;
- operate strictly within the requirements of health and safety legislation;
- achieve Gas Safe® registration for each appliance category for which they will be required to carry out work. Apprentices are required to gain certification on four appliance categories to meet the requirements of the Gas Engineering Operative apprenticeship standard.

On-programme requirements

The employer or training provider should ensure that they have developed and can deliver a programme of training and learning that will enable the apprentice to develop the knowledge, skills and behaviours that will be assessed as part of this standard. The programme must cover all the knowledge, skills and behaviours of the standard.

The planning, organisation and delivery of the on-programme element of the apprenticeship is the responsibility of the employer or training provider and it is their responsibility to ensure they are compliant with all applicable regulations.

The programme of training for the Gas Engineering Operative must meet the requirements IGEM/IG/1 standards of training in gas work. This provides the criteria and guidance for the development and delivery of training programmes in gas work that lead to Gas Safe® registration.

For all roles it is recommended that throughout the period of learning and development, and at least monthly, the apprentice should meet with their training provider or employer to record their progress against the standard. At these reviews, the employer should:

- set learning and development goals
- track the apprentice's progress
- coordinate 20% of the apprentice's time being spent in off-the-job training

Once the apprentice is deemed competent, the relevant section(s) of the standard should be signed off by the on-programme assessor and employer.

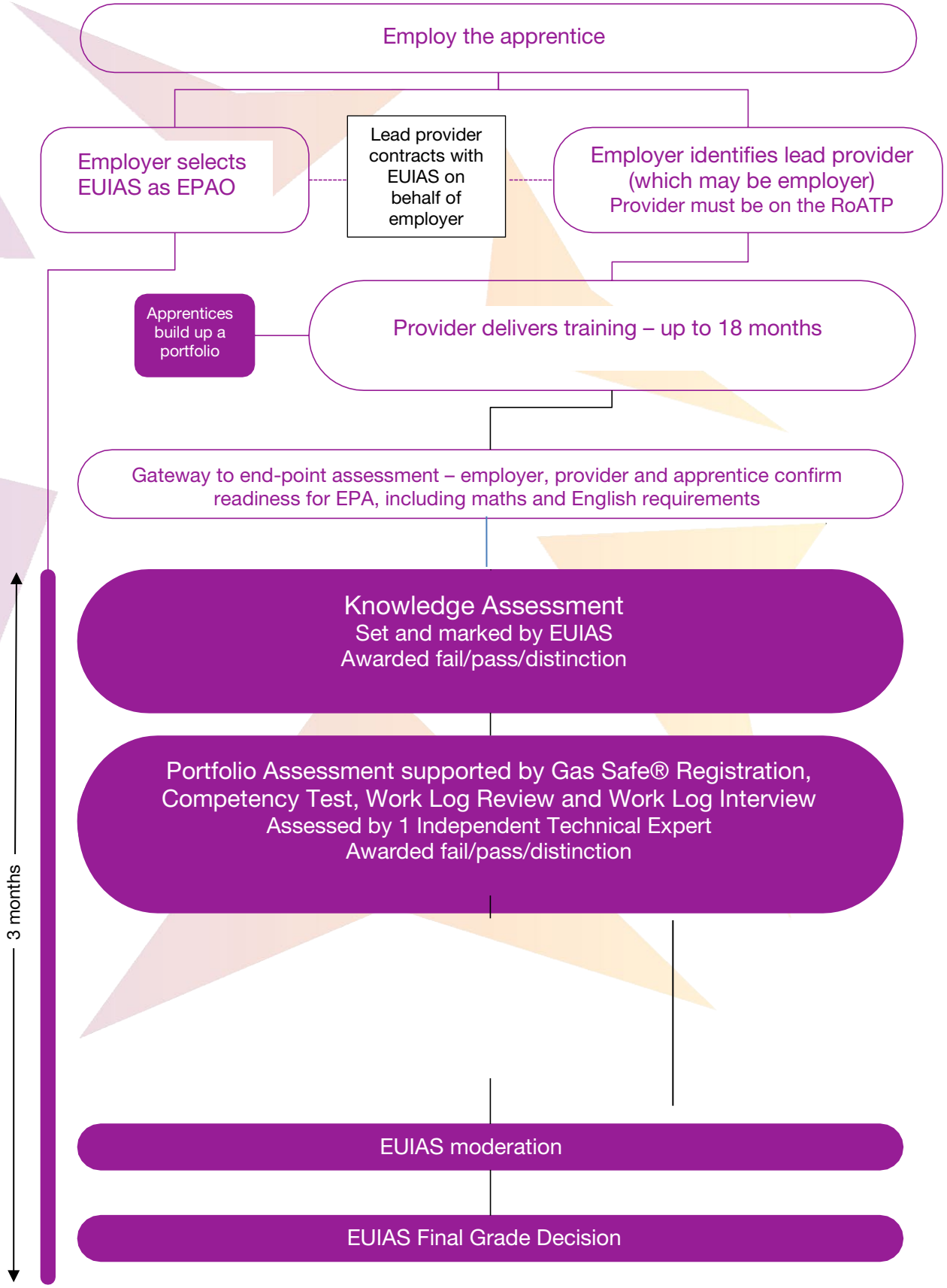
Readiness for end-point assessment

For an apprentice to be ready for the end-point assessments:

- the Level 2 English and maths components of the apprenticeship must be successfully completed by the apprentice; the EUIAS requires copies of the certificates before end-point assessment can take place
- the employer, training provider and apprentice must be confident that the apprentice has developed all the knowledge, skills and behaviours defined in the apprenticeship standard. To ensure this, the apprentice must attend a formal meeting with their employer to complete the Gateway Eligibility Report
- the apprentice and the employer must engage with the Service Delivery team at EUIAS to agree a schedule for each assessment activity to ensure all components can be completed within a 3-month assessment window. Further information about the gateway process is covered later in this guide
- the on-programme work log must be signed off by the provider as being complete, and made available for the work log review and the Technical Interview
- the competency test approval form must be completed and submitted to EUIAS

Order of end-point assessments

The successful completion of the knowledge assessment must precede the practical tasks. The apprentice must submit their work log to EUIAS within one-week of completing the competency test and the work log interview must be undertaken within three weeks of competency test completion. The Work Log Interview must be the final component.



Overview of the EPA process – EPA-related activities in purple

Level 3 EPA Gas Engineering Operative

EPA Specification Section 2 – Mapping the Standard

Contacts

This specification has been designed to provide all the advice and guidance you need to prepare yourself and your apprentices for end-point assessment. However, if you have any further questions please contact the EUIAS Help Desk using one of the following:

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Purpose

The purpose of this section is to introduce the elements of the standard and the referencing system used by the EUIAS. It provides an 'at-a-glance' view of which parts of the standard are assessed by which assessment method.

The Standard

The standard is divided in Knowledge, Skills and Behaviours. It has

- Core Knowledge
- Core Skills
- Behaviours
- Technical skills
- Technical knowledge

Core Knowledge:

CK1 Current Health, Safety and Environmental legislation and regulations applicable to work in the gas industry

CK2 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

CK3 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

CK4 Relevant electrical/mechanical principles and how they are applied in work processes and procedures

CK5 Up to date energy efficiency advice and guidance to be given to the customer

CK6 Product knowledge to be able to discuss and advise the customer

CK7 Current regulatory compliance, current Gas Safety (Installation and Use) Regulations and the current Electricity at Work Regulations

CK8 Company rules, policies and procedures as defined by the employer

Core Skills:

CS1 Undertake and document rigorous risk assessments to ensure the safety of all affected by the work activities

CS2 Take personal responsibility for maintaining safety standards and achieving job objectives

CS3 Use and maintain tools, equipment and personal protective equipment (PPE) in a safe and appropriate manner

CS4 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

CS5 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

CS6 Work on customer premises and or property showing appropriate care and respect whilst focusing on safety

CS7 Use a variety of appropriate and effective communication methods to interact with customers and others to give

and or receive information accurately, in a timely and positive manner in order to deliver the best possible service

CS8 Identify where situations or conditions are to unsafe standards and take appropriate actions within your range of competency

CS9 Achieve individual and team tasks which align to overall work objectives, be self-motivated and disciplined in the approach to work activities

CS10 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

CS11 Identify, organise and use resources effectively and sustainably to complete the task with consideration to cost, quality, safety, security and environmental impact

CS12 Be able to read and follow technical documentation associated with equipment and installation requirements

Behaviours:

B1 Ensure personal wellbeing and the safety of customers and others is a priority

B2 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

B3 Demonstrate an awareness of how the work impacts on others in the work environment

B4 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

B5 Undertake Continuous Professional Development to enhance knowledge and skills to maintain competence

B6 Recognise personal and professional limitations and seek appropriate advice when necessary

B7 Display self-discipline and self-motivated approach

B8 Exercise responsibilities in an ethical manner

Technical knowledge and skills must be evidenced in either a domestic or non-domestic setting carrying out service and repair and/or installation

Technical Knowledge (TK)

TK1 Electrical awareness and be able to carry out safe isolation and essential electrical safety checks

TK2 Combustion, combustion analysis, gas properties, carbon monoxide (CO), and types of burners

TK3 Flues and ventilation principles

TK4 The necessary safety checks following gas work on an appliance (regulation 26/9)

TK5 The range and suitability of appliances

TK6 The statutory and normative documentation including building regulations, water regulations and electrical regulations

TK7 Emergency procedures, including gas escapes, report of fumes and for unsafe situations

TK8 A knowledge and understanding of four appliances

TK9 System design, location, controls, flue types for appliances and smart control

TK10 An awareness of green technologies

TK11 The properties of Liquid Petroleum Gas (LPG)

TK12 An awareness of fuel storage – tanks and bottles (Liquid Petroleum Gas - LPG)

Technical Skills (TS)

TS1 Carry out safe isolation essential electrical safety checks

TS2 Carry out flue testing

TS3 Undertake the necessary safety checks following gas work on an appliance (regulation 26/9)

TS4 Work in compliance with statutory and normative documentation including building regulations, water regulations and electrical regulations

TS5 Access and comply with technical guidance, bulletins and safety alerts e.g. Gas Industry Unsafe Situations Procedures (GIUSP)

TS6 Demonstrate tightness testing, purging and relight procedures on gas installations

TS7 Demonstrate pipework installations/pipework skills, pressure and flow/pipework sizing, meter installations

TS8 Demonstrate ambient air testing/carbon monoxide/dioxide atmosphere testing

TS9 Identify gas safety controls and prove their safe operation

TS10 Complete records and maintain records accordingly

TS11 Identify faults and take the appropriate action

TS12 Undertake the installation and/or repair and maintenance of four appliances

TS13 Reinstate following completion of works cleaning up and making good

Gas Engineering Standard: EPA Method Summary

EPA Method applies to criteria number

Core Knowledge (CK)								
EPA Method	**CK Criteria Number**							
Worklog Review	1	2	3	4	5	6	7	8
Competency Test	1	2	3	4	5	6	7	8
Knowledge Assessment	1	2	3	4	5	6	7	8
Gas Safe	1	2	3	4	5	6	7	8

Core Skills (CS)												
EPA Method	**CS Criteria Number**											
Worklog Review	1	2	3	4	5	6	7	8	9	10	11	12
Competency Test	1	2	3	4	5	6	7	8	9	10	11	12
Knowledge Assessment	1	2	3	4	5	6	7	8	9	10	11	12
Gas Safe	1	2	3	4	5	6	7	8	9	10	11	12

Behaviours (B)								
EPA Method	**B Criteria Number**							
Worklog Review	1	2	3	4	5	6	7	8
Competency Test	1	2	3	4	5	6	7	8
Knowledge Assessment	1	2	3	4	5	6	7	8
Gas Safe	1	2	3	4	5	6	7	8

Technical Knowledge (TK)												
EPA Method	**TK Criteria Number**											
Worklog Review	1	2	3	4	5	6	7	8	9	10	11	12
Competency Test	1	2	3	4	5	6	7	8	9	10	11	12
Knowledge Assessment	1	2	3	4	5	6	7	8	9	10	11	12
Gas Safe	1	2	3	4	5	6	7	8	9	10	11	12

Technical Skills (TS)													
EPA Method	**TS Criteria Number**												
Worklog Review	1	2	3	4	5	6	7	8	9	10	11	12	13
Competency Test	1	2	3	4	5	6	7	8	9	10	11	12	13
Knowledge Assessment	1	2	3	4	5	6	7	8	9	10	11	12	13
Gas Safe	1	2	3	4	5	6	7	8	9	10	11	12	13

The standard mapped to the assessment methods:

Knowledge Assessment:	Selected Core knowledge (CK1, CK3, CK4, CK7)
	All Technical Knowledge (TK)
Gas Safe® Registration	Selected Core Knowledge (CK1, CK2, CK3, CK7)
	Selected Core Skills (CS1, CS3, CS4, CS8)
	All behaviours (B)
	Selected Technical Knowledge (TK2, TK3, TK4, TK5, TK7, TK9)
	Selected Technical Skills (TS1, TS2, TS3, TS4, TS5, TS6, TS7, TS10, TS12, TS13)
Competency Test	Selected Core Knowledge (CK2, CK5, CK6, CK8)
	Selected core skills (CS1, CS2, CS4, CS5, CS6, CS7, CS8, CS11, CS12)
	All Technical Skills (TS)
Work Log Review and Work Log Interview	ALL Core Knowledge
	ALL Core Skills
	ALL Behaviours
	ALL Technical Knowledge
	ALL Technical Skills

Level 3 EPA Gas Engineering Operative

EPA Specification Section 3 – Service Delivery and Gateway Eligibility

- EUIAS Service Delivery
- How to prepare for gateway
- The Gateway meeting
- Timeline

Contacts

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EUIAS Service Delivery

Whether you are an employer or a training provider (or both) your initial engagement will probably be with a business development manager who will introduce you to this document and take you through the EPA service that we offer. Our aim is to make the experience as straight-forward and easy to engage with as possible.

The key to a successful EPA experience is early identification of requirements to enable proper planning to take place and this section explains the requirements for preparing for the GEO EPA.

All the requirements discussed below are important, but some of them are critical, in particular the Gateway Eligibility Requirements. It is important to note that the end-point assessments cannot proceed without the Gateway Eligibility requirements being met. A completed Gateway Eligibility Report with supporting documents is required for each apprentice before EPA.

The EPA Window

All end-point assessments have a 'window' during which the end-point assessment must be completed, to avoid apprentices 'timing out'. The EPA window for the GEO standard is 3 months. The EPA window for each apprentice commences on the date they take the first element of their EPA, for example, the day of the Knowledge Assessment. All EPA activities must be completed within this 3-month window and EUIAS will work with you to schedule the EPA as close to the beginning of the window as possible to allow for re-sits if necessary.

Service Level Agreement (SLA) and Cohort Registration Form

EUIAS uses three documents to capture the details of the end-point assessment agreement:

- Service Level Agreement form – signed by employer and provider
- Cohort Registration Form – signed by employer and provider; this form identifies the apprentices in the cohort
- Learner submission form (spreadsheet of learner names with Unique Learner Number (ULN))

The Cohort Registration Form includes a section where the employer formally appoints the EUIAS as their end-point assessment organisation for the named apprentices.

In some cases, it may not be possible to have the employer and the lead-provider together at the same time. In this case, EUIAS will work initially with the lead provider then circulate copies of the two forms to the employer(s) to allow them to add their signatures.

Initial Engagement

Initial engagement with EUIAS will usually take place well before the EPA is due to take place and sometimes before the apprentices start their programme. The initial engagement meeting will cover:

- The numbers of apprentices in the cohort
- Any Reasonable Adjustments you want to apply for
- Whether the apprentice is to be assessed in domestic or non-domestic settings. The apprentice will be assessed against the requirements of the standard rather than what they actually do within their job role
- The expected date(s) of EPA
- The employer or lead provider for each apprentice

- The EUIAS operates a two-stage payment schedule:
- Stage One applies at the registration stage when the initial registration fee is due.
- Stage Two applies at Gateway, when the balance of the agreed fee is due.
- The Gas Engineering Operative standard allows employers to provide Technical Experts for the competency test, work log review and work log interview. If employers have a preference for this route, then it should be flagged at this stage as it affects pricing, and assessors must be standardised and approved by EUIAS before they can carry out any assessments
- Completion of the Service Level Agreement
- Arrangements for 'site review' to confirm that the proposed location and appliances for the competency test provides all of the required opportunities for the apprentice to cover the standard. Where possible, all assessment site(s) should be Identified at this stage. The competency test normally takes several hours per apprentice, and must involve working across a range of tasks; the location and the tasks must be appropriate
- The Technical Interview – to last typically one hour; where they will take place and how the portfolios will be shared with EUIAS
- Compiling the portfolio of evidence that is reviewed during the Technical Interview – what to put in the portfolio and how to signpost it
- The Knowledge Assessment – where it will take place. Please note: EUIAS will provide invigilation for the knowledge assessment. Further details of the assessment methods are contained within Section 5 of this EPA Specification

During the initial engagement, we will also cover support that is available for employers or training providers. We are confident that most, if not all the answers you need are contained within this Specification, but we are always available to provide answers to specific queries using the Help Desk email enquiries@euias.co.uk.

Appointment/Registration

The appointment stage is the first formal stage of working with EUIAS. This stage must involve both the employer and the training provider (if applicable).

Successful appointment involves the completion of all the following:

- Completion of the Cohort Registration Form, officially appointing EUIAS as the EPAO for this cohort. The form contains
- Details of the training provider (if applicable)
- Confirmation of learner numbers and specialist pathways
- Confirmation of expected EPA dates
- Confirmation of the level of service agreed with EUIAS, with pricing
- Confirmation that you will give a minimum of three months' notice of apprentices being ready for EPA (especially important if you bring forward the completion date)
- Signatures from both the employer and the training provider (if applicable)
- Completion of the Learner Submission form listing each learner in the cohort
- A purchase order from the lead-provider to EUIAS to the value agreed

If it has not already taken place, the details of the EPA will be discussed (as described in the Initial Engagement Section above) with the employer and training provider (if applicable) to agree roles and responsibilities.

On programme

It is the responsibility of the training provider to create and deliver the apprentice training programme, ensuring you comply with the relevant ESFA rules. The EUIAS has no formal involvement in the 'on-programme' aspect of the apprenticeship. However, we DO provide guidance on how to put together the portfolio that is required for the Work Log Interview. This can be found in Section 5.

We do appreciate that circumstances change so please notify us if:

- Expected end-dates change, giving at least three months' notice of readiness for end-point assessment
- Any cohort details change, especially if an apprentice drops off the programme
- Any anticipated changes in venues for the end-point assessments

Standardisation of employer-assessors

The employer may opt to nominate their own Technical Experts to carry out the competency test. This will be covered during the Initial Engagement meeting. Names will be requested nearer the time of the EPA so that they can be approved and standardised by EUIAS before they carry out any assessments. They will be required to provide up to date CVs including details of their continuing professional development and must not be involved in the training or line management of any apprentices they assess. This information can be sent in to enquiries@euias.co.uk.

Scheduling the end-point assessment

The EPA for Gas Engineering Operative is resource intensive, both in terms of availability of the required space for specialist settings for the competency test and Technical Experts that are required. The apprentices must be available for all assessments. Employer, training provider and EUIAS must keep in touch and notify each other of any changes as soon as they occur.

If it has not already occurred, arrangements will be made for a site review where the location and the appliances that you plan to use for the competency test are approved by EUIAS. This can be done remotely by completing a Practical Observation Approval Form, submitting it to EUIAS with photographs of the appliances , and then undertaking a short call with EUIAS to talk through the proposed competency test tasks.

To help things run smoothly, you must inform EUIAS between 3 and 6 months before you expect to have your Gateway meetings with the cohort. The EUIAS Service Delivery team will contact you during this time, to facilitate two-way communication. Your proposed EPA date may be sooner than was originally anticipated at the time of registration, which is acceptable provided the apprentice(s) has been on programme for at least the eighteen-month period specified by the apprenticeship standard.

We cannot confirm any EPA arrangements until we have confirmation of Gateway Eligibility, as discussed in the next section, but we will put together a provisional plan and share it with you. As a customer, you probably want to confirm gateway Eligibility on one day and have the first end-point assessments the next day. The reality is that scheduling takes time and can take varying periods of time. The early notification helps us put together a provisional schedule, but we can only confirm it after Gateway Eligibility requirements are all met. The fewer changes you make to the information you give us three months before Gateway, the sooner it will be before we can start the EPA. We too commit to making last-minute changes as rare as possible.

For employers using their own EUIAS-approved assessors, we can assist with scheduling to ensure that competency tests and work log Interviews run in an efficient manner.

We always aim to accommodate your requirements when scheduling, taking account of availability of apprentices, location and availability of assessment venues, availability of assessors and ensuring that we have evidence of the gateway requirements.

As soon as possible after Gateway, EUIAS will confirm with you the end-point assessment arrangements for each apprentice in the cohort.

We will always try to schedule as soon as possible within the 3-month window, to allow time for re-sits before the window closes.

How to prepare for gateway

On completion of their on-programme learning apprentices should be ready to pass through 'gateway' to their end-point assessment.

At this point, the employer, training provider and apprentice should hold a Gateway Eligibility meeting. The purpose of this meeting is to confirm that all parties agree that the apprentice has met the requirements of the apprenticeship standard and is ready for end- point assessment. Note that the EUIAS is **NOT** present at this meeting. It is your sole responsibility to assure yourself, along with the training provider (if applicable) that the apprentice is ready for end- point assessment.

You are advised that the apprentice should prepare for this meeting by bringing along work-based evidence, including:

- portfolio of evidence
- mid and end-of-year performance reviews
- feedback to show how they have met the apprenticeship standards while on-programme Before the meeting, apprentices must have:
- achieved Level 2 English
- achieved Level 2 maths

Apprentices should be advised by employers and providers to gather this evidence throughout their on-programme training, **copies or scans of certificates WILL be required by EUIAS** before the apprentice can start EPA. Typically, these will be functional skills qualifications at Level 2 or GCSEs at grade C or above, or grade 4 and above.

It is recommended that employers and providers complete regular checks and reviews of this evidence to ensure the apprentice is progressing and achieving the standards before the gateway meeting is arranged.

The Gateway meeting

To comply with end-point assessment rules, EUIAS is not present at the Gateway meeting. Ideally it would be conducted with the apprentice, training provider and the employer present. Gateway meetings last about an hour and are completed on or after the apprenticeship on-programme end date.

During the meeting, the apprentice, employer and training provider will discuss the different aspects of the apprenticeship standard and confirm that the apprentice has met the full criteria of the apprenticeship standard during their on-programme training. A copy of standard and the assessment plan (ST0155/AP02) should be available at the meeting. In addition, the apprentice should be informed that EUIAS will be conducting the end-point assessment, and that copies of the following policies are available on the EUIAS web site at euias.co.uk

- Appeals Policy
- Complaints Policy

At the meeting, the apprentice should be informed that they are required to have proof of their identity with them for each end- point activity. EUIAS will accept the following as proof of identity:

- a valid passport
- a UK driving licence
- a valid warrant card issued by HM forces or uniformed services
- other photographic ID card such as an employee ID card or travel card

At the meeting, the Gateway Eligibility Report (GER) below must be completed, agreed and signed by all 3 parties* and submitted to EUIAS at enquiries@euias.co.uk with the subject line "GER – apprentice name – provider name".

A completed GER form is required for every apprentice you want to enter for end-point assessment.

*Where possible. We recognise that some meetings will take place at distance in which case an email agreement from the apprentice should be appended to the GER form.

The current Gas Engineering Operative assessment plan (ST0155/AP02) does not prescribe the Gateway meeting, although it is good practice. The Gateway Eligibility Report is a requirement of EUIAS. If it is not possible to have the employer present at the time, the Gateway Eligibility Form is completed by the apprentice and training provider, EUIAS will contact the employer to gain their signature.

Reasonable adjustments

If you wish to apply for reasonable adjustments on behalf of any of your apprentices, please do so at the same time as submitting the GER form, using the EUIAS Reasonable Adjustment Policy and Application that can be found at euias.co.uk

Re-sits and Re-takes

Any failed component can be retaken within the EPA window. If an apprentice is not successful, they can undertake a period of further training and re-take the failed components within a new EPA assessment window.

Timeline

Typical timeline in months, before and after the Gateway.

Initial engagement - 18 months before Gateway

Initial engagement, informal meeting between EUIAS and to agree:

- The numbers of apprentices in the cohort
- Any Reasonable Adjustments you want to apply for
- Domestic or non-domestic
- Expected location(s) for the Competency Test
- The expected date(s) of EPA
- The Training Provider
- The payment schedule
- Completion of Service Level Agreement (employer AND lead provider)

Registration - 18 months before Gateway to 6 months before Gateway

The apprentice is on-programme, and compiling their portfolio of evidence to support the Work log review and interview

Formal Appointment/registration using the Cohort Registration form (Triggers Stage 1 payment)

EUIAS:

- EUIAS will issue the Privacy Notice which must be shared with every apprentice in the cohort

Employer/training provider:

- Complete the Cohort Registration form, signed jointly by employer and TP, with:
- Confirmation of learner numbers
- Confirmation of expected EPA dates
- Confirmation of the level of service agreed with EUIAS, with pricing
- Confirmation that you will give three months' notice of apprentices being ready for EPA
- Completion of the Learner Submission form including each learner in the cohort
- A purchase order from the lead provider to EUIAS to the value agreed

18 months before Gateway to 6 months before Gateway

Update calls (as agreed)

- EUIAS will periodically call designated contact to enquire about progress towards EPA
- EUIAS provides on-going support via enquiries@euias.co.uk
- Employer or training provider will give at least 6 months' notice of any proposed change to EPA dates

6 months before Gateway to Gateway

- Employer or training provider provides details of competency test to EUIAS i.e. venue, type of appliance and equipment; which appliance categories will be covered by each apprentice

3 months before Gateway to Gateway

- If applicable, employer supplies names and details of employer assessors to EUIAS, who will arrange their standardisation
- Employer or training provider to compile evidence of meeting eligibility requirements (English and maths)
- Employer or training provider should also be arranging practice assessments for apprentices
- Site review to confirm suitability of tasks and appliances for the competency test

Gateway

- Employer or training provider:
- Provide completed Gateway Eligibility Report for each apprentice
- Ensure ALL eligibility requirements are met for each apprentice going forward to EPA
- Purchase order for Stage 2 payments

Gateway, and the 3 month EPA window

End-point Assessment window (nb; 3 month window for each apprentice commences on the date of their first EPA activity)

The knowledge assessment will be undertaken first, followed by the competency test. Our pricing is based on being able to test every apprentice in the cohort at the same time (knowledge test). The Technical Interview must the final assessment component.

EUIAS:

- Schedule the assessments, in discussion with the employer/training provider
- Provides assessors for all assessment activities (unless otherwise agreed)
- Provides invigilator for Knowledge Assessment (if agreed in the price)
- Arranges re-sits within the 3 month EPA window, if required
- Carries out a final moderation to confirm grading decisions
- Will provide results of EPA with 11 days of final moderation

Employer or training provider:

- Ensures apprentices are briefed and prepared for EPA, including location and timings of assessments
- Provides venue for the knowledge assessment (and re-sits if required)
- Provides access and details of venue for competency test as previously agreed with EUIAS

Nb. A re-take will be arranged, with the agreement of all parties, for apprentices who have failed a component or components and are deemed to require further training before being ready for end-point assessment.

Time-line summary for Employers and training provider; refer to previous section for details

18 months before Gateway

- Complete SLA (employer and provider) and Learner submission form
- Completion of Employer Appointment and Cohort Registration form
- Raise purchase order for registration fees (Stage 1 payment)

6 months before Gateway

- Notify EUIAS of any changes to EPA
- Confirm arrangements for practical assessment tasks with EUIAS; this will include EUIAS approval of proposed Practical Observation site and task
- Apprentices completing their portfolios

3 months before Gateway

- Identify employed assessors and notify to EUIAS for initial standardisation (if required)
- Employer/training provider compiling eligibility documents (English/maths) for all
- Site review, and after achievement of Gas Safe, carry out practice assessments with apprentices

Gateway

- Gateway meeting between apprentice, provider and employer to confirm Gateway readiness
- Return completed Gateway Eligibility Report, with required documentation, to EUIAS

The 3 month EPA window

- Ensure apprentices are available for their EPA activities
- Knowledge Assessment is usually first, Technical Interview must be last

EUIAS Level 3 End-point Assessment for Gas Engineering Operative

Gateway Eligibility Report

(Standard Version: ST0155 version 1, 2016; Assessment Plan Version: ST0155/AP02)

Apprentice's details

Apprentice's name:	Apprentice's job title:
Name of Employer:	Name of Training provider:
Employer representatives present:	Training provider representatives present:
Apprenticeship start date:	Apprenticeship on-programme end date:
Gateway meeting date:	
Has the apprentice taken any part of the end-point assessment for this apprenticeship standard with any other End Point Assessment Organisation?	Y / N
If "Yes" please give details:	

Eligibility requirements for GEO

The apprentice must confirm their achievement of the following:

Eligibility requirement	Achieved by the apprentice? Y/N	Evidence (scans of certificates MUST be included)
Achieved English level 2		
Achieved maths level 2		

Gateway Eligibility Declaration

The apprentice, the employer and the training provider must sign this form to confirm that they understand and agree to the following:

1. The apprentice has completed the required on-programme elements of the apprenticeship and is ready for end-point assessment with EUIAS
2. The apprentice will only submit their own work as part of end-point assessment
3. All parties agree that end-point assessment evidence may be recorded and stored by EUIAS for quality assurance purposes
4. The apprentice has been on-programme for a minimum duration of 18 months
5. The apprentice has achieved the Mathematics and English requirements as detailed in this document
6. The apprentice, if successful, gives permission for EUIAS to request the apprenticeship certificate from the ESFA who issue the certificate on behalf of the Secretary of State
7. The apprentice has been directed to the EUIAS Appeals Policy and Complaints Policy
8. The employer/training provider has given the EUIAS at least three months' notice of requesting this EPA for this apprentice
9. If the Gateway Eligibility Report is not completed in full, meeting all requirements, and submitted to EUIAS, the end-point assessment cannot take place

Signed on behalf of the employer (print name):	Signature:	Date:
Signed on behalf of the training provider (print name):	Signature:	Date:
Apprentice's name (print):	Signature:	Date:

EUIAS use only:	
EUIAS Sign off:	
Comments/actions:	

Level 3 EPA Gas Engineering Operative

EPA Specification Section 4 – The Gas Engineering Operative standard with Amplification and Guidance

Contacts

This specification has been designed to provide all the advice and guidance you need to prepare yourself and your apprentices for end-point assessment. However, if you have any further questions please contact the EUIAS Help Desk using one of the following:

Help Desk email: enquiries@euias.co.uk

Help Desk telephone: 0121 0779922 option 2

The Gas Engineering Operative standard in detail

The GEO standard consists of:

- Core knowledge (8 elements)
- Core skills (12 elements)
- Behaviours (8 elements)
- Technical Knowledge (12 elements)
- Technical Skills (13 elements)

The following pages list each of the elements of the standard, the assessment method(s) required and amplification and guidance of the range and depth expected.

Core Knowledge

Assessed across Knowledge Test, Gas Safe® Registration (GS), Competency Test (CT), Work Log Review (WLR) and Work Log Interview

CK1 Current Health, Safety and Environmental legislation and regulations applicable to work in the gas industry

CK2 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

CK3 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

CK4 Relevant electrical/mechanical principles and how they are applied in work processes and procedures

CK5 Up to date energy efficiency advice and guidance to be given to the customer

CK6 Product knowledge to be able to discuss and advise the customer

CK7 Current regulatory compliance, current Gas Safety (Installation and Use) Regulations and the current Electricity at Work Regulations

CK8 Company rules, policies and procedures as defined by the employer

Core Knowledge: Amplification and Guidance
CK1 Current Health, Safety and Environmental legislation and regulations applicable to work in the gas industry • Health & Safety at Work Act • Control of Substances Hazardous to Health procedures • Working at Height Regulations • Provision and Use of Work Equipment Regulations (PUWER) • Reporting of Injuries, Diseases and Dangerous Occurrences Regulations (RIDDOR) • Building Regulations (England & Wales) • Building Standards (Scotland)

CK2 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

- Demonstration that all installation, commissioning, decommissioning, service and repair work operations is / are carried out in accordance with manufacturer's instructions
- Compliance with the requirements set out in Gas Safety (Installation & Use) Regulation 26 (9):

  "Where a person performs work on a gas appliance, he or 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 to ensure its safe functioning"

CK3 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

- Engineering 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
- Ability to follow installation, commissioning, service and repair processes as outlined in manufacturer's instructions
- Correct interpretation of flame picture, and recording of Working Pressure across the appliance range and or pathway
- The correct ventilation requirement criteria are applied to each appliance installation relevant to the situation as found or as described
- Chimneys and Flues meet manufacturer's instructions, are installed
- Safe isolation of electrics procedures is applied
- 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
- The correct process for earth loop impedance testing is applied

CK4 Relevant electrical and 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
- Understanding and application of safe working processes, procedures, practices when dealing with electrical or mechanical equipment, as well as controls, systems and functions

CK5 Up to date energy efficiency advice and guidance to be given to the customer

- The provision of energy efficiency advice that is relevant and applicable to each customer's situation
- Demonstration of knowledge of up to date energy efficiency measures, tariffs and options
- Acting within guidelines for the provision of energy efficiency advice as outlined within government produced best-practice guides, publications and relevant company policies

CK6 Product knowledge to be able to discuss and advise the customer

- 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
- Demonstration of discussions with customers where the product knowledge is provided under best-advice guidelines

CK7 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

CK8 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

Core Skills

Assessed across Gas Safe® Registration, Competency Test and Worklog Review and Work Log Interview

CS1 Undertake and document rigorous risk assessments to ensure the safety of all affected by the work activities

CS2 Take personal responsibility for maintaining safety standards and achieving job objectives

CS3 Use and maintain tools, equipment and personal protective equipment (PPE) in a safe and appropriate manner

CS4 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

CS5 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

CS6 Work on customer premises/property showing appropriate care and respect whilst focusing on safety

CS7 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

CS8 Identify where situations or conditions are to unsafe standards and take appropriate actions within your range of competency

CS9 Achieve individual and team tasks which align to overall work objectives, be self-motivated and disciplined in the approach to work activities

CS10 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

CS11 Identify, organise and use resources effectively and sustainably to complete the task with consideration to cost, quality, safety, security and environmental impact

CS12 Be able to read and follow technical documentation associated with equipment and installation requirements

Core Skills: Amplification and Guidance

CS1 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

CS2 Stakeholders

- Demonstration of safety awareness through information recorded on job records and through mentor comments

CS3 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

CS4 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

- Installation, commissioning, decommissioning, service and repair work operations being carried out in accordance with manufacturer's instructions
- Compliance with the 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"

CS5 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

- The planning of activities to successfully achieve job objectives across a range of conditions and locations
- Demonstrate knowledge of the business 'lone working' policy and knowledge of the safety measures to apply when lone working
- Can adapt working methods to suit circumstances of job

CS7 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

- Customer interactions across a range of circumstances
- 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
- 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

CS8 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)

CS10 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

CS11 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
- Applies business and personal environmental considerations where applicable i.e. the disposal of hazardous waste, application of the company 'stock' policy

CS12 Be able to read and follow technical documentation associated with equipment and installation requirements

- Apprentices can demonstrate successful interpretation of data contained within Manufacturer's instructions, Technical Operating Procedures and standards.
- Apprentices demonstrate an ability to source and interpret technical data from online sources

Behaviours

Assessed in across Gas Safe ® Registration, Competency Test and Worklog Review and Work Log Interview

B1 Ensure personal wellbeing and the safety of customers and others is a priority

B2 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

B3 Demonstrate an awareness of how the work impacts on others in the work environment

B4 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

B5 Undertake Continuous Professional Development to enhance knowledge and skills to maintain competence

B6 Recognise personal and professional limitations and seek appropriate advice when necessary

B7 Display self-discipline and self-motivated approach

B8 Exercise responsibilities in an ethical manner

Behaviours: Amplification and Guidance

B1 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

B2 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

B3 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

B4 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 other

- 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

B5 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

B6 Recognise personal and professional limitations and seek appropriate advice when necessary

- Evidence of advice sought from mentors, line managers, coaches, manufacturers and other specialists

B7 Display self-discipline and self-motivated approach

- Recognition through review process of attitude and approach to work and to work-life balance

B8 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

Technical Knowledge

Assessed in Knowledge Assessment, Worklog Review and in reference to Gas Safe ® Registration

TK1 Electrical awareness and be able to carry out safe isolation and essential electrical safety checks

TK2 Combustion, combustion analysis, gas properties, carbon monoxide (CO), and types of burners

TK3 Flues and ventilation principles

TK4 The necessary safety checks following gas work on an appliance (regulation 26/9)

TK5 The range and suitability of appliances

TK6 The statutory and normative documentation including building regulations, water regulations and electrical regulations

TK7 Emergency procedures, including gas escapes, report of fumes and for unsafe situations

TK8 A knowledge and understanding of four appliances

TK9 System design, location, controls, flue types for appliances and smart controls

TK10 An awareness of green technologies

TK11 The properties of Liquid Petroleum Gas (LPG)

TK12 An awareness of fuel storage – tanks and bottles (Liquid Petroleum Gas - LPG)

Technical Requirements Knowledge: Amplification and Guidance

TK1 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

TK2 Combustion, combustion analysis, gas properties, carbon monoxide (CO), and types of burners

- Types of burners; simplex and duplex, pre-aerated, post aerated

TK3 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

TK4 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"

TK5 The range and suitability of appliances

- Confirmation of the suitability of appliances or appliance installations in reference to the requirements of manufacturer's instructions

TK6 The statutory and normative documentation including building regulations, water regulations and electrical regulations

- Interpretation of regulations and standards and how they apply to situation
- Knowledge of the statutory and normative documentation that govern gas engineering roles

TK7 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

TK8 A knowledge and understanding of four appliances

- Work activities across the stated range of (four) appliance types that consist of the chosen pathway for apprenticeship (See Annex for list of appliance types)

TK9 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 manufacturers instruction's and installation circumstances such as room type and usage

TK10 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

TK11 The properties of Liquid Petroleum Gas (LPG)

TK12 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

Technical Skills

Gas Engineering Operative Technician: Amplification and Guidance

TS1 Carry out safe isolation essential electrical safety checks	**TS9** Reinstate following completion of works cleaning up and making good
TS2 Demonstrate ambient air testing/carbon monoxide/dioxide atmosphere testing	**TS10** Work in compliance with statutory and normative documentation including building regulations, water regulations and electrical regulations
TS3 Carry out flue testing	**TS11** Access and comply with technical guidance, bulletins and safety alerts e.g. Gas Industry Unsafe Situations Procedures (GIUSP)
TS4 Undertake the necessary safety checks following gas work on an appliance (Reg. 26/9)	**TS12** Demonstrate tightness testing, purging and relight procedures on gas installations
TS5 Identify faults and take the appropriate action	**TS13** Demonstrate pipework installations/pipework skills, pressure and flow/pipework sizing, meter installation
TS6 Identify gas safety controls and prove their safe operation	
TS7 Undertake the installation and/or repair and maintenance of appliances	
TS8 Complete records and maintain records accordingly	

TS1 Carry out safe isolation essential electrical safety checks

- Select correct point of isolation
- Utilise Mains approved test equipment
- Apply correct means of isolation
- Test at the correct phases of the isolation process
- Re-test the test-kit to prove working
- Utilise Safe Isolation workflow diagram where appropriate
- Use of the correct safe Isolation kit
- Comply with regulation 14 of the Electricity at Work Regulations

TS2 Demonstrate ambient air testing, carbon monoxide and dioxide atmosphere testing

- Utilise appropriate testing equipment and procedures to record results of testing
- Correct application of the Gas Industry Unsafe Situations Procedure when testing results demonstrate failure of conditions or atmospheres
- Apply the requirements of RIDDOR where required

TS3 Carry out flue testing

- For new and existing flues or chimneys
- Builders openings, masonry and pre-cast flue chimneys
- New factory-made metal flues / chimneys
- Flue tests appropriate to appliance types
- Flue Test as per company procedures
- Recognition of termination points, distances and hazards

TS4 Undertake the necessary safety checks following gas work on an appliance (Reg. 26/9)

- Completion of the checks required as stated previously:

  "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"

TS5 Identify faults and take the appropriate action

- Application of a logical fault–finding process
- Correct fault diagnosis following logical process
- Repair of faults
- Ordering of correct part(s) where fault cannot be rectified during initial visit
- Application of the Gas Industry Unsafe Situations Procedure where fault diagnosis uncovers unsafe circumstances
- Apply the requirements of RIDDOR where required

TS6 Identify gas safety controls and prove their safe operation

- Demonstration of understanding the operation of the gas safety controls per appliance type
- Correct test procedures for gas safety controls applied across the range of appliance types

TS7 Undertake the installation and/or repair and maintenance of appliances

- Carry out appliance installations in full accordance with manufacturer's instructions
- Ensuring flueing and ventilation requirements are met
- Maintain and repair appliances utilising safe working techniques, and operate in compliance with manufacturer's instructions and company technical procedures

TS8 Complete records and maintain records accordingly

- Evidence of completed:
- Job Reports including test results
- Method statements
- Risk assessments
- Unsafe situation and/or RIDDOR reports and labels

TS9 Reinstate following completion of works cleaning up and making good

- All hazardous waste removed from work area in accordance with company or COSHH procedures
- Work areas is left as found
- All appliances affected by work operations are inspected and confirmed as returned to safe operation

TS10 Work in compliance with statutory and normative documentation including building regulations, water regulations and electrical regulations

- Health & Safety at Work Act
- Control of Substances Hazardous to Health procedures
- Working at Height Regulations
- Provision and Use of Work Equipment Regulations (PUWER)
- Reporting of Injuries, Diseases and Dangerous Occurrences Regulations (RIDDOR)
- Building Regulations (England & Wales)
- Building Standards (Scotland)
- Gas Safety (Installation & Use) Regulations
- Electricity at Work Act

TS11 Access and comply with technical guidance, bulletins and safety alerts e.g. Gas Industry Unsafe Situations Procedures (GIUSP)

- Evidence of accessing and interpreting technical guidance and standards
- Evidence of research to locate the appropriate technical guidance
- Knowledge of standards and guidance that apply to the role of Gas Engineering Operative

TS12 Demonstrate tightness testing, purging and relight procedures on gas installations

- Evidence of the application and the recording of the outcome of the tightness testing procedure relevant to all jobs and work types
- 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

TS13 Demonstrate pipework installations/pipework skills, pressure and flow/pipework sizing, meter installation

- Pipe installation work to include:
    - Pipework sizing calculations
    - The use of fittings
    - Pipe bending
    - Meter work during installations (safe removal and capping)
    - Pressure and flow of gas

- Standing and working pressure – results and recording
- Heat Input calculations

Level 3 End-Point Assessment for Gas Engineering Operative

EPA Specification Section 5 – Assessment

- Assessment summary
- Retake and resit information
- Overall grading
    - 5.1 Knowledge test and component grading
    - 5.2 Portfolio Assessment and component grading

Contacts

This specification has been designed to provide all the advice and guidance you need to prepare yourself and your apprentices for end-point assessment. However, if you have any further questions please contact the EUIAS Help Desk using one of the following:

Help Desk email: enquiries@euias.co.uk

Help Desk telephone: 0121 0779922 option 2

Assessment summary

The end-point assessment for Gas Engineering Operative (GEO) consists of two components:

Knowledge Assessment

- 40 multiple choice questions in a 60-minute assessment

Portfolio Assessment

- Normal duration completed in the final 3 months, including a competency test, work log and interview

Roles and responsibilities

EUIAS can provide assessors or they can be nominated by the apprentice's employer or an external organisation. All assessors must be approved by the EUIAS. Technical Experts operating as assessors must not have been involved in the training or line-management of the apprentice at any stage.

EUIAS will provide the invigilator, or the employer can provide the invigilator in accordance with EUIAS Invigilation guidelines. This will be agreed at the Registration stage (see Section 3)

Overall Grading

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

Knowledge Assessment Grade	Portfolio Assessment Grade
Fail, Pass or Distinction	Fail, Pass or Distinction

Where an apprentice does not achieve a pass grade, they will be deferred with the option to re-sit or re-take at the discretion of the employer or training provider.

The employer or training provider will provide the venues for the assessments, including settings for the Portfolio assessment, suitably equipped to allow the apprentice to attempt all aspects of the assessment. The employer or training provider will provide all necessary tools and equipment for the apprentice.

EUIAS will confirm that the proposed venue for the portfolio assessment offers opportunities for sufficiently complex tasks to enable the apprentice to attempt all required aspects of the standard.

The employer or training provider will adequately prepare apprentices for the end-point assessments and will ensure the evidence portfolio for each apprentice is submitted to EUIAS prior to end-point assessment at an agreed date.

Re-take and re-sit information

Apprentices may re-sit one or more failed components within the six-month end-point assessment window. Components may be re-sat more than once, with the support of the training provider. Apprentices who are not successful within the 3-month window may re-take the whole end-point assessment provided a period of further study/training is undertaken.

Level 3 End-Point Assessment for Gas Engineering Operative

EPA Specification Section 5.1 – The Knowledge Assessment

- Criteria
- Grading

Contacts

This specification has been designed to provide all the advice and guidance you need to prepare yourself and your apprentices for end-point assessment. However, if you have any further questions please contact the EUIAS Help Desk using one of the following:

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Help Desk telephone: 0121 0779922 option 2

Introduction

The knowledge assessment consists of 40 multiple choice questions sampling the core knowledge (listed below as CK1, CK3, CK4 and CK7) of the GEO standard. The practice test supplied as part of this document illustrates the format and style of the assessment.

Preparing for the Knowledge Assessment

- While on-programme, the employer or training provider should ensure the apprentice is familiar with all areas assessed by the knowledge assessment
- The employer or training provider should support the apprentice to complete a practice test and provide them with formative feedback to enable them identify areas of further learning

Knowledge Assessment Criteria

The criteria that are covered in the Knowledge Assessment are listed below. In each assessment, questions will cover each of the areas; not every aspect of every area will be covered in every assessment. Bold font indicates that Amplification and Guidance is provided below.

CK1 Current Health, Safety and Environmental legislation and regulations applicable to work in the gas industry

CK3 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

CK4 Relevant electrical, mechanical principles and how they are applied in work processes and procedures

CK7 Current regulatory compliance, current Gas Safety (Installation and Use) Regulations and the current Electricity at Work Regulations

Knowledge Assessment Amplification and Guidance
Core Knowledge (CK) criteria
CK1 Current Health, Safety and Environmental Legislation and Regulations • Health & Safety at Work Act • Control of Substances Hazardous to Health procedures • Working at Height Regulations • Provision and Use of Work Equipment Regulations (PUWER) • Reporting of Injuries, Diseases and Dangerous Occurrences Regulations (RIDDOR) • Building Regulations (England & Wales) • Building Standards (Scotland)

CK3 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

- 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. i.e. properties of gas,
- Ability to follow processes as outlined in manufacturer's instructions
- Correct interpretation of flame picture, and recording of Working Pressure across the appliance range / pathway
- The correct ventilation criteria is / are applied to each appliance / installation relevant to the situation as found or as described
- Safe isolation of electrics procedures is / are applied
- Electrical systems are deemed safe through the proper completion of preliminary electrical systems checks
- The correct process for earth loop impedance testing is applied

CK4 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
- Understanding and application of safe working processes / procedures / practices when dealing with electrical / mechanical equipment / controls / systems / functions

Technical Knowledge (TK) criteria

TK1 Electrical awareness and be able to carry out safe isolation and essential electrical safety checks

- Records of candidates following the safe isolation process and carrying out the correct electrical safety checks will be present throughout worklog
- Knowledge test will include questions on safe isolation / electrical safety checks

TK2 Combustion, combustion analysis, gas properties, carbon monoxide (CO), and types of burners

- Worklog will include evidence of combustion performance and analysis.
- Worklog will also show occasions where carbon monoxide has been detected and the correct actions followed
- Knowledge test will include questions from the list of combustion / combustion analysis / gas properties / carbon monoxide / types of burners

TK3 Flues and ventilation principles

- Worklog will contain examples of flue / chimney considerations against relevant standards, including flue route, material, termination, sizing and testing methods
- Worklog will contain examples of ventilation calculations and confirmation of ventilation provisions for a range of appliance types and situations
- Knowledge test will contain questions on flue and ventilation principles

TK4 The necessary safety checks following gas work on an appliance (regulation 26/9)

- Worklog will contain 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"
- Knowledge test will also contain questions related to Gas Safety (Installation & Use) Regulation 26(9)

TK5 The range and suitability of appliances

- Worklog will contain confirmation of the suitability of appliances / appliance installation in reference to the requirements of manufacturer's instructions and other normative documents
- Knowledge test questions on the range and suitability of appliances

TK6 The statutory and normative documentation including building regulations, water regulations and electrical regulations

- Worklog evidence will show interpretation of regulations and standards has occurred throughout the programme
- Knowledge test will also cover statutory and normative documentation

TK7 Emergency procedures, including gas escapes, report of fumes and for unsafe situations

- Worklog evidence to show the 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')
- Knowledge test will contain question relating to specific unsafe situation circumstances and procedures to be followed

TK8 A knowledge and understanding of four appliances

- Worklog evidence outlining work activities across the stated range of (four) appliance types that consist of the chosen pathway for apprenticeship
- Knowledge test questions relating to appliances

TK9 System design, location, controls, flue types for appliances and smart controls

- Checks that all designs, locations, control systems etc meet the requirements of Manufacturer's Instructions are included within worklog evidence
- Knowledge test questions relating to system design / flue types and controls

TK10 An awareness of green technologies

- Worklog evidence of customer conversations where suitable green technology advice has been stated
- Knowledge test questions relating to green technologies

TK11 The properties of Liquid Petroleum Gas (LPG)

TK12 An awareness of fuel storage – tanks and bottles (Liquid Petroleum Gas - LPG)

- Worklog containing evidence of LPG awareness / tank and bottle storage considerations
- Knowledge test questions on LPG awareness

In accordance with the GEO assessment plan, aspects of these elements are also assessed in the Worklog review Assessment.

Knowledge Assessment Grading

This component is graded as follows:

Grade:	**Percentage:**
Fail	≤79
Pass	80 – 89
Distinction	90 -100

Level 3 End-Point Assessment for Gas Engineering Operative

EPA Specification Section 5.2 – Portfolio Assessment

- Introduction
- Gas Safe® Registration
- Competency Test
- Grading Criteria

Contacts

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Gas Safe® Registration

Gas Safe® Registration is a separate process from the apprenticeship. Through the Gas Safe® process, all gas engineering operatives must complete a defined set of industry standard assessments designed to enable the operative to demonstrate competence across a range of appliance types relevant to their business operations. Providers will prepare apprentices to undertake this process prior to end point assessment. Successful completion of the Gas Safe® Registration process is a requirement for the gateway to end point assessment and as such, the submitted portfolio must contain evidence of Gas Safe® Registration.

Competency Test

Apprentices will complete a competency test comprising of practical observation across a number of set tasks. During the competency test, apprentices will also be asked questions by the assessor to confirm their understanding of the rationale for actions taken and choices made during the test. The content of this competency test will relate to the four appliances for which the apprentice has received Gas Safe® certification.

The duration of the competency test will **be no longer than one day,** and the actual time allowed will be based on the comparable time that an industry competent worker would take to achieve successful completion of the set task(s). EUIAS has devised practical observation tasks that are sufficiently complex to allow the apprentice to demonstrate the required knowledge, skills and behaviours required of the gas engineering apprenticeship operative standard.

For competency tests that will take place within a 'Real (or Realistic,) World Environment' (RWE,) EUIAS will agree the local application of the assessment, and also agree the assessment set-up / assessment routes with the employer/training provider prior to any competency tests taking place.

Working across the range of the four appliances for which gas safe certification has been achieved, the competency test will cover:

- Safe installation and commissioning an appliance
- Service and maintain an appliance or system
- Repair a fault on an appliance and system
- Decommission an appliance or system

Note that the apprentice is only required to demonstrate the specific skill or knowledge requirements once. The tasks for the competency test must be chosen carefully to ensure that the apprentice has an opportunity to cover all aspects of the competency test criteria.

The competency test will be managed and marked by assessors who are technical experts authorised and appointed by EUIAS. This may or may not be one of the assessors who will conduct the Work Log review and interview – see below. Assessors for the competency test may or may not be one of the assessors who conduct the worklog review / technical interview. Assessors may be nominated from within the apprentice's own organisation or from an external organisation if required. Appointed Assessors will not have directly worked with the apprentice nor participated in their learning and training at any stage. Assessors must be able to demonstrate an appropriate level of competence i.e. training and experience, to undertake the role and must also hold an assessor qualification in order enable initial approval from EUIAS.

As part of the competency test the apprentice will be asked standardised questions, with follow up questions as appropriate, to confirm their understanding of the rationale for actions taken and the choices made to complete the tasks.

This competency test provides the opportunity for the apprentice to synoptically demonstrate core and specific knowledge, skills and behaviours as detailed in Section 4, on actual appliances and equipment in a realistic work situation. This provides the opportunity to bring together and apply their learning.

Apprentices are assessed to confirm that they can apply their knowledge, skills and behaviours - required to safely and accurately perform operational activities on gas systems, gas appliances and equipment with minimum supervision.

The apprentice can achieve a Pass or Distinction. If they do not achieve a pass, they will be deferred.

Preparing for the Competency Test

Apprentices should be prepared for the Competency Test with the opportunity to carry out complex practical tasks under assessment conditions prior to commencement of the end point assessment. (See Section 6.) Apprentices should be made aware and should confirm their understanding of the grading criteria for pass and distinction to provide knowledge of what's required to achieve to their full potential.

The EUIAS Service Delivery team will get in touch with the agreed point of contact at the employer or training provider to schedule the competency tests as required. This task requires sufficient notice to take account of availability of the availability of the apprentice, the assessor(s) and the venue staff for the duration of the Observation stage of the competency test. A maximum of three apprentices per day can be assessed on the competency test, per assessor.

Grading the Competency Test

The Competency Test is marked across 10 areas which have been selected to provide coverage of all the knowledge, skills and behaviours required:

1. Application of company policy and procedures
2. Operates in a manner to ensure the safety of all
3. Maintains technical and safety standards at all times (behaviours)
4. Communication skills and customer interaction
5. Has focus and clear purpose in all conditions and locations, covering business requirements
6. Work on customer premises / property shows proper care and respect
7. Quality of work – skills
8. Safe gas and electrical working practices
9. Pipework skills
10. Relays energy efficiency advice and product knowledge

The Distinction Grade for the Competency Test is determined by the total number of marks achieved and the following table provides commentary and examples of how Technical Experts conducting the Competency Test will apply scoring

COMPETENCY TEST SCORING GUIDE

ELEMENT	PASS	DISTINCTION
Competency Test	**To achieve a Pass grade, the tasks must be completed in full, meeting the criteria set out in Section 4 of this document. All work must be conducted with safety as the priority.** **Pass will be achieved by apprentices demonstrating a good application of their knowledge and skills, as well as displaying the appropriate level of behaviours throughout the job. The following list is non-exhaustive:** • Completes installation and commissioning activities in full accordance with manufacturer's instructions and technical operating procedures • Demonstrates good application of knowledge and skills to undertake diagnostic, fault finding, repair and maintenance skills • All required tests and testing are carried out in accordance with the appropriate standard and following the correct procedure. Test results are correctly interpreted, and relevant actions taken dependant on the results of tests and testing • Good verbal and written communication and reporting • Good customer service including relevant energy advice for each of the four appliance types • Demonstrates full compliance with all safety requirements and responsibilities	**The range of activities related to job-deliverables within the role are of a fixed outcome, and therefore work must always be carried out in accordance with the relevant instructions, and to the relevant regulations, standards and procedures.** **Distinction level performance can be discerned through the quality of the full job. Apprentices can demonstrate distinction-level performance through items and areas such as:** • Manages the workflow of tasks impeccably in terms of a logical progress through the job, selection, preparation and use of tools and equipment at appropriate times, tidiness of work area, efficiency of actions • Demonstrates an outstanding ability to adapt to - and deal with changing circumstances throughout the job • Provides outstanding customer communication throughout the job from pre-arrival to leaving, and the applied style of communication is tailored so that it is relevant for the customer • Advice given to the customer is well researched, correct for the circumstances, and stretches beyond the required basics for energy efficiency and appliance or system advice • Methods of delivering 'bad news' - such as the condition of an unsafe appliance – are considered and take account of the customer and the circumstances beyond what can be seen

	• All work is carried out in accordance with relevant Regulations and Standards	• The task and activity are carried out using the application of outstanding skills including quality of finalised pipework & fittings that are installed, and the quality of fault diagnosis and repair techniques

Level 3 EPA Gas Engineering Operative

EPA Specification Section 5.3 – Worklog Review and Work Log Interview

- Preparing the Worklog Review
- Preparing for the Work Log Interview
- Criteria and Grading

Contacts

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Introduction

The Work Log review and interview are the final stages of the end-point assessment. Evidence within the Work Log must demonstrate competence against **all** aspects of the apprenticeship standard in terms of the required skills, knowledge and behaviours.

Work Log review and interview specifically cover the criteria listed here. Please see Section 4 for Amplification & Guidance:

- All core knowledge CK1, CK2, CK3, CK4, CK5, CK6, CK7 and CK8
- All core skills CS1, CS2, CS3, CS4, CS5, CS6, CS7, CS8, CS9, CS10, CS11 and CS12
- All behaviours B1, B2, B3, B4, B5, B6, B7 and B8
- All technical knowledge TK1, TK2, TK3, TK4, TK5, TK6, TK7, TK8, TK9, TK10, TK11 and TK12
- All technical skills TS1, TS2, TS3, TS4, TS5, TS6, TS7, TS8, TS9, TS10, TS11, TS12 and TS13

The Work Log will be assessed by an EUIAS approved Technical Expert who has not directly worked with the apprentice, nor participated in their training and learning. The Technical Expert will use standardised assessment criteria and documentation provided by EUIAS.

Grading the Work Log

Work Log Review	To achieve **Pass** within the Work Log Review, apprentices must demonstrate the required level of competence across the full range of work that meets the apprenticeship standard criteria outlined within Section 4 of this document. Technical Experts reviewing a portfolio shall look for good quality evidence of the following. (Please note that this list is not exhaustive): • Health and safety application including risk assessment and mitigation • Correct adherence to method statements • Demonstration of the correct processes and procedures in relation to all work activity that establishes the safe operation of appliances and equipment • The application of gas and electrical theories throughout all work activities • Relevant scientific and mechanical principles and how they apply to work processes • Up to date knowledge of energy efficiency advice and other guidance given to the customer	**Distinction** level performance can be demonstrated through the quality of the portfolio itself. The quality of work carried out, comments from Managers and Mentors. Testimonials from the customer that are contained within the portfolio. Examples of Distinction-level performance for the Work Log Review: • Outstanding track record of application of knowledge within the real-world context is demonstrated throughout portfolio • The Work Log is systematic and contains evidence over and above the standard to demonstrate knowledge, skills and competency • The Work Log contains excellent photographic evidence that is clear, and that catalogues all key job milestones, providing clarity around what each photograph is seeking to demonstrate • Job reports and write ups are clear, each are unique in content, and activities are logically and clearly documented • Customer testimonials, Mentor and Line Manager comments are exceptional

	• Adherence to current and relevant regulations and standards, as well as compliance with company operating procedures, rules and policies • Delivery of a polite, courteous and professional service to all customers across a range of work, adapting messages to suit varying circumstances • Demonstration of continuous professional development, self-motivation and self-discipline • Demonstration of sustainable and ethical behaviours	• The Work Log contains evidence of self-research and further study beyond the basic deliverables of the job role. • Job reports and write-ups provide evidence of high-quality work, including the distinction level areas outlined for the Competency Test. • On-programme assessment documentation demonstrates a consistently outstanding performance • Extra time taken to produce a high-quality portfolio document that provides insight into the care and time the apprentice will take to produce work of an exceptional quality and standard

Work Log Interview

The Work Log Interview will last approximately 1 hour. It is based on the contents of the evidence portfolio which will be compiled throughout the apprenticeship. The evidence should be sufficient to demonstrate that the apprentice can apply the knowledge, skills and behaviours required, and as outlined within Section 4 of this document.

Please note that the portfolio is assessed, and the apprentice can use it to support themselves in answering the interview questions. The interview questions will focus on the topic areas listed below so it is important that the apprentice is completely familiar with each of them.

Prior to the technical interview, the Assessor will review the portfolio. Although questioning will range across ALL the elements of the standard, Assessors will prioritise areas and shape questions according to what they see in the portfolio and how the evidence relates to each topic area.

Preparing for the Work Log Interview

Apprentices should be prepared for the technical interview with 'mock interview' opportunities. This should take place near or at the end of their training programme when they are finalising their portfolio. Apprentices should be guided to index their portfolios, referencing each part of their evidence to the relevant part of the standard. The Work Log Evidence Mapping Record will facilitate this activity See Annex 3.

Through verbal questioning, the work log interview will ensure validity and currency of knowledge, and the apprentice should be prepared to provide reasons for choices, methods, materials, risk, health and safety matters as required.

Guidance for preparing for the Work Log Interview is outlined in Section 6 "Guidance – setting up a practice Technical Interview". In particular, apprentices should be made aware of the grading criteria for pass and distinction to enable them to achieve to their full potential.

The topic areas which will be the basis for Work Log Interview questions are:

- Health and safety standards and regulations and environmental regulatory requirements
- 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
- Gas and Electrical regulations concerning the practical installation, commissioning, decommissioning and / or on-going service and repair of gas installations, appliances and associated equipment
- The statutory and normative documentation including building regulations, water regulations and electrical regulations, company rules, policies and procedures as defined by the employer
- Combustion, combustion analysis, gas properties, carbon monoxide (CO), and types of burners
- Flues and ventilation principles
- The necessary safety checks following gas work on an appliance (regulation 26/9)

- 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
- Emergency procedures, including gas escapes, report of fumes and unsafe situations
- The properties of Liquid Petroleum Gas (LPG) An awareness of fuel storage – tanks and bottles (Liquid Petroleum Gas - LPG)

Grading the Work Log Interview

The grading criteria are described in the following table. All pass criteria must be achieved in order to achieve a Pass.

ELEMENT	PASS	DISTINCTION
Work Log Interview	**The interview shall be based on evidence contained within the Work Log and shall feature relevant questions from the topic areas listed below.** **To achieve a pass, apprentices must deliver responses that demonstrate a good level of critical reasoning, showcasing the range of criteria set out in Section 4 of this document.** **Assessors will probe each of the topic areas listed below and will seek to confirm the apprentice's understanding, and their ability to apply the correct knowledge as part of each individual's whole-job competence:** • Health and safety standards and regulations and environmental regulatory requirements • Safe gas and electrical theories and procedures involved in the practical installation, commissioning, decommissioning and / or ongoing service and repair of gas installation, appliances and associated equipment • Gas and electrical regulations concerning the practical installation, commissioning, decommissioning and / or ongoing service and repair of gas installations, appliances and associated equipment • Statutory and normative documentation including building regulations, water regulations and electrical regulations, company rules, policies and procedures as defined by the employer • Combustion, combustion analysis, gas properties, carbon monoxide (CO,) and types of burners • Flues / Chimneys and ventilation standards and principles	**As with all other areas of this end point assessment, the standards must be met in order to be deemed competent across the full range of work.** **Distinction level performance in the Work Log interview will be derived from the apprentice being able to demonstrate a depth of knowledge that displays an outstanding level of critical reasoning and how that knowledge may be applied to changing circumstances:** **Assessors will make grading judgements for distinction by seeking the traits and characteristics from the interview such as the examples listed here:** • The apprentice displays a high level of critical reasoning skills in responses to questions asked • The depth of knowledge on each area displayed by the apprentice is outstanding. • Responses provide insight into the individual's clarity of the subject under discussion and responses indicate knowledge that stretches beyond the basic requirements of the topic area. • Apprentices can clearly articulate their reasons for the choices they have made on different scenarios, the reasons for these choices, reasons for the methods undertaken, and how the management of risk, health and safety featured throughout their operations • Responses demonstrate thinking that shows consideration of elements not immediately present in the scenario under discussion

	• The necessary safety checks following 'work' on an appliance (gas safety regulation 26/9) • The range and suitability of appliances including a knowledge and understanding of appliance operation, system design, location, controls, flue types for appliances, smart controls and awareness of green technologies such as heat pumps • Emergency procedures including dealing with gas escapes, reports of fumes and other unsafe situations • The properties of Liquid Petroleum Gas (LPG) including an awareness of fuel storage, tanks and bottles	

Level 3 End-Point Assessment for Gas Engineering Operative

EPA Specification Section 6 – Practice Assessments and guidance

- Knowledge Assessment
- Guidance
- Practice Test (in the Annex)
- Practical Observation
- Guidance for setting up a practice Observation
- Technical Interview

Contacts

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The Knowledge Test

Guidance – preparation for the knowledge test

While on-programme, the employer/training provider should brief the apprentice on the areas to be assessed by the knowledge test, as detailed in Section 5.1. These are the Selected Core Knowledge elements of the standard, CK1, CK3, CK4 and CK7 as well as all of the TK criteria – TK1 through to TK12. It is good practice to identify the areas within the learning programme where the relevant knowledge is delivered and to ensure that apprentices are aware that elements from these areas shall be included in the Knowledge Assessment.

Be aware that the knowledge test relates to the standard, as opposed to the specific job role that the apprentice carries out. The questions have been written to reflect the gas engineering operative role as a whole and cannot be focussed on specific appliances, equipment, or employer-specific processes.

In readiness for end-point assessment, the apprentice should complete a sample test, which is included as an Annex to this specification. This should be undertaken in advance of the Knowledge Test, with enough time to mark the assessment, and provide feedback to learners.

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

Portfolio Assessment

Guidance for setting up a practice Competency Test

The tasks that will be undertaken within the Competency Test are:

Task 1: Install and commission a gas appliance:
Appliance category's utilised will be dependent on the apprentice Gas Safe® certifications and shall be stated on the assessment route plans approved by EUIAS. This task will involve the installation of a pipe system – a minimum of 1m in length to connect an appliance to the gas supply. The installation will require a pipe system to be installed and should also include the apprentice having to use soldered and threaded joints as part of the installation. Once pipe systems and associated checks and tests are complete, the apprentice shall commission the appliance or system as per manufacturer's instructions.
NB. This task does not include a requirement for wall-mounting any appliance.

Task 2: Carry out a service on a gas appliance or system:
Apprentices shall carry out a service on an appliance in accordance with manufacturer's instructions. It shall be permissible to utilise the appliances that were installed in Task 1 through the use of a rotation system so that no apprentice works on the appliance they installed.

Task 3: Repair a faulty gas appliance or system:
Technical Experts shall set faults on appliance categories. Faults that will be used should be listed for each appliance and held on a register that will be made available for audit.

Task 4: Decommission a gas appliance or system:
Appliances or systems shall be decommissioned as per manufacturer's instructions. The appliance pipe installation installed as part of Task 1 should be removed and all supply pipes capped or sealed. Gas systems shall be left in a safe condition

- The area designated for practice assessments must have a suite of appliances and equipment matching the categories for which apprentices gained certification during their Gas Safe process, I.e. if apprentices gained certification for central heating boilers, space heaters, cookers and laundry devices, then these will be the appliance types required for the competency test and which will be required for practice assessments.

- Appliances for practice assessments must have a range of faulty components available,

Practice Competency Tests must be assessed against the following high level competency areas:

- Application of company policy and procedures
- Operates in a manner to ensure the safety of all
- Maintains technical and safety standards at all times (behaviours)
- Communication skills and customer interaction
- Has focus and clear purpose in all conditions and locations, covering business requirements
- Work on customer premises / property shows proper care and respect
- Quality of work – skills
- Safe gas and electrical working practices
- Pipework skills
- Relays energy efficiency advice and product knowledge

Those conducting practice assessments must adhere to the guidance listed within the apprenticeship standard for 'Technical Experts'. Verbal questioning should be used throughout the practice assessment to allow the apprentice to demonstrate underpinning knowledge.

The apprentice should be aware of the criteria listed in the table in Section 5 of this document which outlines the elements that would constitute a Distinction level performance.

Work Log Interview

Preparing for the Work Log Interview

The Work Log Review is a significant part of the end point assessment and therefore, the work log has the potential to become very large. It is important to understand that the assessor needs to view and assess the work log prior to the Work Log Interview.

The work log will support the apprentice in providing evidence of their achievements and outcomes when questioned as part of the Work Log Interview. It is particularly useful in supporting apprentices in achieving a distinction. For example, the work log may make reference to "taking a lead in accepting additional responsibility" – the portfolio may contain witness testimony describing the circumstances, and the apprentice would be able to elaborate on this testimony when answering questions during the Technical Interview.

It is important to index the portfolio and cross reference it to the skills within the standard. A well referenced, well organised work log displays the types of behaviours and outcomes that could lead to higher gradings

Preparing and carrying out a practice Work Log Interview

Apprentices may feel nervous about undertaking a professional interview and it is good practice to build up this skill throughout the learning programme, in preparation for end point assessment. A good time to schedule a full practice interview would be when the Work Log is complete, towards the end of the formal training period. It must be done with enough time to provide feedback to the apprentice in order that they can learn from their performance, before the live end-point assessment. A period of two weeks or more is recommended, depending on the circumstances. The key is that the apprentice has time to act on the feedback from the practice interview.

A period of one hour should be set aside for each practice interview, and a set of open-ended questions prepared to cover each of the areas of the standard covered by the Work Log Interview and listed within Section 5 of this document

A tutor or supervisor should play the part of the assessor carrying out the Work Log Interview, asking the questions in a live test environment. They should record their assessment of the apprentice performance, using the grading descriptions in Section 5 as a guide, and provide the apprentice with feedback, focussing on areas of improvement. With the apprentice's permission, it is good practice to make an audio recording of the practice interview so that feedback can be more specific.

The Work Log Interview questioning should synoptically examine the knowledge, skills and behaviours by the apprentice through their on-programme experience. The questioning should be contextualised to the apprentice's specific job role. The tutor or supervisor must:

- prepare some interview questions around each of the topic areas outlined in section 5
- use various questioning techniques to confirm the depth of knowledge and or range of skills – take account of the fact that part of the assessor role is to ensure that the apprentice remains calm so that they can provide their best performance.
- for feedback purposes, record the interview or provide a clear narrative if the interview was not recorded. The narrative must describe the apprentices' responses to each of the questions asked. The narrative must capture the depth and breadth of the apprentice's response
- ensure the apprentice has provided evidence in their responses to cover all the relevant elements of the standard
- provide feedback to the apprentice focussing on any areas of the standard missed, or where appropriate, to give guidance on achieving the pass or distinction grades

Level 3 EPA Gas Engineering Operative

EPA Specification Section 7 – Supporting documents

- Gateway Eligibility Report
- Cohort Registration Form
- Practice Knowledge Assessment, with Answer Scheme
- Four Appliance Categories – Amplication and Guidance
- Work log Evidence Mapping Record

Contacts

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EUIAS Level 3 End-point Assessment for Gas Engineering Operative

Gateway Eligibility Report

(Standard Version: ST0155 version 1, 2016; Assessment Plan Version: ST0155/AP02)

Apprentice's details

Apprentice's name:	Apprentice's job title:
Name of Employer:	Name of Training provider:
Employer representatives present:	Training provider representatives present:
Apprenticeship start date:	Apprenticeship on-programme end date:
Gateway meeting date:	
Has the apprentice taken any part of the end-point assessment for this apprenticeship standard with any other End Point Assessment Organisation?	Y / N
If "Yes" please give details:	

Eligibility requirements for GEO

The apprentice must confirm their achievement of the following:

Eligibility requirement	Achieved by the apprentice? Y/N	Evidence (scans of certificates MUST be included)
Achieved English level 2		
Achieved maths level 2		

Gateway Eligibility Declaration

The apprentice, the employer and the training provider must sign this form to confirm that they understand and agree to the following:

10. The apprentice has completed the required on-programme elements of the apprenticeship and is ready for end-point assessment with EUIAS
11. The apprentice will only submit their own work as part of end-point assessment
12. All parties agree that end-point assessment evidence may be recorded and stored by EUIAS for quality assurance purposes
13. The apprentice has been on-programme for a minimum duration of 18 months
14. The apprentice has achieved the mathematics and English requirements as detailed in this document
15. The apprentice, if successful, gives permission for EUIAS to request the apprenticeship certificate from the ESFA who issue the certificate on behalf of the Secretary of State
16. The apprentice has been directed to the EUIAS Appeals Policy and Complaints Policy
17. The employer/training provider has given the EUIAS at least three months' notice of requesting this EPA for this apprentice
18. If the Gateway Eligibility Report is not completed in full, meeting all requirements, and submitted to EUIAS, the end-point assessment cannot take place

Signed on behalf of the employer (print name):	Signature:	Date:
Signed on behalf of the training provider (print name):	Signature:	Date:
Apprentice's name (print):	Signature:	Date:

EUIAS use only:	
EUIAS Sign off:	
Comments/actions:	

Cohort Registration Form (v2)

Section 1 Main Details

Standard and AP number	
Number in cohort, by pathway	
Cohort start date	
Expected Gateway date	

Employer Name	
Lead Provider Name*	

* (this may be the employer).

Employer Contact Name	
Employer Contact Details (address, phone and email)	
Employer Reference Number (ERN)	
Lead Provider Contact Name	
Lead Provider Contact Details (address, phone and email)	
Lead Provider Reference Number (UKPRN)	
Date of Service Level Agreement between EUIAS and Lead Provider (EUIAS to complete)	

EUIAS Unique Cohort Identifier (UCI) Number:

Section 2 Service Details

The scope of the end-point assessment service is listed in Section 4 of the Service Level Agreement agreed with the lead provider.

EUIAS end-point assessment policies can be found at www.euias.co.uk

The agreed pricing is detailed below.

End-point Assessment Price per apprentice	Stage 1 - Registration	
	Stage 2 – Gateway / End-point	
	TOTAL	

Cancellation price for EPA element 1 (specify):	£
Cancellation price for EPA element 2 (specify):	£
Cancellation price for EPA element 3 (specify):	£

Re-sit / re-take price for EPA element 1:	£
Re-sit / re-take price for EPA element 2:	£
Re-sit / re-take price for EPA element 3:	£

Cancellation charges (these are in line with section 10.9 of the Service Level Agreement)	
Less than 48 hours	Payment in full for the specific end-point assessment activity plus any travel and subsistence costs incurred and any additional assessment(s) that cannot be rescheduled due to the assessment plan stage requirements
More than 48 hours but less than 5 days	50% payment of the full payment for the specific end-point assessment activity and any travel and subsistence costs incurred that cannot be cancelled
Greater than 6 days but less than 10 days	25% payment in of the full payment for the specific end-point assessment activity and any travel and subsistence costs incurred that cannot be cancelled
More than 10 days	No additional charge for the specific end-point assessment activity
Other (if applicable)	

Additional Service Charges (insert details as applicable):

EUIAS – supplied assessors/technical experts: Assessors supplied by employer	£

Invigilation:	£ (per invigilator)

EUIAS approval of additional/alternative assessment facilities:	£ (per site)

Learner/employer workshops, technical briefings etc:	£ (per briefing, plus travel expenses)

Section 3 - Account Registration for Finance and Invoicing (if not provided in a previous Cohort Registration Form)

To be completed by the main provider (the organisation on the Register of Apprenticeship Training Providers (RoATP), that will be contracting with the EUIAS on the employer's behalf).

Use details already provided: **Yes / No**

Or complete the information below:

Lead Provider Name			
Address and Postcode			
Contact Name		Telephone No.	
Email Address		Company No	
Email Address for Statement		VAT no.	

Invoice Details – if different from above

Contact Name		Telephone No.	
Invoice Address and Postcode			

Account Payable Details – if different from above

Contact Name		Telephone No.	
Invoice Address and Postcode			

Purchase order number/details for Stage 1 payment

Section 4 - Declarations

Employer Declaration	
This is to confirm that the [employer] has selected the Energy & Utilities Independent Assessment Service (EUIAS) as their end-point assessment organisation for the stated apprenticeship standard and cohort, and that the details supplied in this form are correct.	
Employer Name	
Contact Name:	
Job Title:	
Signature:	
Date:	

Lead Provider Declaration (this may be the employer)	
This is to confirm that the [Lead Provider] is approved on the Register of Apprenticeship Training Providers and will contract with and pay Energy & Utility Skills Limited (trading as Energy and Utilities Independent Assessment Service) on behalf of the employer for the delivery of end-point assessment. This is also to confirm that the details supplied in this form are correct.	
Lead Provider Name	
Contact Name:	
Job Title:	
Signature:	
Date:	

Gas Engineering Operative

Practice Knowledge Assessment – paper A

Forename (s)	
Surname (s)	
Date	

Duration: 60 minutes

Instructions

- Use black or blue ink or black ball-point pen
- Fill in the boxes at the top of this page
- There are 40 questions, you should attempt all of them
- Mark your answer with an ☒ - if you wish to change your answer please put a line through ~~☒~~ and re-select with another ☒
- Only one answer per question allowed

Sample:

London is the capital of….

Example Question		
London is the capital of…		
Possible answers		**Answer**
a)	Wales	~~X~~
b)	Scotland	
c)	Northern Ireland	
d)	England	X

Advice

- Do not spend too long on one question
- Read all questions thoroughly before starting your examination
- Mobile phones and watches must not be taken into the examination room. The examination must be conducted under examination conditions
- Cheating: you will be asked to leave the examination room and will be classified an automatic fail and referred to your employer

Do not turn over the page until the invigilator instructs you to.

Question 01		
In a workplace who is responsible for maintaining health and safety?		
Possible answers		**Answer**
a)	The Health and Safety Executive	
b)	Everyone	
c)	Everyone except contractors	
d)	The employer	

Question 02		
Which of the following regulations specifically places a responsibility on organisations for reporting safety related incidents?		
Possible answers		**Answer**
a)	Provision and Use of Working Equipment Regulations	
b)	Gas Safety Management Regulations	
c)	RIDDOR	
d)	Gas Safety Regulations	

Question 03		
Under the Health & Safety at Work Act (1974) the employee has a duty to:		
Possible answers		**Answer**
a)	Read notice boards or bulletins	
b)	Complete jobs to time and price	
c)	Ignore information from supervisors and management	
d)	Maintain a safe working environment	

Question 04		
Where a load is too heavy for you to move on your own. What should you do?		
Possible answers		**Answer**
a)	Try to lift it using the correct methods	
b)	Although not trained, use a forklift truck	
c)	Ask the customer to help you	
d)	Do not move the load	

Question 05		
When removing an asbestos gasket, what is the minimum specification of the dust mask being used?		
Possible answers		**Answer**
a)	FFP1	
b)	FFP2	
c)	FFP3	
d)	FFP4	

Question 06		
Which of the following outlines the scope of IGE/UP/1b?		
Possible answers		**Answer**
a)	Pressure at primary meter outlet $\leq$21mbar, Pipework diameter $\leq$35mm, meter capacity 6m^3/hr	
b)	Pressure at primary meter outlet $\leq$75mbar, Pipework diameter $\leq$35mm, meter capacity $\leq$16m^3/hr	
c)	Pressure at primary meter outlet $\leq$21mbar, Pipework diameter $\leq$28mm, meter capacity $\leq$16m^3/hr	
d)	Pressure at primary meter outlet $\leq$21mbar, Pipework diameter $\leq$35mm, meter capacity $\leq$16m^3/hr	

Question 07		
When tightness testing an installation, why must the drop down lid of a cooker be raised to open?		
Possible answers		**Answer**
a)	To ensure the SSOV is in the open position	
b)	To ensure the SSOV is closed	
c)	To ensure the SSOV has operated	
d)	To prepare for purging	

Question 08		
Which of the following locations would require gas pipework to be identified as such?		
Possible answers		**Answer**
a)	Domestic premises	
b)	Commercial premises	
c)	Both domestic and commercial premises	
d)	Any premises where people sleep	

Question 09		
When checking the operating pressure at a property what should be used to do this?		
Possible answers		**Answer**
a)	Three rings on a cooker hotplate	
b)	Four rings on a cooker hotplate	
c)	The largest gas burning appliance	
d)	All appliances must be operating	

Question 10		
When using a "U" gauge, one limb is reading 20mbar and the other is reading 16mbar, what is the actual pressure reading?		
Possible answers		**Answer**
a)	17mbar	
b)	18mbar	
c)	19mbar	
d)	20mbar	

Question 11		
Before connecting a gas appliance to the electrical supply via a 13amp plug, what should be used to ensure the properties wiring is correct?		
Possible answers		**Answer**
a)	A lamp tester	
b)	A Martindale	
c)	A socket tester	
d)	A multi-meter	

Question 12		
BS7671 covers the wiring regulations, what is the latest IET edition of this?		
Possible answers		**Answer**
a)	16th Edition	
b)	17th Edition	
c)	18th Edition	
d)	19th Edition	

Question 13		
What is the maximum distance an earth bond can be positioned away from the outlet of a domestic gas meter?		
Possible answers		**Answer**
a)	300mm	
b)	600mm	
c)	900mm	
d)	1200mm	

Question 14		
Who shall a person be registered with in order to perform work on domestic gas installations?		
Possible answers		**Answer**
a)	CORGI	
b)	Gas safety	
c)	Gas safe	
d)	The Health and Safety executive	

Question 15		
Gas Appliances and meters are specifically covered under which regulation?		
Possible answers		**Answer**
a)	Gas Safety Regulations	
b)	Pipeline Safety Regulations	
c)	Gas Safety (Management) Regulations	
d)	Gas Safety (Installation and Use) Regulations	

Question 16		
What is the product of incomplete combustion that may lead to serious illness or death?		
Possible answers		**Answer**
a)	Carbon Dioxide	
b)	Carbon Trioxide	
c)	Carbon onoxide	
d)	Carbon Monoxide	

Question 17		
For every 1m^3 of Natural Gas burned, approximately how much air would need to be supplied for complete combustion?		
Possible answers		**Answer**
a)	2m^3	
b)	10m^3	
c)	5m^3	
d)	20m^3	

Question 18		
Deposits of what material could indicate incomplete combustion on an appliance?		
Possible answers		**Answer**
a)	Soot	
b)	Rust	
c)	Dust	
d)	Water	

Question 19		
Which of the following is the chemical equation for the complete combustion of natural gas?		
Possible answers		**Answer**
a)	$CH_4 + O_2 = CO_2 + 2H_2O$	
b)	$CH_4 + O_2 = CO_2 + H_2O$	
c)	$2CH_4 + O_2 = CO_2 + 2H_2O$	
d)	$CH_4 + 2O_2 = CO_2 + 2H_2O$	

Question 20		
A ventilator for an open flued boiler has a free area of $35cm^2$ What is the maximum net heat input of the boiler for this amount of ventilation?		
Possible answers		**Answer**
a)	7kW	
b)	10kW	
c)	14kW	
d)	16kW	

Question 21		
When ventilation passes through a cavity wall what must it contain?		
Possible answers		**Answer**
a)	A fly screen	
b)	Baffles to prevent draughts	
c)	A closable grille	
d)	An uninterrupted duct	

Question 22		
Where a flue-less appliance is fitted in a room, what must the room contain?		
Possible answers		**Answer**
a)	An openable window or door to outside	
b)	An extractor fan or cooker hood	
c)	A ventilator of cross sectional area 100cm^2	
d)	An approved CO alarm	

Question 23		
Where a flue is fitted in a void what shall be provided?		
Possible answers		**Answer**
a)	Inspection hatches every 3 metres	
b)	One inspection hatch minimum 300mm x 300mm	
c)	Ventilation and a CO detector	
d)	A means for full visual inspection of the flue	

Question 24		
Which of the following is not covered under the gas (Installation and Use) regulations?		
Possible answers		**Answer**
a)	Hired portable heaters	
b)	Portable or mobile appliances	
c)	Natural gas meter	
d)	Fixed gas appliances	

Question 25		
The gas safety regulations regulation 3 states that no person shall carry out any work in relation to a gas fitting or gas storage vessel unless they are what?		
Possible answers		**Answer**
a)	Over 18 years of age	
b)	Competent	
c)	Working for a company registered with Gas Safe Register	
d)	ACS certificated	

Question 26		
Where work has been carried out on a gas appliance, which of the following checks in accordance with regulation 26/9 of the gas installation and use regulations must be carried out immediately after the work?		
Possible answers		**Answer**
a)	Tightness test the whole installation	
b)	A visual inspection of the pipework installation	
c)	Check the flame picture	
d)	Check its operation so as to ensure its safe functioning	

Question 27		
A gas appliance installed in a bathroom must be:		
Possible answers		**Answer**
a)	Room sealed	
b)	Open flued	
c)	Fan flued	
d)	Serviced regularly	

Question 28		
Which of the following would be deemed an at risk situation?		
Possible answers		**Answer**
a)	Spillage of products of combustion	
b)	Cooker without a safety chain	
c)	Gas fire fitted on a carpet with signs of scorching	
d)	Balanced flue appliance with no terminal guard	

Question 29		
Which of the following would be deemed an immediately dangerous situation?		
Possible answers		**Answer**
a)	Spillage of products of combustion	
b)	Cooker without a safety chain	
c)	Gas fire fitted on a carpet with signs of scorching	
d)	Balanced flue appliance with no terminal guard	

Question 30		
Where an immediately dangerous situation is encountered what must the Gas Safe registered person do?		
Possible answers		**Answer**
a)	Disconnect the appliance and label it	
b)	Turn off the appliance and apply a warning label	
c)	Turn off the appliance, and attach a danger do not use warning label	
d)	Disconnect and seal and attach a danger do not use warning label	

Question 31		
Which of the following is **NOT** a classification used under the gas industry unsafe situations procedures?		
Possible answers		**Answer**
a)	At Risk	
b)	Not to Current Standards	
c)	Immediately dangerous	
d)	AR turning off the supply will not remove the risk	

Question 32		
When visually inspecting gas appliances which of the following should be included, this is where the gas supply has been interrupted following a pipework alteration?		
Possible answers		**Answer**
a)	The working pressure of each appliance is recorded	
b)	All flame supervision devices are tested to ensure they shut off and seal	
c)	All consumer appliance controls are checked for safe and correct operation	
d)	The correct operation of any Atmospheric Sensing Device is confirmed	

Question 33		
This is a self sealing valve which is operated when a hose connection is inserted in to it. What is it called?		
Possible answers		**Answer**
a)	Ball valve	
b)	Restrictor valve	
c)	A fire pedestal elbow	
d)	Cooker bayonet or micropoint	

Question 34		
This control is electrically operated and when energised allows the gas to flow. They can be fitted on supply pipes to appliances or are integral to the gas appliance. What is it?		
Possible answers		**Answer**
a)	A Solenoid valve	
b)	A safety shut off valve	
c)	Thermostat	
d)	Gas tap or cooker tap	

Question 35		
What is the maximum operating time for a thermo-electric flame supervision device on a cooker hotplate?		
Possible answers		**Answer**
a)	50 seconds	
b)	60 seconds	
c)	90 seconds	
d)	120 seconds	

Question 36		
This control is connected to a flame supervision device and is used to generate a small electrical current when heated by a flame. What is it?		
Possible answers		**Answer**
a)	Atmosphere sensing device	
b)	Thermo electric valve	
c)	Thermocouple	
d)	Vapour pressure valve	

Question 37		
This appliance uses a secondary heat exchanger to recover energy from the latent heat contained within the products of combustion. What is this type of appliance called?		
Possible answers		**Answer**
a)	Combination Boiler	
b)	Condensing Boiler	
c)	System Boiler	
d)	Compensating boiler	

Question 38		
What is the minimum distance a LPG tank should be installed from a property without a fire wall?		
Possible answers		**Answer**
a)	1.5 metres	
b)	2.0 metres	
c)	2.5 metres	
d)	3.0 metres	

Question 39		
Which of the following with regard to the installation and siting of Propane cylinders is correct?		
Possible answers		**Answer**
a)	Must be sited a minimum of 500mm from an openable window	
b)	They cannot be sited inside the property	
c)	Where sited, they must have at least 15 minutes fire resistance	
d)	They should be a 1 metre away from drain, gully or cellar openings	

Question 40		
On an LPG system, this device may be re-set by the gas user if it trips out and shuts off the gas supply, what is it called?		
Possible answers		**Answer**
a)	PRV	
b)	ECV	
c)	OPSO	
d)	UPSO	

End of Practice Knowledge Assessment

Practice Knowledge Assessment

Answer scheme

Question	Answer	Question	Answer
1	B	21	D
2	C	22	A
3	D	23	D
4	D	24	B
5	C	25	B
6	D	26	D
7	A	27	A
8	B	28	C
9	C	29	A
10	B	30	D
11	C	31	B
12	C	32	C
13	B	33	D
14	C	34	A
15	D	35	C
16	D	36	C
17	B	37	B
18	A	38	D
19	D	39	B
20	C	40	D

ANNEX 2: Four Appliance Categories - Amplification & Guidance

Appliances can include, but are not limited to, the range of appliance categories listed below. Appliances listed here can be for the alternative fuels - Natural Gas or LPG. These are the most common categories that are in use across gas engineering roles:

Appliance	ACS Code	Comment
Central Heating Boilers and Water Heaters	**CENWAT**	Central Heating Boilers and Water Heaters count as TWO appliance categories
Unvented Hot Water Storage	**UHWSS**	This is a non-ACS aligned category and is a stand-alone qualification separate to the ACS scheme. It does still count as an 'appliance' category for the purposes of the gas engineering operative apprenticeship standard.
Ducted Air Heaters	**DAH1**	This appliance type has regional variances in description i.e. Warm Air Units, or Warm Air Heaters
Cookers	**CKR1**	This appliance category covers domestic cooking appliances and derivatives such as ovens and hobs
Space Heaters	**HTR1**	Covers all space heating appliances and gas fires; includes Inset Live Flame Effect, (ILFE,) and Decorative Flame Effect (DFE) installations
Meters	**MET1**	Covers the installation, exchange and removal of gas meters up to $6m^3$ capacity, (U6.) This also covers commissioning and decommissioning meter installations
Domestic Gas Range Cooker/Boiler	**CKHB1**	Covers domestic gas range cookers (such as 'Aga's,) and range cooker-boilers with atmospheric or forced draught burners
Domestic Laundry Appliances	**LAU1**	Install, commission, exchange, disconnect, service, repair and break down of domestic gas laundry appliances

Notes:

1. The Gas Engineering Operative standard requires apprentices to gain certification of competency on four appliance categories.
2. Participation in competency assessments for appliance categories is subject to successful completion of an ACS core gas safety module (CCN1 for Natural Gas or CCLP1 for LPG.)
3. Normally the apprentice employer will state the appliance categories that apply to their business. I.e. a business that concentrates on central heating installation would have no requirement for a gas engineering operative to undertake the CKHB1 category.
4. The training provider may also stipulate the appliance categories against which their learning programme is structured.
5. All appliance categories listed here apply to both Natural Gas and LPG installations.
6. After completion of the apprenticeship, gas engineering operatives must operate for a period of six months before additional categories can be undertaken (as per Industry Standard GN8.)
7. Employers or Apprentices who work on appliance categories other than those listed here should contact EUIAS for consultation on suitability and availability.

Annex 3: Gas Engineering Operative: Domestic Work Log Evidence Mapping Record

This document is to assist the apprentices and the employer or training provider to identify where evidence is present in the work log and to confirm that the apprentice is ready to enter the End Point Assessment process.

Apprentice Full Name	
Apprentice's Employer	
Work Log Evidence Start Date	
Work Log Evidence End Date	

Training Provider: Name of staff providing feedback	

Date of feedback	
Work Log Evidence Feedback	

Action Plan, if the apprentice does not achieve the required work log evidence

On behalf of the training provider or employer* I confirm that the apprentice named below has confirmed their readiness to start their End-Point Assessment process:

Staff Signature		Date signed:
Print Name		

*delete as appropriate

I am the apprentice and I have signed, printed and dated the box below to state that I am ready to enter end-point assessment:

Apprentice's Signature		Date signed:
Apprentice Print Name		

For each of the following Core Knowledge Skills and Behaviours (KSB's) and job specific Skills & behaviours, evidence should be recorded to demonstrate that each criteria has been met and documentation is present in the apprentice's work log. The evidence can be based on direct observations, formative assessment and reviews. Other sources that can be included are certificates of training, job cards and work records, maintenance records, risk assessments and photographs of work place activities, and apprentice journal entries. The evidence cannot include any methods of self- assessment. Where indicated this evidence type could be drawn from the ACS certification (ACS), The competency test (CT) all other evidence being from training (T) or work based (WB) activity as indicated against each criteria. Where WB is identified against any criteria, at least one piece of evidence must be from the workplace. **ONE** piece of evidence could be used to satisfy multiple criteria. The criteria is as listed in the published assessment plan, the evidence boxes should indicate where the criteria can be found in the apprentices work-log. It is suggested that a simple coding system be used in the apprentice's work log to achieve this i.e. J1 is Job number 1.

Criteria	Evidence Type	Evidence 1	Evidence 2	Evidence 3	Evidence 4	Evidence 5	Evidence 6
CK1 Current Health, Safety and Environmental legislation and regulations applicable to work in the gas industry	ACS T						
CK2 Safe gas and electrical installation, commissioning, decommissioning and/or on-going 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	ACS CT T WB						
CK3 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	ACS T						
CK4 Relevant electrical/mechanical principles and how they are applied in work processes and procedures	T WB						
CK5 Up to date energy efficiency advice and guidance to be given to the customer	CT T						
CK6 Product knowledge to be able to discuss and advise the customer	CT WB						
CK7 Current regulatory compliance, current Gas Safety (Installation and Use) Regulations and the current Electricity at Work Regulations	ACS T						
CK8 Company rules, policies and procedures as defined by the employer	WB CT						
CS1 Undertake and document rigorous risk assessments to ensure the safety of all affected by the work activities	ACS T CT WB						
CS2 Take personal responsibility for maintaining safety standards and achieving job objectives	CT WB						
CS3 Use and maintain tools, equipment and personal protective equipment (PPE) in a safe and appropriate manner	ACS T CT WB						

CS4 Safe gas and electrical installation, commissioning, decommissioning and/or on-going service and repair of gas installations and appliances needed to establish the safe operation of the equipment and installation accordance with industry standards	ACS CT WB T						
CS5 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	CT WB						
CS6 Work on customer premises/property showing appropriate care and respect whilst focusing on safety	CT WB						
CS7 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	CT WB						
CS8 Identify where situations or conditions are to unsafe standards and take appropriate actions within your range of competency	CT ACS WB						

CS9 Achieve individual and team tasks which align to overall work objectives, be self-motivated and disciplined in the approach to work activities	WB						
CS10 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	WB						
CS11 Identify, organise and use resources effectively and sustainably to complete the task with consideration to cost, quality, safety, security and environmental impact	CT WB						
CS12 Be able to read and follow technical documentation associated with equipment and installation requirements	T CT WB						
TK1 Electrical awareness and be able to carry out safe isolation and essential electrical safety checks	T WB						
TS1 Carry out safe isolation essential electrical safety checks	CT WB						

TK2 Combustion, combustion analysis, gas properties, carbon monoxide (CO), and types of burners	ACS WB CT T						
TK8 Demonstrate ambient air testing/carbon monoxide/dioxide atmosphere testing	ACS WB CT						
TK3 Flues and ventilation principles	T ACS						
TS2 Carry out flue testing	CT WB						
TK4 The necessary safety checks following gas work on an appliance (regulation 26/9)	ACS CT T WB						
TS3 Undertake the necessary safety checks following gas work on an appliance (regulation 26/9)	ACS CT WB						
TS11 Identify faults and take the appropriate action	ACS CT WB						
TS9 Identify gas safety controls and prove their safe operation	ACS CT WB T						
TK5 The range and suitability of appliances	ACS WB T						
TS12 Undertake the installation and/or repair and maintenance of four appliances	ACS CT WB						

TS10 Complete records and maintain records accordingly	CT WB						
TS13 Reinstate following completion of works cleaning up and making good	CT WB						
TK6 The statutory and normative documentation including building regulations, water regulations and electrical regulations	T						
TS4 Work in compliance with statutory and normative documentation including building regulations, water regulations and electrical regulations	ACS CT WB						
TK7 Emergency procedures, including gas escapes, report of fumes and for unsafe situations	ACS T						
TS5 Access and comply with technical guidance, bulletins and safety alerts e.g. Gas Industry Unsafe Situations Procedures (GIUSP)	ACS CT T						
TK8 A knowledge and understanding of four appliances	T						
TS6 Demonstrate tightness testing, purging and relight procedures on gas installations	ACS CT WB						
TK9 System design, location, controls, flue types for appliances and smart controls	ACS T						
TS7 Demonstrate pipework installations/pipework skills, pressure and flow/pipework sizing, meter installations	ACS CT T WB						
TK10 An awareness of green technologies	T						
TK11 The properties of Liquid Petroleum Gas (LPG)	T						
TK12 An awareness of fuel storage – tanks and bottles (Liquid Petroleum Gas - LPG)	T						
Behaviours							
CB1 Ensure personal wellbeing and the safety of customers and others is a priority	WB CT						

CB2 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	WB CT ACS						
CB3 demonstrate an awareness of how the work impacts on others in the work environment	CT WB						
CB4 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	WB CT T						
CB5 Undertake Continuous Professional Development to enhance knowledge and skills to maintain competence	T						
CB6 Recognise personal and professional limitations and seek appropriate advice when necessary	WB ACS						
CB7 Display self-discipline and self-motivated approach	WB T						
CB8 Exercise responsibilities in an ethical manner	WB T						