ENERGY & UTILITIES
INDEPENDENT
ASSESSMENT SERVICE

EPA Specification

Gas Network Craftsperson

Network Maintenance Craftsperson - Electrical and Instrumentation

ENERGY & UTILITIES INDEPENDENT ASSESSMENT SERVICE

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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 713 8310

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 Network Craftsperson Apprenticeship Standard (ST0205). This specification relates to Assessment Plan ST0205/AP03.

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 Network Craftsperson Standard, the assessments are a knowledge and skills assessment and two technical interviews. The first interview is based on the practical task undertaken during the EPA period and the second interview is based on the on-programme evidence gathered by the apprentice in the last 12 months of their on-programme training.

End-point assessment is based on two documents that have been written by an employer group – the Apprenticeship Standard and the End-Point 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 apprenticeship standard
- to have access to suitable premises, plant, machinery and equipment for the Practical Task

How to Use This EPA Specification for The Gas Network Craftsperson Apprenticeship

Welcome to the EUIAS EPA Specification for the Gas Network Craftsperson (GNC) 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 Ofqual QAN: 603/7293/X.

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 and training organisations 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 Network Craftsperson

Assessment Plan: ST0205/AP03

Ofqual QAN: 603/7293/X

Level: 3

On-programme duration: Typically 48 months

Grading: Pass or Distinction

End-point assessment duration: Typically 6 months

End-point assessment methods:

- Knowledge and Skills Assessment
- Technical interview underpinned by logbook

Quality Assurance:

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 Ofqual.

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 knowledge and skills practice test that you can use with apprentices

Is this the right standard for you?

The Gas Network Craftsperson Standard has been designed by the trailblazer group of employers for Gas Network Craftsperson's who are typically employed by organisations authorised to transport gas throughout the United Kingdom. A substantial part of the assessment activity is the practical task where the apprentice carries out various tasks on complex equipment or machinery and it is important that such a setting provides the opportunity to cover all the requirements of the Standard. It is really important that the employer and training provider check that they have the right site with the right opportunities for the apprentice to cover all the requirements. The apprentice will not be assessed on the job that they do but on the requirements of the Standard.

Standard overview

Gas Network Craftsperson has four pathways covering four different roles:

- Emergency Response
- Electrical and Instrumentation
- Pressure Management
- Pipelines Maintenance

This specification covers the network maintenance craftsperson for the **electrical and instrumentation role**

Gas Network Craftsperson's are engaged in the safe operation, control and maintenance of the United Kingdom gas networks. They will respond to and manage emergency situations to ensure safety and to avert major loss or interruption to gas supply. The requirements of the Electrical and Instrumentation specialist role is as follows:

Responsible for maintaining the controls and systems that measure, monitor, analyse and control the performance of the gas network. This forms part of a control system architecture that uses computers, networked data communications and graphical user interfaces for high-level process supervisory management associated with the gas transportation network. This may include the following:

- Installing instrumentation and communications technology associated with the control of gas within the gas transportation network
- Testing and maintaining instrumentation and communications systems associated with the control of gas within the gas transportation network
- Responding to faults and taking action to restore operating systems
- Monitoring and reporting on the performance of electrical and instrumentation control systems

All Gas Network Craftsperson's will be responsible for the quality of their own work and possibly others' and ensure work is completed safely, meeting stakeholder quality requirements, on time and to budget whilst maintaining the safe and efficient operation of the gas network.

On-programme requirements

The employer and or training provider should ensure that they have 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 as required of the Standard.

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

The programme of training for the electrical and instrumentation craftsperson **must** be completed before entering gateway and **must** include:

- Achievement Certificates for Level 2 English and Mathematics
- Those with an education, health and care plan or a legacy statement the apprenticeships English and mathematics minimum requirement is Entry Level 3 and British Sign Language qualification are an alternative to English qualifications for whom this is their primary language

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 and 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 training provider and employer.

Readiness for end-point assessment

The apprentice **must** satisfy all requirements of the final gateway before entering end-point assessment:

- Achievement of Level 2 English and mathematics. The apprentice must provide evidence of achievement for both. The EUIAS will require copies of the certificates before any end-point assessment can take place
- Those with an education, health and care plan or a legacy statement the apprenticeships English and mathematics minimum requirement is Entry Level 3 and British Sign Language qualification are an

alternative to English qualifications for whom this is their primary language

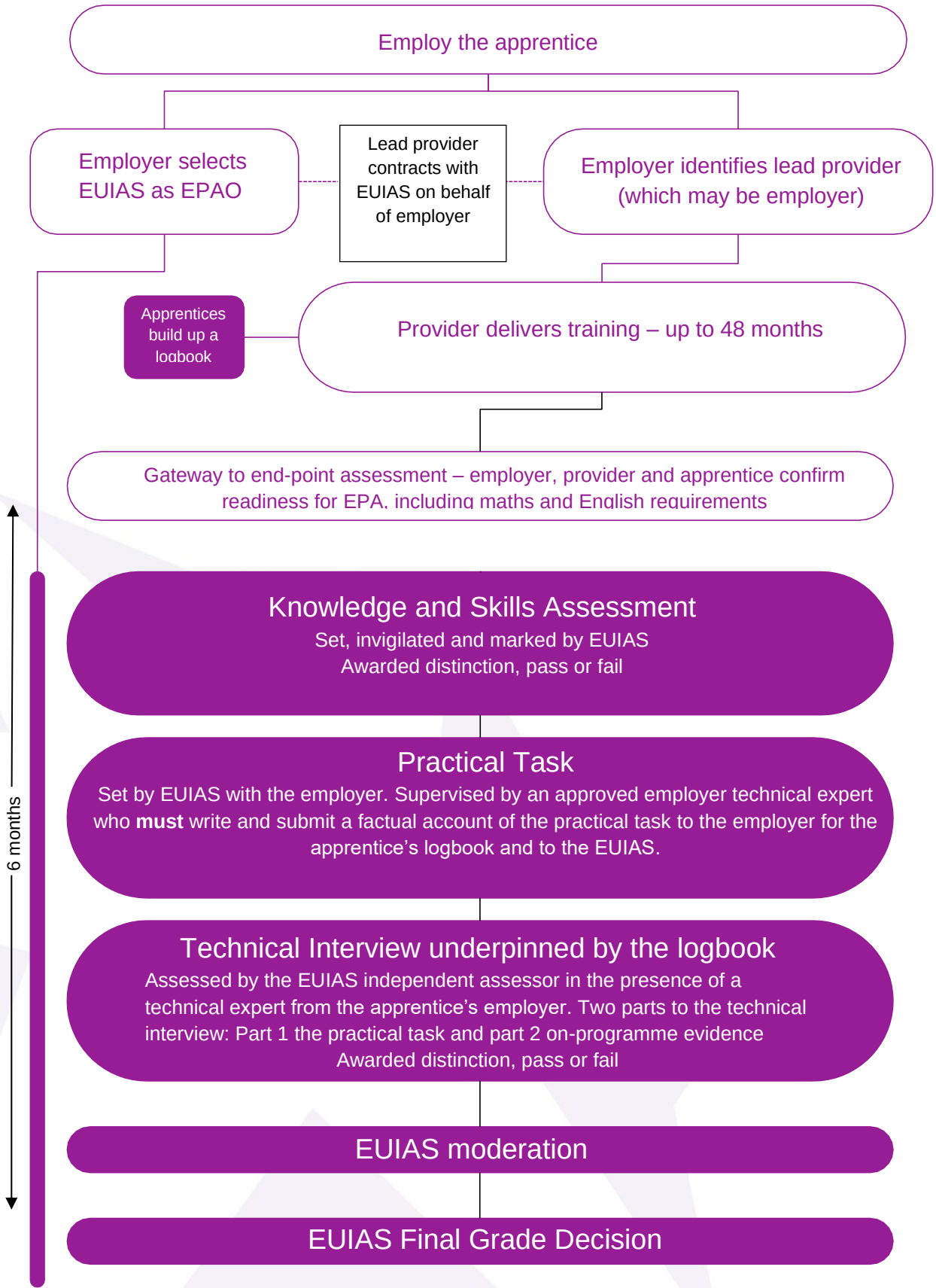
- Apprentice has compiled a logbook, which will underpin the interview
- The employer, training provider and apprentice must be confident that the apprentice has developed all the knowledge, skills and behaviours defined in the Apprenticeship Standard. To ensure this, the apprentice must attend a formal meeting with their employer to complete the Gateway Eligibility Report
- The employer and or lead provider **must** engage with the Service Delivery team at EUIAS to agree a schedule for each assessment activity for the apprentice and ensure all components can be completed within a 6-month assessment window. Further information about the gateway process is covered later in Section 3
- The Practical Task, Brief(s) and Site Approval Form **must** be completed and submitted to the EUIAS
- The on-programme evidence and practical task technical expert factual account **must** all be completed and evidenced in the logbook, and made available for the technical interview which is underpinned by the logbook

Order of end-point assessments

The successful completion of the knowledge and skills assessment, practical task, **must** precede the technical interview underpinned by the logbook.

The knowledge and skills assessment and practical task may take place in any order, although the EUIAS will usually schedule the knowledge and skills assessment first to allow time for any re-takes that may be needed. The practical task will be conducted by the employer technical expert. The employer technical expert **must** supervise the apprentice and write a factual account of the practical task. The factual account **must** be submitted to the EUIAS within **3 working days** of completing the practical task.

The final component is the technical interview underpinned by the logbook assessment which **must** be the final component. This will take place face to face and it will be recorded. The technical interview underpinned by the logbook will be conducted by an independent assessor (IA) in the presence of an employer technical expert. The employer technical expert's role is to provide context for the independent assessor with clarifications around specific company policies and procedures only and this may be the same person that supervises and writes the factual account for the practical task. The technical expert **must not** provide information on behalf of the apprentice, ask the apprentice questions, or influence the apprentice in any way during the technical interview.



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

Level 3 End-Point Assessment - Gas Network Craftsperson – Electrical and Instrumentation

EPA Specification Section 2 – Mapping the Standard

Contacts

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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 and 'at-a-glance' view of which parts of the Standard are assessed by which assessment method. The referencing system is used throughout this Specification.

The Standard

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

- Core Knowledge
- Core Skills
- Core Behaviours
- Role Specific Skills
- Role Specific Knowledge

Core Knowledge:

CK1 Role specific knowledge company testing, and commissioning procedures needed to establish the condition of gas assets equipment, network infrastructure and the actions needed as a result of the tests. This includes both practical applications and the use of diagnostic techniques and IT systems

CK2 The requirements of the Gas Safety (Management) Regulations as relevant to their role, this being Supported through company specific procedures involved in the practical installation and maintenance of gas network assets

CK3 The requirements of Health and safety standards and regulations, and environmental and regulatory requirements, including: The Health and Safety at Work Act, the Environmental Protection Act, Dangerous Substances Explosive Atmospheres Regulations, The ATEX Directives, The Management of Health and Safety regulations, PUWER, Working at Height Regulations, Confined spaces Regulations, COSHH, PPE Regulations, RIDDOR, Noise at work regulations, Control of Asbestos regulations and the Manual Handling Operations Regulations

CK4 Company maintenance practices, processes and procedures associated with gas network systems, controls and equipment

CK5 Gas engineering and mechanical and /or electric principles and processes that underpin the location, diagnosis and rectification of faults

CK6 Company policies, procedures and engineering instructions as specified by the employer

Core Skills:

CS1 Undertake and document risk assessments in accordance with company procedures

CS2 Comply with workplace health, safety & environmental practices and regulations, maintaining a safe and secure working environment

CS3 Follow engineering instructions and company procedures to complete tasks safely and on-time

CS4 Undertake inspection and examination of network assets in order to maintain the safe and compliant operation of the network to ensure the integrity, safety and security of supply

CS5 Maintain and/or install gas engineering assets, components and associated equipment

CS6 Install, test, purge and commission gas network assets

CS7 Operate powered tools and equipment, such as drills, angle grinders, brush cutters and shot blasting equipment as required for network maintenance operations

CS8 Use approved gas detection equipment to ensure safe environment

CS9 Use Personal Protective Equipment (PPE) and safety equipment in accordance with manufacturer's instructions and employer policy

CS10 Obtain and analyse asset condition and performance information to facilitate decision making

CS11 Identify, organise and use resources effectively to complete tasks, with consideration for cost, quality, safety, security and environmental impact

CS12 Through risk assessment, minimise risks to life, property and the environment when undertaking work activities

CS13 Accurately record job information, complete job reports and process

CS14 Liaise with gas consumers, statutory agencies and members of the public in order to ensure their safety

CS15 Accurately update company systems with details of work undertaken

Core Behaviours

CB1 Display a self-disciplined, self-motivated approach

CB2 Deliver a polite, courteous professional service to all customers, stakeholders and members of the public as appropriate

CB3 Demonstrate and apply a safety-first approach

CB4 Accept accountability when undertaking individual and team tasks

CB5 Follows instruction from appropriate supervision, and makes decisions when required

CB6 Quality-focussed and professional in work and in personal standards

CB7 Recognise personal limitations and seek advice from managers, experts and specialists when required

CB8 Accepts responsibility for work undertaken

CB9 Receptive to the needs and concerns of others, especially where related to diversity and equality

CB10 Committed to carrying out and recording Continued Professional Development necessary to maintain and enhance competence

CB11 Exercises responsibilities in an ethical manner

CB12 Interacts with people and approaches work activities in a way that contributes to continuous self improvement

Role Specific Skills – Electrical and Instrumentation

NMCEi1 Apply electrical theories and principles and use equipment to carry out diagnostic fault finding procedures

NMCEi2 Inspect, maintain, repair, overhaul test and calibrate instrumentation and control equipment and circuits in accordance with company procedures

NMCEi3 Maintain site lighting and fixed and portable equipment which may include generators, batteries and associated equipment

NMCEi4 Carry out cable testing across a range of voltages to ensure safety and suitability for use

NMCEi5 Install, maintain and dismantle instruments, controllers, probes, attachments, cabling, meters and display units

NMCEi6 Configure telemetry outstation and internal systems

NMCEi7 Identify and resolve data quality and calibration issues

NMCEi8 Test, calibrate and validate fixed and portable analogue and digital instrumentation using approved procedures and standards

NMCEi9 Repair, maintain, configure and calibrate field instrumentation, communication devices and associated equipment used in system and process control

NMCEi10 Use standards and specifications to improve the information gathered by telemetry data

NMCEi11 Inspect and maintain security equipment, telecommunication devices and alarm systems

NMCEi12 Carry out isolation procedures to ensure process or system stability and the safety of personnel when carrying out operations

NMCEi13 Provide support to day-to-day users of instrumentation and control systems

NMCEi14 Ensure consistent and valid data is available for business and regulation purposes

NMCEi15 Apply electrical knowledge and skills to install, maintain and dismantle a wide range of plant, machinery and components

Role Specific Knowledge– Electrical and Instrumentation

NMCEi16 The safety processes to be applied when testing for voltages across the range likely to be encountered

NMCEi17 The permitry requirements when maintaining or configuring telemetry systems or undertaking works that may initiate system alarms

NMCEi18 Recognise the processes to be followed in order to identify and resolve data quality and calibration issues

NMCEi19 Understand how to test and calibrate instrumentation and control equipment in accordance with company specific procedures

NMCEi20 The theories used to maintain, test and calibrate electrical equipment in line with company specific procedures

NMCEi21 Understand how to safely apply diagnostic fault-finding principles to electrical systems

NMCEi22 Identify relevant, company specific procedures and know how to access such documentation

NMCEi23 Legislative requirements affecting electrical works and be able to describe how such legislation may affect them

NMCEi24 The hazards that could be encountered when maintaining both fixed and portable electrical equipment

NMCEi25 Understand why safe isolation procedures must be followed when carrying out electrical or instrumentation operations

The Standard mapped to the assessment methods:

Knowledge and Skills Assessment:	Core knowledge (CK2; CK3; CK5)
	PLUS Selected core skill (CS12)
	PLUS Selected Electrical and Instrumentation - Specific knowledge (NMCEi16; NMCEi21; NMCEi23; NMCEi24; NMCEi25)
Technical Interview underpinned by the logbook:	Core knowledge (CK1; CK4; CK6) Part 2 – Focussing on the on-programme evidence in the logbook (CK1; CK4; CK6)
	Core skills (CS1; CS2; CS3; CS4; CS5; CS6; CS7; CS8; CS9; CS10; CS11; CS13; CS14; CS15) Part 1 - Focussing on the practical task evidence in the logbook (CS1; CS2; CS3; CS4; CS5; CS6; CS7; CS8; CS9; CS10; CS11; CS13) Part 2 - Focussing on the on-programme evidence in the logbook (CS1; CS2; CS3; CS14; CS15)
	Core behaviours (CB1; CB2; CB3; CB4; CB5; CB6; CB7; CB8; CB9; CB10; CB11; CB12) Part 1- Focussing on the practical task evidence in the logbook (CB1; CB3; CB4; CB5; CB6; CB8) Part 2 – Focussing on the on-programme evidence in the logbook (CB2; CB4; CB7; CB9; CB10; CB11; CB12)
	Part 1 - Focussing on the practical task evidence in the logbook (NMCEi1; NMCEi2; NMCEi4; NMCEi5, NMCEi9; NMCEi12; NMCEi15) Part 2 - Focussing on the on-programme evidence in the logbook (NMCEi3; NMCEi6; NMCEi7; NMCEi8; NMCEi10; NMCEi11; NMCEi13; NMCEi14; NMCEi17; NMCEi18; NMCEi19; NMCEi20; NMCEi22)

Level 3 End-Point Assessment - Gas Network Craftsperson – Electrical and Instrumentation

EPA Specification Section 3 – Service Delivery and Gateway Eligibility

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

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 713 8310

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 Gas Network Craftsperson - Network Maintenance Craftsperson – Electrical and Instrumentation 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 Gas Network Craftsperson Standard is 6 months. The EPA window for each apprentice commences on the date they successfully complete the first element of their EPA, for example, the day of the knowledge and skills assessment. All EPA activities must be completed within this 6-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 the lead provider
- Cohort Registration form – signed by lead provider; this form identifies the apprentices in the cohort
- Learner submission form (spreadsheet of learner names with ULN)

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
- The relevant specialist pathways: it is very important that this apprenticeship, and the pathway

within it, is the right one for your requirements. The apprentice will be assessed against the requirements of the Standard and not what they actually do within their job role

- The expected date(s) of EPA
- The employer and or lead provider for each apprentice
- The payment schedule

  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

- Completion of the Service Level Agreement
- Arrangements for 'site review' to confirm that the proposed location for the practical task provides all the opportunities for the apprentice to cover the Standard. Where possible, all assessment sites should be identified at this stage. The practical task normally takes between 9 – 12 hours, this is dependent on the pathway being followed, and **must** involve working on a complex task; the location and the tasks must be appropriate. For the network maintenance craftsperson - electrical and Instrumentation the practical task **must** take 9 hours +/- 10%. Specification for the practical task will be set by the EUIAS working closely with the employer by engaging in discussions and taking into account their workplace considerations
- The technical interview underpinned by the logbook – The technical interview must last 2 hours +/- 10% and must be conducted in two sessions. There are 2 interviews per apprentice, each being of approximately 1 hour in duration +/-10%; the EUIAS Service Delivery team will need to be made aware of where they will take place and how the logbook evidence (practical task and on-programme evidence) will be shared with the EUIAS independent assessor
- The knowledge and skills assessment – where it will take place, invigilation arrangements are usually made by the employer and confirmed with the EUIAS Service Delivery team

Further details of the assessment methods are in Section 5 of this EPA Specification.

During the initial engagement, we will also cover the support that is available employers and 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 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 the logbook requirements for the technical 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

Scheduling the end-point assessment

The EPA for gas network craftsperson – electrical and instrumentation is very resource intensive, both in terms of availability of specialist settings for the practical task and also in terms of availability of the specialist technical experts and independent assessors that are required. It is imperative that the apprentices **must** be available for all assessments, which seems obvious, but can prove problematic if communications are not as clear as they should be. Employer, training provider and EUIAS **must** keep in touch and notify each other of any changes as soon as they occur.

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 be contacting 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 OK so long as the apprentice(s) has been on programme for at least a year.

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.

We always aim to accommodate your requirements when scheduling, taking account of availability of apprentices, location and availability of assessment venues, availability of technical experts and independent assessors and also ensuring that we have evidence of the pre-requisites, in particular the apprentice:

- has achieved L2 English and mathematics. The apprentice must provide evidence of achievement for both. The EUIAS will require copies of the certificates before any end-point assessment can take place
- with an education, health and care plan or a legacy statement the apprenticeships English and mathematics minimum requirement is Entry Level 3 and British Sign Language qualification are an alternative to English qualifications for whom this is their primary language
- should be advised by the employer and training provider to gather the evidence this evidence throughout their on-programme training, **copies or scans of certificates WILL be required by EUIAS before the apprentice can start EPA**
- has compiled and submitted a logbook to EUIAS **1 month** prior to the interview as the logbook will underpin the technical interview. The logbook **must**:
    - include quality evidence to demonstrate the knowledge, skills and behaviours (KSBs) as outlined in Section 2 of this Specification and in Annex A of the Assessment Plan
    - be separated into two parts:
        - Part 1 - Practical Task: **must** contain the post-gateway evidence that will inform session 1 of the interview (factual account of the practical task from the employer's technical expert)
        - Part 2 - On-programme: **must** contain the pre-gateway evidence that will inform session 2 of the interview (on-programme evidence) and this must include:
            - minimum of two pieces of quality evidence to demonstrate each KSB (core and option)
            - evidence that has been mapped against the KSBs; each piece of quality

evidence is likely to demonstrate more than one KSB

- evidence provided must be valid and attributable to the apprentice, with a qualitative as opposed to quantitative approach
- direct observation of knowledge and skills development or formative assessments from the last 12-months of on-programme training
- reviews should be completed and recorded to determine progression towards competence across the entire occupational standard
- other quality sources of evidence may include:
    - ✓ certificates of training
    - ✓ job cards
    - ✓ time sheets
    - ✓ work records
    - ✓ equipment maintenance and service records
    - ✓ risk assessment documentation
    - ✓ annotated photographs of workplace activities
    - ✓ video clips (maximum duration in total 10-minutes)

The above is not a definitive list, other evidence sources are allowed. The logbook **must not** include any methods of self-assessment

- mid and end-of-year performance reviews
- feedback from the employer and or training provider to show how they have met the apprenticeship Standards while on-programme

The employer and or training provider **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. 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 6-month window, to allow time for any 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 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:

- Logbook 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 the Standard and the Assessment Plan (ST0205/AP03) 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 assessment 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 Network Craftsperson Assessment Plan (ST0205/AP03) mandates that the EPA should only start once the EPA gateway requirements have been met and evidence must be submitted to the EUIAS. As gateway requirements, the employer must meet with the apprentice and be satisfied that the apprentice is consistently working at, or above Level set out in the occupational standard and apprentices without English and mathematics at level 2 must achieve this level as a minimum prior to taking the EPA. The Gateway Eligibility Report is a requirement of the 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 www.euias.co.uk

Re-sits and Re-takes

Any component that is failed can be re-sat within the EPA window. It is not possible to re-sit outside of 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.

Up to 48 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
- The relevant specialist pathways
- Expected location(s) for the knowledge and skills assessment including the practical task
- The expected date(s) of EPA
- The Training Provider
- The payment schedule
- Completion of Service Level Agreement (lead provider)

48months before Gateway to 6 months before Gateway

The apprentice is on-programme and compiling their logbook of evidence to support the technical interview.

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

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

Employer/training provider:

- 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

48 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
- Lead provider will give at least 6 months' notice of any proposed change to EPA dates

6 months before Gateway to Gateway

- Lead provider completes the 'GNC Practical Task, Brief(s) and Site Approval Form', to EUIAS i.e. venue, type of plant/equipment; scenarios tasks, which specialist skills to be covered by each apprentice

3 months before Gateway to Gateway

- Employer or training provider to compile evidence of meeting eligibility requirements (Level 2 English and mathematics; for those with an education, health and care plan or a legacy statement the apprenticeships English and mathematics minimum requirement is Entry level 3 and British Sign language qualification are an alternative to English qualifications for whom this their primary language; and compiled a portfolio to submit to EUIAS, which will underpin the interview
  - Lead provider should be arranging the knowledge and skills assessment and practical task

Gateway

Employer and 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 6 month EPA window

End-point assessment window (6 month window for each assessment commences on the date of their first EPA activity)

The knowledge and skills assessment **must** be successfully completed before the technical interview underpinned by the logbook is undertaken. Our pricing is based on being able to test every apprentice in the cohort at the same time (knowledge and skills assessment). **The technical interview underpinned by the logbook must be the final assessment component.**

EUIAS

- Schedule the assessments, in discussion with the employer and or training provider
- Will ask the employer to provide technical expert(s) for the practical task who will supervise the practical task, complete a factual account of the practical task and attend the technical interview upon request
- Provides technical expert(s) for the practical task (if agreed as part of the pricing structure)
- Provides the independent assessor(s) for the technical interview(s)
- Provides the invigilator for the knowledge and skills assessment (if agreed in the price)
- Arranges re-sits within the 6 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

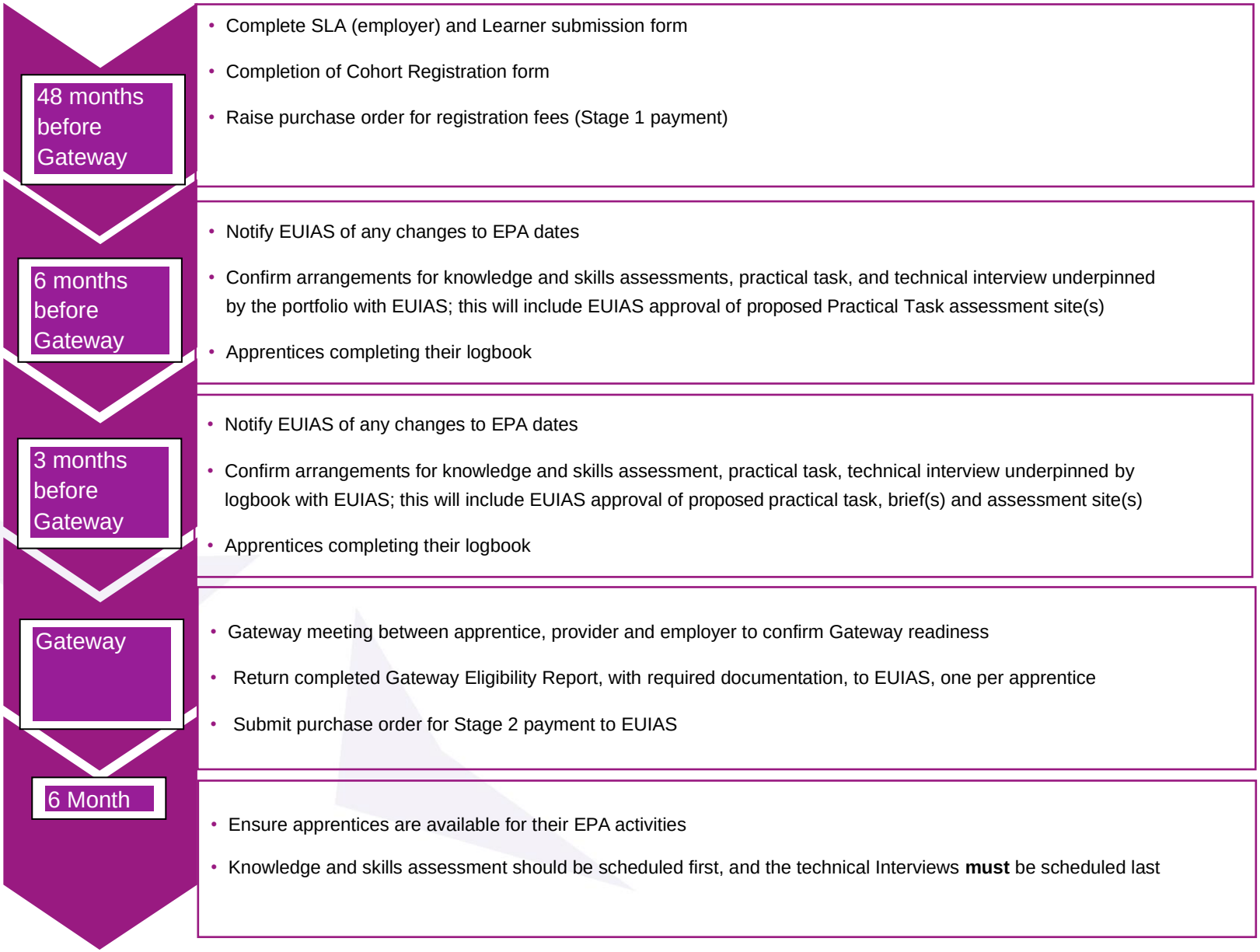
Employer and or training provider

- Ensures apprentices are briefed and prepared for EPA, including location and timings of assessments
- Provides venue for the knowledge and skills assessment (and re-sits if required)
- Provides technical expert(s) for delivery of the practical task
- Provides a technical expert to support the interview process
- Provides access and details of venue for practical task, 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.

ENERGY & UTILITIES INDEPENDENT ASSESSMENT SERVICE

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



EUIAS Level 3 End-point Assessment for Gas Network Craftsperson – Electrical and Instrumentation

Gateway Eligibility Report

(Standard Version: ST0205 version 1.2, 2018; Assessment Plan Version: ST0205/AP03)

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 Gas Network Craftsperson – Network Maintenance Craftsperson – Electrical and Instrumentation	

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 372 days
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 End-Point Assessment - Gas Network Craftsperson – Electrical and Instrumentation

EPA Specification Section 4 – The GNC 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 713 8310

The Gas Network Craftsperson Standard consists of the following core requirements, this applies across all pathways:

- Core Knowledge (6 elements)
- Core Skills (15 elements)
- Core Behaviours (12 elements)

The following pages list each of the core elements of the standard, the assessment method(s) required and additional Amplification and Guidance from EUIAS on the range and depth expected. This applies across all roles.

Core Knowledge
Assessed in Knowledge and Skills Assessment
CK2 The requirements of the **Gas Safety (Management) Regulations** as relevant to their role, this being supported through company specific procedures involved in the practical installation and maintenance of gas network assets. **CK3** The requirements of **Health and safety standards and regulations, and environmental and regulatory requirements**, including; The Health and Safety at Work Act Dangerous Substances Explosive Atmospheres Regulations, The ATEX Directives, The Management of Health and Safety regulations, PUWER, Working at Height Regulations, Confined spaces Regulations, COSHH, PPE Regulations, RIDDOR, Noise at work regulations, Control of Asbestos regulations and the Manual Handling Operations Regulations. **CK5 Gas engineering and mechanical or electric principles and processes** that underpin the location, diagnosis and rectification of faults
Core Knowledge
Assessed in the Technical Interview underpinned by logbook Part 2 – Focussing on the on-programme evidence in the logbook

CK1 Company testing, and commissioning procedures needed to establish the condition of gas assets, equipment, network infrastructure and the **actions needed as a result of the tests**. This includes both practical applications and the use of diagnostic techniques and IT systems.

CK4 Company **maintenance practices, processes and procedures** associated with gas network systems, controls and equipment

CK6 Company policies, procedures and engineering instructions as specified by the employer

Core Knowledge

Amplification and Guidance

CK1: Company testing, and commissioning procedures needed to establish the condition of gas assets, equipment, network infrastructure and the **actions needed as a result of the tests**. This includes both practical applications and the use of diagnostic techniques and IT systems.

- State the procedures to be followed
- Explain the purpose of testing
- Describe the diagnostic techniques which may be employed
- Explain how to interpret test results and the actions to take
- Describe the impact of malfunction or failure

CK2: The requirements of the **Gas Safety (Management) Regulations** as relevant to their role, this being supported through company specific procedures involved in the **practical installation** and **maintenance** of gas network assets.

- Explain the purpose, relevance, and application of GSMR
- Describe how this is supported through company specific procedures

CK3: The requirements of **Health and safety standards and regulations, and environmental and regulatory requirements,** including; The Health and Safety at Work Act Dangerous Substances Explosive Atmospheres Regulations, The ATEX Directives, The Management of Health and Safety

regulations, PUWER, Working at Height Regulations, Confined spaces Regulations, COSHH, PPE Regulations, RIDDOR, Noise at work regulations, Control of Asbestos regulations and the Manual Handling Operations Regulations.

- Demonstrate an understanding of the stipulated health and safety legislation and regulations
- Explain the application of the stipulated health and safety legislation and regulations for the safety of yourself, colleagues and others

CK4: Company **maintenance practices, processes and procedures** associated with gas network systems, controls and equipment

- Explain the importance of following procedures
- Demonstrate specific knowledge of key procedures

CK5: Gas engineering and mechanical or electric principles and processes that underpin the location, diagnosis, and rectification of faults

- Explain basic engineering theories, including the effects of pressure, temperature and volume
- Explain the application of theory to the way in which equipment functions
- Describe the application of theory to identify and rectify faults

CK6: Company policies, procedures and engineering instructions as specified by the employer

- Explain the difference between policies, procedures, and engineering instructions
- State the range and purpose of Company policies, procedures, and engineering instructions
- Explain the importance of following policies, procedures, and engineering instructions
- Demonstrate specific knowledge of key Company policies, procedures, and engineering instructions

Core Skills

Assessed in the Knowledge and Skills Assessment

CS12 Through risk assessment, minimise risks to life, property and the environment when undertaking work activities

Core Skills

Assessed in the Technical Interview underpinned by logbook
Part 1 – Focussing on the practical task evidence in the logbook

CS1 Undertake and document risk assessments in accordance with company procedures

CS2 Comply with workplace health, safety & environmental practices and regulations, maintaining a safe and secure working environment

CS3 Follow engineering instructions and company procedures to complete tasks safely and on-time

CS4 Undertake inspection and examination of network assets in order to maintain the safe and compliant operation of the network to ensure the integrity, safety and security of supply

CS5 Maintain and/or install gas engineering assets, components and associated equipment

CS6 Install, test, purge and commission gas network assets

CS7 Operate powered tools and equipment, such as drills, angle grinders, brush cutters and shot blasting equipment as required for network maintenance operations

CS8 Use approved gas detection equipment to ensure safe environment

CS9 Use Personal Protective Equipment (PPE) and safety equipment in accordance with manufacturer's instructions and employer policy

CS10 Obtain and analyse asset condition and performance information to facilitate decision making

CS11 Identify, organise and use resources effectively to complete tasks, with consideration for cost, quality, safety, security and environmental impact

CS13 Accurately record job information, complete job reports and process

Assessed in the Technical Interview underpinned by logbook
Part 2 – Focussing on the on-programme evidence in the logbook

CS1 Undertake and document risk assessments in accordance with company procedures

CS2 Comply with workplace health, safety & environmental practices and regulations, maintaining a safe and secure working environment

CS3 Follow engineering instructions and company procedures to complete tasks safely and on-time

CS14 Liaise with gas consumers, statutory agencies and members of the public in order to ensure their safety

CS15 Accurately update company systems with details of work undertaken

Core Skills

Amplification and Guidance

CS1: Undertake and document **risk assessments** in accordance with company procedures

- Demonstrate knowledge of risk assessment processes
- Correctly identify hazards and risks
- Correctly identify and implement mitigation actions
- Correctly use documentation

CS2: Comply with **workplace health, safety & environmental practices and regulations**, maintaining a safe and secure working environment

- Correctly identify stakeholders who need to be informed of work being undertaken
- Demonstrate understanding and application of safe working practices
- Establish and maintain a safe work area/site

CS3: Follow **engineering instructions and company procedures** to complete tasks safely and on-time

- Demonstrate understanding and application of relevant procedures for the task

CS4: Undertake **inspection and examination of network assets** in order to maintain the safe and **compliant operation of the network** to ensure the integrity, safety and security of supply

- Correctly apply procedures whilst undertaking work
- Demonstrate the maintenance of network assets to ensure the safety and security of supply
- Demonstrate the correct use of tools and testing equipment

CS5: Maintain and or install **gas engineering** assets, components, and associated equipment

- Correctly install or maintain equipment, including pipework, meters, and pressure regulators
- Demonstrate the correct and safe use of tools and equipment

CS6: Install, test, purge and commission gas network assets

- Correctly install or maintain equipment, including meters and regulators
- Correctly apply tightness and functional test procedures
- Demonstrate the correct application of purge and commissioning procedures

CS7: Operate **powered tools and equipment**, such as drills, angle grinders, brush cutters and shot blasting equipment as required for network maintenance operations.

- Demonstrate the correct and safe use of powered tools and equipment

CS8: Use **approved gas detection equipment** to ensure safe environment

- Demonstrate the correct use of gas detection equipment
- Correctly interpret outputs where gas readings are detected
- Demonstrate the implementation of appropriate actions

CS9: Use **Personal Protective Equipment (PPE)** and **safety equipment** in accordance with manufacturer's instructions and employer policy

- Demonstrate the correct wearing and use of PPE and safety equipment

CS10: Obtain and analyse **asset condition** and **performance information** to facilitate decision making

- Correctly assess the condition and performance of equipment
- Correctly interpret results and take appropriate actions

CS11: **Identify, organise and use resources effectively** to complete tasks, with consideration for cost, quality, safety, security and environmental impact

- Correctly identify the tools and equipment required
- Correctly identify the materials required
- Demonstrate appropriate safe working practices
- Demonstrate the application of site security requirements
- Demonstrate actions taken to care for the environment, including waste disposal
- Demonstrate awareness of costs
- Demonstrate task completion of an appropriate quality

CS12: Through **risk assessment, minimise risks to life, property and the environment** when undertaking work activities

- Demonstrate the application of risk assessment processes and application of company specific procedures
- Correctly identify hazards and risks
- Correctly identify and implement appropriate safety actions
- Correctly use documentation and record findings on site

CS13: Accurately record **job information, complete job reports and process**

- Demonstrate the use of company specific documentation, reporting systems and processes
- Demonstrate the appropriate and accurate completion of documentation before, during and after work

CS14: Liaise with **gas consumers, statutory agencies** and **members of the public** in order to ensure their safety

- Correctly identify stakeholders who need to be informed of work being undertaken
- Demonstrate understanding of the importance of effective liaison with others

CS15: Accurately update **company systems** with details of work undertaken

- Demonstrate the use of company specific systems and records
- Demonstrate the updating of company systems and records

Core Behaviours

Assessed in the technical interview underpinned by logbook
Part 1 – Focussing on the practical task evidence in the logbook

CB1 Display a self-disciplined, self-motivated approach

CB3 Demonstrate and apply a safety-first approach

CB4 Accept accountability when undertaking individual and team tasks

CB5 Follows instruction from appropriate supervision, and makes decisions when required

CB6 Quality-focussed and professional in work and in personal standards

CB8 Accepts responsibility for work undertaken

Assessed in the technical interview underpinned by logbook
Part 2 – Focussing on the on-programme evidence in the logbook

CB2 Deliver a polite, courteous professional service to all customers, stakeholders and members of the public as appropriate

CB4 Accept accountability when undertaking individual and team tasks

CB7 Recognise personal limitations and seek advice from managers, experts and specialists when required

CB9 Receptive to the needs and concerns of others, especially where related to diversity and equality

CB10 Committed to carrying out and recording Continued Professional Development necessary to maintain and enhance competence

CB11 Exercises responsibilities in an ethical manner

CB12 Interacts with people and approaches work activities in a way that contributes to continuous self-improvement

Core Behaviours

Amplification and Guidance

CB1: Display a **self-disciplined, self-motivated** approach
- Demonstrate ownership of and responsibility for own actions

CB2: Deliver a **polite, courteous professional service** to all customers, stakeholders and members of the public as appropriate
- Demonstrate understanding of company expectations and how to represent oneself in a polite and professional manner

CB3: Demonstrate and apply a **safety-first approach**
- Demonstrate an understanding of health and safety issues
- Demonstrate concern for safety for oneself, colleagues and others

CB4: Accept **accountability** when undertaking individual and team tasks
- Demonstrate ownership of work undertaken by oneself

CB5: Follows instruction from appropriate supervision and **makes decisions** when required.
- Recognise and accept levels of authority
- Act upon instructions received
- Make and take responsibility for own decisions

CB6: Quality-focussed and **professional in work and in personal standards**
- Recognise the need to act in a professional manner
- Produce work to a required standard and in compliance with policies and procedures

CB7: Recognise **personal limitations** and **seek advice** from managers, experts and specialists when required
- Recognise and accepts levels of authority
- Recognise own level of authority, including limitations
- Willing to seek guidance

CB8: Accepts **responsibility** for work undertaken
- Demonstrate ownership of work undertaken by oneself

CB9: Receptive to the **needs and concerns of others**, especially where related to diversity and equality

- Demonstrate awareness of the needs of others with relation to equality and diversity
- Provides examples of being receptive to the needs of others in relation to equality and diversity

CB10: Committed to carrying out and recording **Continued Professional Development** necessary to maintain and enhance competence

- Understand the need to develop and maintain competence to undertake work activities
- Recognise the requirements and benefits of Continued Professional Development (CPD)
- Provides examples of maintaining CPD

CB11: Exercises responsibilities in an **ethical manner**

- Understands, recognises and applies the requirements for ethical behaviour

CB12: Interacts with people and approaches work activities in a way that contributes to **continuous self-improvement**

- Demonstrate commitment to self-development

Electrical and Instrumentation pathway

In addition to the Core Knowledge, Skills and Behaviours the Electrical and Instrumentation pathway also contains:

- Specific Skills - 15 elements
- Specific Knowledge - 10 elements

The following list each of the elements of the electrical and instrumentation pathway providing amplification and guidance on the range and depth expected this is then followed by the assessment method(s) used per element.

Specific Skills Electrical and Instrumentation

Assessed in the Technical Interview underpinned by the logbook
Part 1 – Focussing on the practical task evidence

NMCEi1 Apply **electrical theories and principles** and use equipment to carry out **diagnostic fault-finding** procedures

NMCEi2 Inspect, maintain, repair, overhaul test and **calibrate instrumentation** and **control equipment** and **circuits** in accordance with **company procedures**

NMCEi4 Carry out **cable testing** across a range of voltages to ensure safety and suitability for use

NMCEi5 Install, maintain and dismantle instruments, controllers, probes, attachments, cabling, meters and display units

NMCEi9 Repair, maintain, configure and calibrate field instrumentation, communication devices and associated equipment used in system and process control

NMCEi12 Carry out isolation procedures to ensure process or system stability and the safety of personnel when carrying out operations

NMCEi15 Apply electrical skills to install, maintain and dismantle a wide range of plant, machinery and components

Specific Skills Electrical and Instrumentation

Assessed in the Technical Interview underpinned by the logbook
Part 2 – Focussing on the on-programme evidence

NMCEi3 Maintain **site lighting** and **fixed and portable equipment** which may include generators, batteries and associated equipment

NMCEi6 Configure telemetry outstation and internal systems

NMCEi7 Identify and resolve data quality and calibration issues

NMCEi8 Test, calibrate and validate fixed and portable analogue and digital instrumentation

NMCEi10 Use standards and specifications to improve the information gathered by telemetry data

NMCEi11 Inspect and maintain security equipment, telecommunication devices and alarm systems

NMCEi13 Provide support to day-to-day users of instrumentation and control systems

NMCEi14 Ensure consistent and valid data is available for business and regulation purposes

NMCEi17: The permitry requirements when maintaining or configuring telemetry systems or undertaking works that may initiate system alarms

NMCEi18: Recognise the processes to be followed in order to identify and resolve data quality and calibration issues

NMCEi19: Understand how to test and calibrate instrumentation and control equipment in accordance with company-specific procedures

NMCEi20: The theories used to maintain, test and calibrate electrical equipment in line with company specific procedures

NMCEi22: Identify relevant, company specific procedures, and know how to access such documentation

Specific Skills Electrical and Instrumentation

Amplification and guidance

Assessed in the Technical Interview underpinned by the logbook

Part 1 – Focussing on the practical task evidence

NMCEi1 Apply **electrical theories and principles** and use equipment to carry out **diagnostic fault-finding** procedures

- Demonstration of applying the theories of diagnostics and fault identification and rectification
- Correct application of appropriate fault-finding procedures

NMCEi2 Inspect, maintain, repair, overhaul test and **calibrate instrumentation** and **control equipment** and **circuits** in accordance with **company procedures**

- Demonstrate use of relevant company procedures

- Correctly apply relevant procedures when carrying out work
- Undertake work to the required outcome and quality
- Demonstrate the correct selection and use of materials, tools and equipment
- Demonstrate safe working practices, including appropriate use of PPE

NMCEi4 Carry out **cable testing** across a range of voltages to ensure safety and suitability for use

- Demonstrate taking measures to avoid the risks associated with electrical voltages
- Demonstrate the use of cable testing equipment
- Demonstrate the selection of appropriate cables and confirm their suitability for use

NMCEi5 Install, maintain and dismantle instruments, controllers, probes, attachments, cabling, meters and display units

- Demonstrate the use and application of relevant company procedures
- Demonstrate how the installation and maintenance of a variety of electrical and instrumentation equipment
- Undertake work to the required outcome and quality
- Demonstrate the correct selection and use of materials, tools and equipment
- Demonstrate safe working practices, including the appropriate use of PPE

NMCEi9 Repair, maintain, configure and calibrate field instrumentation, communication devices and associated equipment used in system and process control

- Demonstrate the application of relevant procedures
- Demonstrate the maintenance and calibration of communication systems such as alarms
- Undertake work to the required outcome and quality
- Demonstrate the correct selection and use of materials, tools and equipment
- Demonstrate safe working practices, including appropriate use of PPE

NMCEi12 Carry out isolation procedures to ensure process or system stability and the safety of personnel when carrying out operations

- Demonstrate the process to be followed for safe isolation and system stability and the factors impacting this
- Correctly apply relevant procedures when carrying out work

NMCEi15 Apply electrical skills to install, maintain and dismantle a wide range of plant, machinery and components

- Demonstrate the application of electrical theory
- Demonstrate application of relevant procedures and permits to work
- Demonstrate the installation, maintenance and decommissioning of electrical and instrumentation equipment
- Undertake work to the required outcome and quality
- Demonstrate the correct selection and use of materials, tools and equipment

- Demonstrate safe working practices, including appropriate use of PPE

Amplification and guidance

Assessed in the Technical Interview underpinned by the logbook
Part 2 – Focussing on the on-programme evidence

NMCEi3 Maintain **site lighting** and **fixed and portable equipment** which may include generators, batteries and associated equipment
- Demonstrate the application of maintaining site lighting, and other portable equipment
- Use test and calibration equipment required for the task
- Demonstrate the measures to be taken to ensure equipment is suitable and safe for use

NMCEi6 Configure telemetry outstation and internal systems
- Demonstrate the use and application of relevant procedures
- Demonstrate the operation and configuration of telemetered systems
- Undertake work to the required outcome and quality
- Demonstrate the correct selection and use of materials, tools and test equipment
- Demonstrate safe working practices, including the appropriate use of PPE

NMCEi7 Identify and resolve data quality and calibration issues
- Demonstrate the use and application of data quality systems, their limitations and implications and how to correct errors
- Demonstrate confirming the accurate calibration of equipment identifying the potential implications of this being incorrect

NMCEi8 Test, calibrate and validate fixed and portable analogue and digital instrumentation
- Demonstrate the application of relevant company procedures
- Demonstrate the testing, calibration and validation of instrumentation

NMCEi10 Use standards and specifications to improve the information gathered by telemetry data
- Demonstrate the application of relevant standards and specifications

NMCEi11 Inspect and maintain security equipment, telecommunication devices and alarm systems
- Demonstrate the inspection and confirmation of operation of site security systems
- Demonstrate the inspection and confirmation of operation of telecommunication and alarm systems

- Correctly apply relevant procedures when carrying out work

NMCEi13 Provide support to day-to-day users of instrumentation and control systems
- Demonstrate the support that may be needed by others
- Give examples of data transfer to other users and control operators

NMCEi14 Ensure consistent and valid data is available for business and regulation purposes
- Demonstrate the capture of valid data
- Demonstrate how to review, update or amend previous data capture

NMCEi17: The permitry requirements when maintaining or configuring telemetry systems or undertaking works that may initiate system alarms
- Explain the purpose and use of alarms on telemetry systems
- Explain the types and purpose of permits
- Explain the importance of complying with permits
- State the actions to take if unable to comply with permit requirements

NMCEi18: Recognise the processes to be followed in order to identify and resolve data quality and calibration issues
- Describe types of data quality issues, potential reasons/causes and potential implications
- Describe types of calibrations issues, potential reasons/causes and potential implications
- Explain how to identify and resolve issues associated with data quality and calibration

NMCEi19: Understand how to test and calibrate instrumentation and control equipment in accordance with company-specific procedures
- State and explain relevant company procedures for testing and calibration
- Identify and describe the types of instrumentation and equipment that requires calibration
- Describe the calibration procedures for different types of instrumentation and equipment
- Describe the potential implications of incorrect calibration

NMCEi20: The theories used to maintain, test and calibrate electrical equipment in line with company specific procedures
- State and explain relevant company procedures for testing and calibration
- Explain theories relevant to the calibration of different types of electrical equipment

NMCEi22: Identify relevant, company specific procedures, and know how to access such documentation
- State key company procedures for E&I work and their scope
- Explain where company procedures are held and how they are accessed

Specific Knowledge Electrical and Instrumentation
Assessed in the Knowledge and Skills Assessment
NMCEi16: The safety processes to be applied when testing for voltages across the range likely to be encountered **NMCEi21**: Understand how to safely apply diagnostic fault-finding principles to electrical systems **NMCEi23:** Legislative requirements affecting electrical works and be able to describe how such legislation may affect them **NMCEi24:** The hazards that could be encountered when maintaining both fixed and portable electrical equipment **NMCEi25:** Understand why safe isolation procedures must be followed when carrying out electrical or instrumentation operations
Specific Knowledge Electrical and Instrumentation
Amplification and guidance Assessed in the Knowledge and Skills Assessment
NMCEi16: The safety processes to be applied when testing for voltages across the range likely to be encountered • Explain the voltages associated with types of work and equipment • Describe the safety measures to be adopted • Explain the regulations and procedures applicable to electrical work **NMCEi21**: Understand how to safely apply diagnostic fault-finding principles to electrical systems • Explain the purpose of components, how they work and the interaction between various components • Describe the common failure or fault modes of components • Describe approaches to be taken to identify faults on various types of equipment • Describe the interpretation of test results to identify and resolve faults

NMCEi23: Legislative requirements affecting electrical works and be able to describe how such legislation may affect them

- State legislation and regulations applicable to electrical work and their scope
- Explain the appropriate application of legislation

NMCEi24: The hazards that could be encountered when maintaining both fixed and portable electrical equipment

- Explain the potential hazards of electrical equipment and their implications
- Describe measures to mitigate hazards

NMCEi25: Understand why safe isolation procedures must be followed when carrying out electrical or instrumentation operations

- Explain the reasons and requirements for safe isolation
- Describe safe isolation procedures
- Demonstrate the application of electrical theory
- Demonstrate application of relevant procedures and permits to work

Level 3 End-Point Assessment for Gas Network Craftsperson – Electrical and Instrumentation

EPA Specification Section 5 – Assessment

- Assessment summary
- Retake and resit information
- Overall grading
    - 5.1 Knowledge and skills assessment and component grading
    - 5.2 Technical Interview: Part 1 – Practical task and component grading
    - 5.3 Technical interview: Part 2 – On-programme 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 713 8310

Assessment summary

The end-point assessment for Gas Network Craftsperson (GNC) consists of three components:

Method 1 – Knowledge and Skills Assessment

- The test ensures that the apprentice has acquired the underpinning knowledge to enable them to perform their role. The test consists of 50 multiple choice questions to be answered in a 75-minute assessment under controlled conditions. Each question will present the apprentice with 4 options from which they must select the correct one. Each question answered correctly will be assigned 1 mark, any incorrect or missing answers will be assigned 0 marks

Practical Task

- The practical task will be set by EUIAS, taking account of workplace considerations as discussed with the apprentice's employer. Practical task may have a number of elements, but all tasks must be of equal size and complexity for each option

- EUIAS will ensure that practical task is conducted in either the workplace or a simulated environment that reflects the real working environment appropriate to the task(s) and risk involved, with the exception of not necessarily being connected to a live gas network

- The practical task is **not graded**. The technical expert will write a factual account of the practical task verifying whether the task was completed appropriately. The practical task will be indirectly assessed during technical interview part 1

- The practical task will enable an apprentice to demonstrate knowledge, skills, and behaviours which would be demonstrated by a competent network maintenance electrical and instrumentation craftsperson. The apprentice would complete a similar task in a cohesive way and can be carried out over a maximum work time 9 hours +/-10%, these could be delivered over a maximum of three days due to the safety critical nature of the activities. The technical expert must write a factual account of the practical task using EUIAS documentation as per EUIAS guidelines, therefore verifying whether the task was completed appropriately. The practical task:

    - will be administered by the employer who must be trained by the EUIAS and for the purposes of end-point assessment are accountable to the EUIAS

    - employer technical expert must not have been involved in the learning or training of the apprentice and cannot guide the apprentice in any way

    - will take place in either the workplace or a simulated environment that reflects the real working environment appropriate to the task(s) and risk involved, with the

exception of not necessarily being connected to a live gas network

- will be set and agreed by EUIAS, taking account of workplace considerations via discussions and meetings with the apprentice's employer
- may have a number of elements, but all tasks will be of equal size and complexity for each option
- must be conducted under the supervision of a technical expert from the apprentice's employer on a one-to-one basis to maintain quality and rigour
- may include breaks to allow the apprentice to move from one location to another and breaks in line with working time regulations which must at all times be supervised by an invigilator
- written Instructions must be given to the apprentice by the employer technical expert who must also brief the apprentice at the beginning of the task as per EUIAS guidelines and is not allowed to discuss the task with the apprentice before, during or after the practical task

Method 2 - Technical Interview, underpinned by the logbook

- The technical interview is underpinned by the logbook. Apprentice must draw their responses from evidence in their logbook to provide supporting evidence, although the logbook evidence will not be directly assessed
- The logbook must be submitted within one-week of the practical task completion and contain the employer technical expert's factual account as a witness testimony of the practical task that was completed by the apprentice during the EPA period
- The technical interview must last 2-hours +/-10% and must be conducted in two sessions, each lasting one-hour +/-10%, with a 15-20-minute break between each session
    - Part 1 is based on the practical task (post gateway evidence)
    - Part 2 is based on the logbook (on-programme evidence)
- An independent assessor will conduct the interview with an apprentice, in the presence of a technical expert from the apprentice's employer. The technical expert must be approved by the EUIAS. The technical expert's role is to provide context for the independent assessor with clarifications around specific company policies and

procedures only and may be the same person that observed the practical task. The technical expert **must not** provide information on behalf of the apprentice, ask the apprentice questions, or influence the apprentice in any way. The technical expert must not amplify or clarify points made by the apprentice. The interview must be conducted in the following manner:

- **Session 1** of the interview will only focus on the practical task (post gateway evidence) and the independent assessor will refer to the factual account written up by the technical expert and this will be assessed indirectly. The independent assessor **must ask 10 open questions** relating to the practical task to confirm authenticity of the work and assess underpinning knowledge, skills and behaviours relating to the task
- **Session 2** will only focus on the on-programme (pre-gateway) evidence in the logbook and the independent assessor must ask 10 questions relating to this evidence
- Within both sessions, further follow-up questions are allowed to probe further into the detail in order to satisfy the independent assessor of the depth of competence the apprentice has achieved. A greater depth of understanding will lead to higher grading of the apprentice

- The technical interview must be recorded and documented by the independent assessor
- The EPA judgements lies solely with the independent assessor who grades the technical interview

Roles and responsibilities

EUIAS will provide the independent assessor(s) for the technical Interview. The practical task are to be supervised by the employer technical expert(s) who must be approved by the EUIAS and may be recruited from the employer. They must not be or have been involved in the training or line-management of the apprentice.

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

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

The employer or training provider will adequately prepare apprentices for the end-point assessments.

Retake and resit information

Elements 1 and 2 below can be delivered in any order, however EUIAS recommend beginning with the Knowledge and Skills Assessment. Element 3 **must** always be delivered last:

Element 1: Knowledge and Skills Assessment
Element 2: Practical Task
Element 3: Technical Interview (parts 1 and 2), underpinned by the logbook

The apprentice **must** pass element 1 and undertake the practical task before they can progress onto the next. If the apprentice fails element 1 or 3 the apprentice must, with immediate effect, be withdrawn from the EPA process. The EUIAS will provide feedback to the employer and or training provider and agree an action plan for the apprentice.

The apprentice will only be expected to retake the GNC EPA element that they have failed. The retake **must only** be carried out after one month has elapsed since the first scheduled date of the EPA element. The apprentice **cannot achieve higher than a pass** for the EPA element that they have had to retake.

Overall Grading

The knowledge and skills assessment, and technical interview underpinned by the logbook is marked separately and awarded either a distinction, pass or fail.

The knowledge and skills assessment is based on the percentage score achieved. The grade and mark for the technical interview underpinned by the logbook is based on the number and level of criteria achieved.

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

Knowledge and Skills Assessment:

Grade	Distinction	Pass	Fail
Grade boundaries	45 – 50 marks	35 – 44 marks	≤ 34 marks

Table 1: Knowledge and skills assessment grading boundaries

Technical Interview, underpinned by the logbook grading combinations:

The independent assessor who conducts the technical interviews, **must** combine the results of both part 1 and part 2 of the interview to determine the overall technical interview grade. A fail in either of the two parts will result in a fail being awarded for the technical interview.

Technical interview part 1 grade	Technical interview part 2 grade	Overall Technical interview grade
Pass	Pass	Pass
Distinction	Pass	Pass
Pass	Distinction	Pass
Distinction	Distinction	Distinction

Table 2: Technical interview grading combinations

EUIAS will combine the grade of the two assessment methods to determine the EPA and final apprenticeship grade. To achieve an EPA and an apprenticeship pass apprentices **must** achieve a pass or distinction in both assessment methods. A fail in any of the assessment methods will result in an overall EPA and apprenticeship fail. **Overall grading for all elements** are shown in table 3 below:

Knowledge and Skills Assessment Grade	Overall Technical Interview Grade	Final EPA grade
Pass	Pass	Pass
Distinction	Pass	Pass
Pass	Distinction	Pass
Distinction	Distinction	Distinction

Table 3: Overall EPA grading combinations

Level 3 End-Point Assessment for Gas Network Craftsperson – Electrical and Instrumentation

EPA Specification Section 5.1 – The Knowledge and Skills 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:

Help Desk email: enquiries@euias.co.uk

Help Desk telephone: 0121 713 8310

Introduction

The knowledge and skills assessment consists of 50 multiple choice questions sampling the core knowledge and skills as required of the Gas Network Craftsperson Standard. Some knowledge and skills questions in the assessment are specific to the electrical and instrumentation specialist pathway and some questions will be common across assessments (listed below as CK2, CK3, CK5, CS12, NMCEi16, NMCEi21, NMCEi23, NMCEi24, NMCEi25). The practice test supplied as part of this document illustrates the format and style of the assessment.

Preparing for the Knowledge and Skills Assessment

- While on-programme, the employer and or training provider should ensure the apprentice is familiar with all areas assessed by the knowledge skills assessment
- The employer and 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 and Skills Assessment Criteria

The criteria that are covered in the knowledge and skills 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. Refer to Section 4 for amplification and guidance. In accordance with the Gas Network Craftsperson assessment plan, aspects of these elements are also assessed in the technical interview.

Knowledge, Skills and Behaviours	Number of knowledge and skills questions per category
CK2 The requirements of the Gas Safety (Management) Regulations as relevant to their role, this being supported through company specific procedures involved in the practical installation and maintenance of gas network assets	2 - 3

CK3 The requirements of Health and safety standards and regulations, and environmental and regulatory requirements, including; The Health and Safety at Work Act, the Environmental Protection Act Dangerous Substances Explosive Atmospheres Regulations, The ATEX Directives, The Management of Health and Safety regulations, PUWER, Working at Height Regulations, Confined spaces Regulations, COSHH, PPE Regulations, RIDDOR, Noise at work regulations, Control of Asbestos regulations and the Manual Handling Operations Regulations	6 - 9
CK5 Gas engineering and mechanical and /or electric principles and processes that underpin the location, diagnosis and rectification of faults	5 - 8
CS12 Through risk assessment, minimise risks to life, property and the environment when undertaking work activities	4 - 7
NMCEi16 The safety processes to be applied when testing for voltages across the range likely to be encountered	4 - 6
NMCEi21 Understand how to safely apply diagnostic fault-finding principles to electrical systems	6 – 9
NMCEi23 Legislative requirements affecting electrical works and be able to describe how such legislation may affect them	4 - 6
NMCEi24 The hazards that could be encountered when maintaining both fixed and portable electrical equipment	4 - 6
NMCEi25 Understand why safe isolation procedures must be followed when carrying out electrical or instrumentation operations	4 - 6

Knowledge and Skills Assessment Grading

This component is graded as follows:

Grade	Mark
Fail	≤34
Pass	35 - 44
Distinction	45 - 50

Level 3 End-Point Assessment for Gas Network Craftsperson – Electrical and Instrumentation

EPA Specification Section 5.2 – The Practical Task

- Introduction
- Preparing for the Practical Task
- Practical Task Grading
- Criteria and Grading

Contacts

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Introduction

Apprentices will complete a practical task during which they will also be asked questions by the technical expert to confirm their understanding of the rationale for actions taken and choices made during the task(s). The content of this practical task will relate to the specific role they are working towards. The duration of this activity will typically be no longer than 9 hours +/- 10%, this can be split across a maximum of three days. The actual time allowed will be based on the comparable time that an industry competent worker would take to achieve successful task(s) completion. The EUIAS will provide the performance criteria and the recording documents for the tasks. Through consultation with the employer and training provider, the EUIAS will ensure sufficient complexity to allow the apprentice to demonstrate the required knowledge, skills and behaviours (KSB) in an integrated way, which will test:

- Core skills (CS1; CS2; CS3; CS4; CS5; CS6; CS7; CS8; CS9; CS10; CS11; CS13)
- Core behaviours (CB1; CB3; CB4; CB5; CB6; CB8)
- Selected role specific skills for electrical and instrumentation craftsperson (NMCEi1; NMCEi2; NMCEi4; NMCEi5; NMCEi9; NMCEi12; NMCEi15)

See Section 4 for the references to the standard.

Note that the apprentice is only required to demonstrate the electrical and instrumentation craftsperson specific knowledge, skills and behaviours requirements, and the task must be chosen carefully to ensure that the apprentice has opportunity to cover all aspects of the knowledge, skills and behaviours in an integrated way.

The task(s) will be supervised and managed by an employer technical expert approved by EUIAS, and this technical expert **must not** be the independent assessor who conducts the technical interview.

As part of the practical task the technical expert will write a factual account of the practical task verifying whether the task was completed appropriately. The apprentice will be asked 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 practical task provides the opportunity for the apprentice to synoptically demonstrate core and specific knowledge, skills and behaviours as detailed in Section 4, on actual plant and equipment in a workplace or a simulated environment that reflect the real working environment appropriate to the task(s) and risk involved, with the exception of not necessarily being connected to a live gas network. This provides the opportunity to apply and integrate their learning and to safely perform maintenance and operational activities.

Preparing for the Practical Task

The practical task will be set by the EUIAS working alongside the employer, taking account of workplace consideration in discussions with the apprentice's employer. Practical task may have a number of elements, but all task(s) must be of equal size and complexity for each option. EUIAS will work with the employer to approve or provide recommendations to ensure the following and are all fit for purpose:

- Practical task and brief(s)
- Workplace and or the simulated environment reflect the real working environment and are appropriate for the practical task
- Identify risk(s) involved, with the exception of not necessarily being connected to a live gas network

The EUIAS have provided example practical tasks in Section 7 'Supporting Documents and Guidance' of this Specification to assist the employer technical expert. The practical task and brief(s) **must** be designed to enable demonstration of the core KSBs and the electrical and instrumentation apprentice's knowledge and skills in an integrated way. The area where the practical task is taking place must be designed to ensure the employer technical expert has full sight of the apprentice at all times during the practical task.

The practical task will be administered by the employer technical expert, they will be trained by EUIAS and are accountable to EUIAS.

The employer technical expert:

- must not have been involved in the learning or training of the apprentice and cannot guide the apprentice in any way
- will provide written instructions and brief the apprentice at the beginning of the task in line with EUIAS guidance
- is not allowed to discuss the task with the apprentice before, during or after the practical task
- will question the apprentice to ascertain the depth and breadth of their underpinning knowledge
- will write a factual account of the practical task using EUIAS documentation as per EUIAS guidelines, verifying whether the task was completed appropriately
- will **not grade** the practical task (grading will take place by an independent assessor during technical interview part 1)

- will supervise the apprentice during the practical task on a one-to-one basis to maintain quality and rigour. The area where the practical task is taking place must be designed to ensure the employer technical expert has full sight of the apprentice at all times during the practical task

- will require an invigilator on the day because there may be breaks during the practical task to allow the apprentice to move from one location to another and breaks in line with working time regulations which **must at all times** be supervised by an invigilator

Apprentices should be prepared for the practical task with the opportunity to carry out large scale complex tasks under assessment conditions. They should be questioned either before or during the practice task, as outlined in Section 6 'Practice Assessments and Guidance'.

The EUIAS Service Delivery team will get in touch with the agreed point of contact at the employer or training provider to schedule the practical task as required. This task requires sufficient notice to take account of the availability of the apprentice, the employer technical expert, and the venue staff for the duration of the task(s).

The apprentice to employer technical expert ratio **must** be one-to-one for the entire duration of the practical task and **under no circumstances must this exceed 1:1**. The apprentice **must not** be left alone. There may be breaks during the practical task to allow the apprentice to move from one location to another and breaks in line with working time regulations which **must** all be supervised by an invigilator on a one-to-one basis.

The invigilator **must:**

- be independent of the apprentice, the employer and training provider(s); there must be no conflict of interest

- ensure the apprentice is not left unsupervised

- ensure they only supervise one apprentice

- not discuss the practical task or work being carried out by the apprentice with the apprentice

The apprentices should be made aware that the **practical task will not be graded by the technical expert**, but that it will be graded a distinction, pass or fail during the technical interview part 1 (practical task) by the independent assessor. The apprentice should be made aware that the practical task has been designed to enable demonstration of core KSBs and the electrical and instrumentation specific knowledge and skills in an integrated way.

The EUIAS Service Delivery team will work with the employer or training provider to schedule the practical task.

Demonstration of core KSBs including the electrical and instrumentation specific knowledge and skills in an integrated way during the Practical Task

The practical task **must** be designed to demonstrate the core KSBs including electrical and instrumentation specific knowledge and skills criteria as described in the following pages.

Practical Task

The **apprentice must demonstrate** core KSBs and the electrical and instrumentation specific knowledge and skills in an integrated way. The practical task is supervised by the employer technical expert approved by the EUIAS.

The following tables explain the criteria that the apprentice **must** demonstrate:

Core Skills	CS1	CS2	CS3	CS4	CS5	CS6	CS7	CS8	CS9	CS10	CS11	CS13
Demonstrate	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

Core Behaviours	CB1	CB3	CB4	CB5	CB6	CB8
Demonstrate	✓	✓	✓	✓	✓	✓

Role Specific Skills	NMCEi1	NMCEi2	NMCEi4	NMCEi5	NMCEi9	NMCEi12	NMCEi15
Demonstrate	✓	✓	✓	✓	✓	✓	✓

The practical task must be successfully completed.

Practical Task Criteria

The apprentice must be able to demonstrate the following core KSBs and the electrical and instrumentation specific knowledge and skills in an integrated way:

Standard	Demonstrate core KSBs, and electrical and instrumentation specific knowledge and skills
CS1: Undertake and document **risk assessments** in accordance with company procedures	• Undertake a site-specific risk assessment appropriate to the site and task • Identify and implement appropriate control measures
CS2: Comply with workplace **health, safety & environmental practices** and **regulations**, maintaining a safe and secure working environment	• Comply with health and safety measures specified for the site • Apply safe working practices in accordance with the risk assessment and Permit to Work requirements
CS3: Follow **engineering instructions** and company **procedures** to complete tasks safely and on-time	• Undertake tasks in compliance with procedures
CS4: Undertake **inspection** and **examination of network assets** in order to maintain the safe and compliant operation of the network to ensure the integrity, safety and security of supply	• Demonstrate understanding of the impact of components on safety and security of supply • Undertake visual inspection of equipment and components • Use equipment to check the function and operation of components • Examples of assets may include electrical equipment, telemetry equipment, control systems, sensing equipment, metering, actuators

Standard	Demonstrate core KSBs, and electrical and instrumentation specific knowledge and skills
CS5: Maintain and/or install **gas engineering assets**, components and **associated equipment**	• Take action to check or confirm the performance of components • Correctly select and use tools and equipment appropriate for the task • Install new or replacement equipment of components appropriate for the task • Check or confirm the performance of new components • Assets may include electrical equipment, telemetry equipment, control systems, sensing equipment, metering
CS6: Install, test, purge and commission gas network assets	• Identify tools, equipment and materials required for the task • Apply a safe and logical approach to the installation of assets • Confirm the newly installed assets are working correctly • Examples of assets and equipment may include gas quality equipment, meters, orifice plates, gauges, sensors, switches, solenoids, transducers, telemetry, actuators
CS7: Operate **powered tools, such as drills, angle rinders, brush cutters and shot blasting** equipment as required for network maintenance operations	• Identify power tools appropriate for the task • Ensure site rules and conditions are suitable for the use of power tools • Apply pre-use checks to ensure equipment is safe and fit for purpose

Standard	Demonstrate core KSBs, and electrical and instrumentation specific knowledge and skills
	• Use equipment in accordance with instructions • Examples of tools and equipment may include hand tools, hot work tools, meters, gauges, battery operated tools, electrical tools
CS8: Use approved **gas detection equipment** to ensure safe environment	• Use equipment to detect for the presence of escaping gas before undertaking work • Examples of gas detection equipment may include: Gascoseeker, Gassurveyor, personal atmosphere monitor, sensors
CS9: Use **Personal Protective Equipment (PPE)** and safety equipment in accordance with manufacturer's instructions and employer policy	• Select, wear and use personal protective equipment appropriate to the site and task • Examples of PPE may include protection for: head, hearing, eyes, body, hands, feet • Examples of PPE may include protection from dust, heat, fire • Examples of PPE may include personal atmosphere monitor
CS10: Obtain and analyse **asset condition** and **performance information** to facilitate decision making	• Use information supplied by others to confirm performance • Use test equipment to identify the performance of systems and components • Use available to make decisions on the actions required • Examples of performance information may include inputs, outputs, telemetered data, • Examples of conditions may include tolerances,

Standard	Demonstrate core KSBs, and electrical and instrumentation specific knowledge and skills
	accuracy and inaccuracy
CS11: Identify, organise and use **resources** effectively to complete tasks, with consideration for cost, quality, safety, security and environmental impact	• Select the tools, equipment, materials and consumables appropriate for the task • Demonstrate care for tools, equipment, materials and consumables throughout the task • Demonstrate the correct use of tools, equipment, materials and consumables throughout the task • Take steps to minimise wastage • Examples of resources may include manpower, tools, equipment, materials, consumables
CS13: Accurately record **job information,** complete **job reports** and process	• Effectively interpret the outputs of test equipment • Maintain appropriate records of tests and outputs, as appropriate for the task • Inform others of results and outputs, as appropriate • Maintain site logs, as appropriate • Examples of information may include inputs, outputs, data, performance data, • Examples of reports may include handwritten reports, computer records, site logs, verbal reports
CB1: Display a **self-disciplined, self-motivated** approach	• Explain why self-discipline and self-motivation are important and give examples of how these have been applied
CB3: Demonstrate and apply a **safety first** approach	• Recognise the risks posed by the site and work to be undertaken

Standard	Demonstrate core KSBs, and electrical and instrumentation specific knowledge and skills
	Apply safe working practices appropriate for the site and task
CB4: Accept **accountability** when undertaking individual and team tasks	• Describe using examples when accountability has been taken for tasks
CB5: Follows instruction from appropriate supervision, and **makes decisions** when required	• Describe the management / reporting structure and who can issue work instructions • Give examples of where instruction have been followed
CB6: Quality-focussed and professional in work and in personal standards	• Explain why it is important to produce quality work • Describe with examples of when a professional approach has been employed in a work situation
CB8: Accepts **responsibility** for work undertaken	• Give examples of when responsibility has been accepted for a task
NMCEi1: Apply **electrical theories and principles** and use equipment to carry out **diagnostic fault finding** procedures	• Correctly identify electrical theories and principles applicable to the task • Appropriately apply electrical and theories applicable to the task • Appropriately select and use equipment to diagnose faults on components • Examples of theories may relate to current, voltage, resistance, impedance, capacitance, heat
NMCEi2: Inspect, maintain, repair, overhaul test and calibrate **instrumentation and control equipment** and circuits in accordance with **company procedures**	• Identify and correctly apply procedures appropriate for the task • Identify and correctly use tools and equipment appropriate for the task

Standard	Demonstrate core KSBs, and electrical and instrumentation specific knowledge and skills
	• Correctly calibrate instrumentation equipment prior to use • Examples of equipment may include meters, gauges, sensors, telemetry, gas quality equipment, odourisation equipment
NMCEi4: Carry out **cable testing** across a **range of voltages** to ensure safety and suitability for use	• Demonstrate knowledge of requirements for testing cables and suitable methodologies • Select appropriate equipment for the task • Examples of equipment may include gauges, meters, sensors • Examples of voltages may include: millivoltages, low voltages, high voltages
NMCEi5: Install, maintain and dismantle **instruments, controllers, probes, attachments, cabling, meters and display units**	• Demonstrate safe working practices when installing, maintaining or dismantling equipment • Examples of equipment may include meters, gauges, sensors, orifice plates, actuators, telemetry • Examples of components may include probes, controllers, cables and wiring, displays, casings and cabinets
NMCEi9: Repair, maintain, configure and calibrate **field instrumentation, communication devices and associated equipment** used in system and process control	• Demonstrate safe working practices when working on instrumentation and communication equipment • Demonstrate the calibration of instrumentation equipment • Examples of instrumentation equipment may include meters, gauges, sensors, actuators • Examples of communication equipment may include

Standard	Demonstrate core KSBs, and electrical and instrumentation specific knowledge and skills
	aerials, online connections, telemetry systems, modems
NMCEi12: Carry out **isolation procedures** to ensure process or system stability and the safety of personnel when carrying out operations	• Demonstrate understanding of the need for safe isolation of electrical systems prior to work • Apply procedures to safely isolate electrical systems prior to work
NMCEi15: Apply **electrical knowledge and skills** to install, maintain and dismantle a wide range of plant, machinery and components	• Demonstrate knowledge and understanding of electrical theory appropriate to the task • Apply theory when undertaking work • Examples of plant may include valves, pressure control equipment, metering equipment, condition monitoring equipment, gas quality equipment, odourisation equipment, buildings and housings, site lighting, site security

Level 3 End-Point Assessment for Gas Network Craftsperson – Electrical and Instrumentation

EPA Specification Section 5.3 – Technical Interview underpinned by the logbook

- Introduction
- Preparing for the technical interview underpinned by the logbook
- Criteria and 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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Introduction

The technical interview underpinned by the logbook is the final stage of the end-point assessment. The technical interview underpinned by the logbook will be recorded. It is assessed by an independent assessor approved and appointed by the EUIAS. The technical interview will be documented by the independent assessor. The independent assessor **must** assess the evidence from both interview sessions holistically. Representative from the apprentice's employer or training provider is allowed to be present in the room whilst the interview is being conducted which would normally be the employer technical expert who conducted the practical task. The employer technical expert:

- can be the same person who observed the practical task
- **must not** amplify or clarify points made by the apprentice
- role is to provide context for the independent assessor with clarifications around specific company policies and procedures
- will not be involved in grading the apprentice

The technical interview underpinned by the logbook will take place in two parts and focus on each of the elements of the Standard listed below. It is important that the apprentice is completely familiar with each of them.

- **Part 1 - focussing on the practical task:**
  - Core skills (CS1; CS2; CS3; CS4; CS5; CS6; CS7; CS8; CS9; CS10; CS11; CS13)
  - Core behaviours (CB1; CB3; CB4; CB5; CB6; CB8)
  - Selected role specific skills for electrical and instrumentation (NMCEi1; NMCEi2; NMCEi4; NMCEi5; NMCEi9; NMCEi12; NMCEi15)
- **Part 2 - focussing on the on-programme:**
  - Core knowledge (CK1; CK4; CK6)
  - Core skills (CS1; CS2; CS3; CS14; CS15)
  - Core behaviours (CB2; CB4; CB7; CB9; CB10; CB11; CB12)
  - Selected role specific skills for electrical and instrumentation (NMCEi3; NMCEi6; NMCEi7; NMCEi8; NMCEi10; NMCEi11; NMCEi13; NMCEi14; NMCEi17; NMCEi18; NMCEi19; NMCEi20; NMCEi22)

See Section 4 for the references to the standard.

The technical interview **must** last two hours +/-10% and must be conducted in **two sessions**, each lasting one-hour +/-10%, with a 15-20 minute break between each session. The break **must** be supervised by an invigilator at all times.

Preparing for the Technical Interview underpinned by the logbook

Apprentices should be prepared for the technical interview underpinned by the logbook with 'mock interview' opportunities. This should take place near or at the end of their training programme when they are finalising their logbook. Apprentices should be guided to index their logbooks, referencing each part of their evidence to the relevant part of the Standard.

The independent assessor will ask a set of **10 questions per interview,** with supplementary questions as required, to explore the apprentice's level of skills, knowledge, and behaviours. The apprentice should support their answers by referring to evidence from their logbook. For part 1 of the technical interview the apprentice **must** refer to the practical task and for part 2 the apprentice **must** refer to the on-programme evidence from the logbook.

Guidance for preparing for the technical interview underpinned by the logbook 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 their full potential.

The Technical Interview underpinned by the logbook - Session (part) 1:

Will **only** be focused on the practical task (post gateway evidence) in the logbook which must include the factual account produced by the technical expert. The independent assessor **must** ask 10 questions relating to the practical task, to confirm authenticity of the work and assess underpinning skills and behaviours relating to the task. Follow up questions may be asked by the independent assessor to ensure the apprentice has the depth and breadth of competence for the role. The greater depth of understanding will lead to a higher grade being awarded.

The Technical Interview underpinned by the logbook - Session (part) 2:

Will **only** be focused on (on-programme period) pre-gateway contents of evidence in the logbook, which **must** be compiled from the last 12 months. The **logbook must contain**:

- direct observation of knowledge and skills development or formative assessments from the **last 12 months of on-programme training**

- reviews which should be completed and recorded to determine progression towards competence across the entire occupational standard

- a **minimum of two pieces of quality evidence to demonstrate each KSB (core and emergency response)** and the evidence must be mapped against the KSBs, each piece of evidence is likely to demonstrate more than one KSB

- **KSBs mapping document** that identifies clearly where all the quality evidence from the logbook has been mapped. As mentioned above each piece of evidence is likely to demonstrate more than one KSB. The evidence should be sufficient to demonstrate that the apprentice can apply the core knowledge, skills and behaviours required and the electrical and instrumentation knowledge and skills as indicated in section 4 of this document

- evidence must be valid and attributable to the apprentice, with a qualitative as opposed to quantitative approach

- other evidence sources such as and this list is **not** a definitive list as other sources are allowed:
    - Certificates of training
    - Job cards
    - Work records
    - Maintenance records
    - Risk Assessments
    - Photographs of workplace activities
    - Videos of work carried out (no more than 10 minutes)

Important note: The logbook must not contain any methods of self-assessment.

The independent assessor **must** ask 10 questions relating to the evidence in the on-programme part of the logbook, to confirm authenticity of the work and assess underpinning knowledge, skills and behaviours relating to the task. Follow up questions may be asked by the independent assessor to ensure the apprentice has the depth and breadth of competence for the role. The greater depth of understanding will lead to a higher grade being awarded

The technical interview will:

- take place after successful completion of the knowledge and skills assessment, and practical task

- be face to face (remote interviews may be applicable pending on Covid-19)
- be recorded on a review record
- be recorded on Microsoft Teams or
- evidence the above KSBs

Please note that the practical task documentation and the logbook are **NOT** assessed, but the apprentice **must** use their logbook to support themselves in answering the technical interview questions. The interview questions will focus on each of the elements of the Standard listed above so it is important that the apprentice is completely familiar with each of them.

Prior to the technical interview, the assessor will have confirmation of completion of the requirements of the logbook and the practical task including the employer technical expert's factual account. The questioning will cover **ALL** the elements as identified in the apprenticeship Standard. The apprentice can achieve a pass or distinction. If the apprentice fails, this element the apprentice **must** with immediate effect be withdrawn from the EPA process. Further information can be found in Section 5 'Retake and Resit Information'

Grading the Technical Interview underpinned by the logbook

The technical interview is marked as a distinction, pass or fail. The grading criteria are described in the following pages.

The grading criteria is based on the Assessment Plan:

- To achieve a **pass** in the technical interview the apprentice **must** successfully demonstrate competence in **all** the relevant KSBs

- To achieve **distinction** in the technical interview **Part 1 – Practical Task** the apprentice must meet **all** the **pass criteria and achieve 5 of the 8 criteria** listed in the indicative distinction criteria

- To achieve **distinction** in the technical interview **Part 2 – On-programme** the apprentice must meet **all** the **pass criteria and achieve 4 of the 7** criteria listed in the indicative distinction criteria

Technical interview pass grading combinations are shown in the table below:

Technical interview part 1 grade	Technical interview part 2 grade	Technical interview grade
Pass	Pass	Pass
Distinction	Pass	Pass
Pass	Distinction	Pass
Distinction	Distinction	Distinction

Details of overall grading are as described earlier in this document.

Technical Interview underpinned by the logbook grading

The technical interview is graded by the employer technical expert approved by the EUIAS. The following tables explain the criteria that are applied in order to achieve each grade for the technical interview.

Part 1 – Practical Task (post gateway):

- To achieve a pass **all**, **pass criteria must be achieved**
- To achieve a distinction **all, pass criteria must be achieved and 5 of the 8 criteria from the indicative distinction** criteria must be met

Core Skills	CS1	CS2	CS3	CS4	CS5	CS6	CS7	CS8	CS9	CS10	CS11	CS13
All Pass criteria must be achieved	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

Core Behaviour	CB1	CB3	CB4	CB5	CB6	CB8
All Pass criteria must be achieved	✓	✓	✓	✓	✓	✓

Role Specific Skills	NMCEi1	NMCEi2	NMCEi4	NMCEi5	NMCEi9	NMCEi12	NMCEi15
All Pass criteria must be achieved	✓	✓	✓	✓	✓	✓	✓

Indicative ‘pass’ criteria for the Technical Interview underpinned by the logbook - Part 1- Practical Task

The following criteria are indicative of the **pass criteria** the independent assessor will be looking for when the apprentice takes part in the technical interview Part 1 which will be based upon evidence in the logbook from the practical task undertaken and the factual report submitted by the technical expert.

Standard	Indicative Pass Criteria
CS1 Undertake and document **risk assessments** in accordance with company procedures	• Explains the purpose of risk assessment • Explains how risk assessments were undertaken, the hazards identified, and the control measures put in place during the practical tasks
CS2 Comply with **workplace health, safety & environmental practices and regulations**, maintaining a safe and secure working environment	• Describes how a safe working environment was established and maintained • Relates site safety to legislation, regulations and procedures
CS3 Follow **engineering instructions and company procedures** to	• States the procedures followed during the practical tasks

Standard	Indicative Pass Criteria
complete tasks safely and on-time	
CS4 Undertake inspection and examination of **network assets** in order to maintain the safe and compliant operation of the network to ensure the integrity, safety and security of supply	• Explains how the condition of E&I assets or equipment was assessed during the practical tasks • Explains the potential impact of asset condition on security of supply
CS5 Maintain and/or install **gas engineering assets**, components and associated equipment	• Identifies which E&I assets or equipment were maintained • Describes how E&I assets or equipment were maintained • Explains the reason(s) for maintaining E&I assets or equipment
CS6 Install, test, purge and commission **gas network assets**	• Describes how E&I assets and equipment were installed • Describes how E&I assets and equipment were tested • Explains the procedures followed for commissioning E&I assets or equipment
CS7 Operate **powered tools and equipment**, such as drills, angle grinders, brush cutters and shot blasting equipment as required for network maintenance operations	• Describes the pre-use checks made on tools and equipment • Describes how tools were used safely for the task
CS8 Use approved **gas detection equipment** to ensure safe environment	• Explains the purpose of checking for gas • Explains how gas detection was used for the task

Standard	Indicative Pass Criteria
	• Able to explain how the presence of gas and 'no gas' readings influence the task undertaken
CS9 Use **Personal Protective Equipment (PPE) and safety equipment** in accordance with manufacturer's instructions and employer policy	• Describes the PPE worn and explains the purpose of each
CS10 Obtain and analyse **asset condition** and **performance information** to facilitate decision making	• Describes the information used to determine condition or performance • Explains how data was used to make decisions during the task
CS11 Identify, organise and use **resources** effectively to complete tasks, with consideration for cost, quality, safety, security and environmental impact	• Describes the resources used during the tasks and how these were used (tools, equipment, consumables) • Describes the process used to minimise waste and the way in which waste was disposed of • Demonstrates understanding of costs associated with resources
CS13 Accurately record **job information**, complete **job reports** and **process**	• Describes records made during or after the tasks • Explains the purpose of the data recorded • Explains why data needs to be accurate
CB1 Display a **self-disciplined, self-motivated** approach	• Describes the personal approach taken for the tasks

Standard	Indicative Pass Criteria
CB3 Demonstrate and apply a **safety first** approach	• Describes how safety was prioritised during the tasks
CB4 Accept accountability when undertaking individual and team tasks	• Recognises personal responsibilities and accountabilities for the tasks
CB5 Follows instruction from appropriate supervision, and makes decisions when required	• Recognises where work instructions are received from • States when personal decisions needed to be taken during the tasks
CB6 Quality-focussed and professional in work and in personal standards	• Demonstrates understanding of why it is important to produce work of the required quality • Gives examples of potential consequences of poor quality work
CB8 Accepts responsibility for work undertaken	• Takes ownership of work undertaken during the practical assessment • Identifies how work could have been undertaken better
NMCEi1 Apply **electrical theories and principles** and use equipment to carry out diagnostic fault finding procedures	• Explains the electrical theories and principles applied when identifying and diagnosing faults during the tasks
NMCEi2 Inspect, maintain, repair, overhaul test and calibrate **instrumentation and control equipment and circuits** in accordance with company procedures	• Explains the purpose of calibrating equipment and which equipment was calibrated during the tasks • States and explains the procedures followed for work on instrumentation equipment during the practical tasks
NMCEi4 Carry out cable testing across a range of voltages to ensure	• Describes the process by which cables were tested

Standard	Indicative Pass Criteria
safety and suitability for use	• Explains the purpose of testing cables
NMCEi5 Install, maintain and dismantle **instruments, controllers, probes, attachments, cabling, meters and display units**	• Using examples describe the way in which instruments were installed or maintained • Explain how newly installed instruments were checked for correct operation
NMCEi9 Repair, maintain, configure, and calibrate **field instrumentation, communication devices and associated equipment** used in system and process control	• Using examples describe the way in which communications or telemetry devices were installed or maintained • Explain how newly installed communications or telemetry devices were checked for correct operation
NMCEi12 Carry out **isolation procedures** to ensure process or system stability and the safety of personnel when carrying out operations	• Explains why it is necessary to safely isolate electrical equipment prior to work • Describes how electrical equipment was isolated during the practical tasks
NMCEi15 Apply **electrical knowledge and skills** to install, maintain and dismantle a wide range of plant, machinery, and components	• State and explain the theory applied when undertaking • work on electrical equipment during the practical tasks

Indicative ‘distinction’ criteria for the Technical Interview underpinned by the logbook - Part 1- Practical Task

- To achieve a pass **all,** pass criteria as listed above must be achieved.
- To achieve a distinction **all,** pass criteria **must** be achieved and **5 of the 8 criteria from the indicative distinction** criteria must be met

Standard	Indicative Distinction Criteria
D1 Critically appraised own approach to health and safety, acting as a role model by identifying deficiencies and providing proactive solutions to ensure the safety, security and integrity of supply	**CS1; CS2; CS4; CS9; CB3; NMCEi4; NMCEi12** • Able to identify where and how safety practices could be improved • Able to identify where actions could improve risks to security of supply
D2 Uses recognised planning techniques and implements these to improve work efficiency Operates upon own initiative, demonstrates examples of critical reflection, analysis and evaluation	**CS3; CS10; CS11; CB1; CB5; CB6; NMCEi2; NMCEi9** • Able to explain why it is beneficial to plan jobs before starting • Able to give examples of effective job planning • Able to review how planning was undertaken during the practical tasks and how this could be improved
D3 Shows understanding of the detailed technical aspects of the task undertaken and uses this understanding to evaluate the methods used to undertake the task. Consults and involves people from the team and other areas to achieve shared understanding	**CS1; CS5; CS6; CS7; NMCEi1; NMCEi2; NMCEi4; NMCEi5; NMCEi9; NMCEi12; NMCEi15** • Able to clearly explain electrical theories and principles and how these have been applied during the practical tasks • Recognises when it would be beneficial to consult with others before and during a task
D4 Educates others when an unsafe working	**CB6; CB8; NMCEi2; NMCEi5**

Standard	Indicative Distinction Criteria
environment is encountered and puts measures in place to mitigate safety issues	• Able to identify unsafe situations • Able to describe safe working practices • Able to communicate effectively with others
D5 Explains the implications of not following safety, process and company specific engineering requirements of the task being undertaken	**CB3; CB4; NMCEi4; NMCEi12** • Explains the reason for following procedures and the potential consequences of deviating from procedures
D6 Uses a range of tools and gas detection equipment and is able to provide full explanation of standards and engineering principles that apply and the reasons for their recommended choice	**CS7; CS8; NMCEi2; NMCEi4; NMCEi5; NMCEi9; NMCEi15** • Able to clearly explain the principles behind the way in which gas detection equipment operates and any limitations to its use • Able to explain outputs of gas detection equipment, including relationship between LEL and GIA scales
D7 Shows understanding of the relevant engineering products, their application and process outputs relative to their company specific requirements. Consistently applies reasoning to support decisions made	**CS3; CS4; CS5; NMCEi2; NMCEi9; NMCEi15** • Able to explain reasons behind the choice of tools, equipment and materials made during the practical tasks
D8 Analyses, and interprets recorded data and articulates the need for accuracy and the importance of qualitative data capture and recording	**CS13; NMCEi1; NMCEi9** • Able to review and analyse data and use this to make informed decisions during the practical tasks • Explains the requirement for data to be accurate, and potentially consequences of inaccurate data

Technical Interview underpinned by the logbook - Part 2 – On-programme evidence (pre-gateway):

- To achieve a pass **all**, the pass criteria must be achieved
- To achieve a distinction **all,** pass criteria **must** be achieved and **4 of the 7 criteria from the indicative distinction** criteria must be met

Core knowledge	CK1	CK4	CK6
All Pass criteria must be achieved	✓	✓	✓

Core skills	CS1	CS2	CS3	CS14	CS15
All Pass criteria must be achieved	✓	✓	✓	✓	✓

Core behaviours	CB2	CB4	CB7	CB9	CB10	CB11	CB12
All Pass criteria must be achieved	✓	✓	✓	✓	✓	✓	✓

Role Specific Skills	NMCEi3	NMCEi6	NMCEi7	NMCEi8	NMCEi10	NMCEi11	NMCEi13	NMCEi14	NMCEi17	NMCEi18	NMCEi19	NMCEi20	NMCEi22
All Pass criteria must be achieved	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

Indicative ‘pass’ criteria for the Technical Interview Part 2 – On-programme

The following criteria are indicative of the pass criteria the independent assessor will be looking for when the apprentice takes part in the technical interview Part 2 – On-programme:

Standard	Indicative Pass Criteria
CK1 Company **testing and commissioning procedures** needed to establish the condition of **gas assets, equipment, network infrastructure** and the actions needed as a result of the tests. This includes both practical applications and the use of diagnostic techniques and IT systems	• Gives examples of where equipment has been tested and commissioned and explain how this work was undertaken • Describes how diagnostic techniques were used to identify faults
CK4 Company **maintenance practices, processes and procedures** associated with **gas network systems, controls and equipment**	• Gives examples of where control equipment has been maintained and explain how this work was undertaken • Describes the purpose of the control system and the

Standard	Indicative Pass Criteria
	role it plays in the network
CK6 Company policies, procedures and **engineering instructions** as specified by the employer	• States examples of operational procedures and how these have been applied on site
CS1 Undertake and document **risk assessments** in accordance with company procedures	• Gives examples of jobs where risk assessments have been undertaken on site • Describes the hazards identified and the control measures implemented
CS2 Comply with **workplace health, safety & environmental practices and regulations**, maintaining a safe and secure working environment	• Using examples, describes how a safe working environment has been established and maintained on site
CS3 Follow **engineering instructions and company procedures** to complete tasks safely and on-time	• Gives examples from sites when following procedures has helped to undertake the job safely and within required timescales
CS14 Liaise with **gas consumers, statutory agencies and members of the public** in order to ensure their safety	• Gives examples of sites on which there was a need to liaise with gas consumers (customers) • Gives examples of situations that might be encountered where engagement with Statutory Agencies would be necessary
CS15 Accurately update company systems with details of work undertaken	• Gives examples of data which needed to be updated on to Company systems • Explains the importance of recording data accurately
CB2 Deliver a polite, courteous professional service to all customers,	• Gives examples of engagement with others and the approach taken towards providing them with a

Standard	Indicative Pass Criteria
stakeholders and members of the public as appropriate	professional service
CB4 Accept accountability when undertaking individual and team tasks	• Gives examples of when accepting accountability for a job on site
CB7 Recognise personal limitations and seek advice from managers, experts and specialists when required	• Gives examples of needing to seek advice and guidance from a colleague or manager
CB9 Receptive to the needs and concerns of others, especially where related to diversity and equality	• Gives examples of responding to requests from others • Demonstrates awareness of equality and diversity when interacting with others
CB10 Committed to carrying out and recording Continued Professional Development necessary to maintain and enhance competence	• Recognises the benefits of undertaking Continued Professional Development (CPD) • Describes examples of how CPD can be achieved
CB11 Exercises responsibilities in an ethical manner	• Explains what is meant by “ethics” in relation to the undertaking of operational work • Gives examples of when an ethical approach has been adopted on site
CB12 Interacts with people and approaches work activities in a way that contributes to continuous self-improvement	• Gives examples of learning from others • Gives examples of operating differently on site following guidance from others
NMCEi3 Maintain **site lighting and fixed and portable equipment** which may include **generators, batteries and associated equipment**	• Describes jobs where work has been undertaken on site lighting • Using examples, describes jobs where work has been undertaken on generators or batteries

Standard	Indicative Pass Criteria
NMCEi6 Configure **telemetry outstation and internal systems**	• Describes the way in which work was undertaken on telemetry systems • Explains how the correct operation of telemetry systems was confirmed
NMCEi7 Identify and resolve **data quality and calibration issues**	• Describes jobs where there were data quality issues and the way in which these were resolved • Describes jobs where there were calibration issues and explains the way in which these were resolved
NMCEi8 Test, calibrate and validate **fixed and portable analogue and digital instrumentation** using approved procedures and standards	• Gives examples and describes work undertaken on portable instrumentation equipment
NMCEi10 Use **standards and specifications** to improve the information gathered by telemetry data	• Gives examples of telemetered data • Describes examples of how telemetered data has been improved and how this was achieved
NMCEi11 Inspect and maintain **security equipment, telecommunication devices and alarm systems**	• Gives examples and describes work undertaken on site security systems • Gives examples and describes work undertaken on site telecommunications systems
NMCEi13 Provide support to day-to-day users of **instrumentation and control systems**	• Describes examples of when and how support has been given to others who use the output from instrumentation or control systems
NMCEi14 Ensure **consistent and valid data** is available for business and regulation purposes	• Explains the importance of consistent and valid data from site • States examples of how data is used by the business

Standard	Indicative Pass Criteria
NMCEi17 The **permitry requirements** when maintaining or configuring telemetry systems or undertaking works that may initiate system alarms	• Explains the purpose of permit systems and the need to comply with requirements • Identifies work activities which might initiate site alarms
NMCEi18 Recognise the processes to be followed in order to identify and resolve **data quality and calibration issues**	• Describes work processes appropriate for the identification and resolution of data quality issues
NMCEi19 Understand how to test and calibrate **instrumentation and control equipment** in accordance with company specific procedures	• Using examples, describes how to calibrate equipment
NMCEi20 The **theories** used to maintain, test and calibrate electrical equipment in line with company specific procedures	• Describes the application of electrical theory and principles for the calibration of equipment
NMCEi22 Identify relevant, **company specific procedures** and know how to access such documentation	• Describes how to access company documentation

Indicative ‘distinction’ criteria for the Technical Interview underpinned by the logbook - Part 2 – on-programme

To achieve a distinction the apprentice **must** achieve **all** pass criteria and a **minimum of 4 distinction criteria from the 7** listed below must be met:

Standard	Indicative Distinction criteria
D1 Describes in detail how such legislation impacts their day-to-day activities	**CS1; CS2; CS3; CS14; NMCEi17** • Using examples, reviews how the requirements of legislation and regulations have directly impacted the way in which work has been undertaken on site • Able to explain how legislation and regulations have been applied on site
D2 Evaluates risk assessment processes including likelihood and consequence and is able to describe suitable control measures and how to implement such measures to reduce the residual risk value	**CK1; CB7; NMCEi18; NMCEi19; NMCEi20; NMCEi22** • Explains how risk assessment has been beneficial in improving on-site safety • Using examples, reviews the effectiveness of control measures implemented as a result of a risk assessment
D3 Describes instances of using negotiation and influencing skills to coordinate contrasting views and drive actions	**CK1; CS14; CB2; CB4; CB7; CB9; CB11; CB12; NMCEi13** • Evaluates the personal development gained from interacting with others over a range of activities • Explains how different approaches towards

Standard	Indicative Distinction criteria
	communications with others can be beneficial for different situations
D4 Relates company specific policies and procedures to legislative requirements. Is working towards professional recognition	**CK1; CK4; CK6; CS15; CB10; NMCEi14** • Using examples, clearly explains how policies and procedures have been applied in on-site situations and the benefits of following the prescribed approach to work • Using examples, explains how company policies and procedures are designed to satisfy the requirements of legislation and regulations • Explains the reason for Gas Safe registration and the opportunities for further professional registration
D5 Details 3 of the following principles that drive testing requirements: • Explain why testing parameters are at the levels they are • Evaluate the results of such tests • Explain the potential consequences of failed tests • Interpret results and offer the reasons for failed tests • Provide potential solutions for failed tests	**CK1; CK4; CS15; CB4; CB7; CB12; NMCiE3; NMCEi6; NMCEi7; NMCEi8; NMCEi10; NMCEi11** • Using examples, explains why the accurate calibration of instruments is important and the potential consequences of wrong outputs • Explains how the testing of on-site equipment contributes to security of supply and site safety • Describes using example where the output of instruments requires interpretation before deciding on

Standard	Indicative Distinction criteria
	the next actions required.
D6 Identifies solutions and recommends actions to be taken where the result of such calculation deliver unsatisfactory conclusions	**CK1; NMCEi6; NMCEi10; NMCEi14** • Provides examples of where calculations need to be made on site and the potential consequences of these calculations. • Using examples, explains how calculations made on site impact decisions associated with gas supply decisions.
D7 Critically reflects upon situations where they have taken the initiative to lead a team to drive a project from conception to conclusion	**CS14; CB4; CB7; CB9; CB11; CB12; NMCEi14** • Using examples, critically reviews the role taken personally when leading a team in the undertaking of an on-site activity • Able to explain the benefits of working as a team on a job or project

Level 3 End-Point Assessment for Gas Network Craftsperson – Electrical and Instrumentation

EPA Specification Section 6 – Practice Assessments and guidance

- Knowledge and Skills Assessment
- Practical Task
- Technical Interview underpinned by the logbook

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 713 8310

The Knowledge and Skills Assessment

Guidance – preparation for the knowledge and skills assessment

While on-programme, the employer and or training provider should brief the apprentice on the areas to be assessed by the knowledge and skills assessment, as detailed in Section 5.1. Further details in section 4 of this specification. These are the selected knowledge elements of the standard: CK2, CK3, CK5, CS12, NMCEi16, NMCEi21, NMCEi23, NMCEi24 and NMCEi25. It is good practice to identify the areas within the learning programme where the relevant knowledge is delivered and ensuring that apprentices are aware that elements from each of these criteria might come up in the test.

The knowledge and skills assessment is aligned to the standard and the specific job role that the apprentice will be doing. The questions have been written to reflect the network maintenance craftsperson – electrical and instrumentation role as a whole and are not focussed on specific plant, machinery, or employer-specific processes.

In readiness for end-point assessment, the apprentice should complete a practice knowledge and skills assessment, which is included in section 7 of this specification. This should be undertaken in advance of the knowledge and skills assessment, with enough time to mark the assessment, and provide feedback to the apprentices.

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

Practical Task

Guidance for setting up a practice practical task

Example practical task specifications have been developed as part of the gas network craftsperson Standard - electrical and instrumentation pathway. The practical task specification details the apprentice's required skills, knowledge and behaviour on all the key aspects of the gas network craftsperson - electrical and instrumentation activity.

This end-point assessment should allow the apprentice to demonstrate the competence required to follow work instructions and specifications in order to diagnose faults and test electrical and instrumentation systems.

The practical task specification is the minimum core technical standard of these requirements, but this does not preclude employers from enhancing the KSBs of the apprentice through additional or company specific assessment.

Successful completion of the practical task should provide evidence that the apprentice has the required knowledge, skills and behaviours that is required from a network maintenance craftsperson – electrical and instrumentation.

The practical task focuses on fault diagnosis on electrical and instrumentation equipment. There are 2 briefs of comparable complexity which have been developed by the EUIAS. Each task brief covers a specific area of competence required by a network maintenance craftsperson – electrical and instrumentation. The 2 briefs are:

- TTIEPA1 Fault diagnosis on instrumentation equipment
- TTEEPA1 Fault diagnosis on electrical equipment

The briefs should be used to set up scenarios for the purpose of assessing the practical skills of apprentices.

While it is not permitted to brief the apprentice as to the specific task they will be given during the live practical task, for practice purposes it is permitted to set up tasks of similar complexity and duration and ask the apprentice to carry them out under live assessment conditions. To make the practice more realistic, a tutor or supervisor should adopt the role of an assessor and use the appropriate grading criteria from Section 5 to 'assess' the apprentice.

Important Note: In the live EPA the technical expert will not be assessing the apprentice, but will be supervising the apprentice, asking questions, and writing up a factual account of the practical task to verify the task was completed appropriately.

The practical task scenarios may be used to form the principles of practice scenarios. However, such scenarios must be different and separate from the scenarios used for end point assessment purposes.

The practice task brief should provide specification instructions for the apprentice to be able to:

- plan the job
- select the appropriate tools and materials
- focus on the skill
- work safely

The apprentice will be expected to work to the standards set in relevant industry and company procedures.

Scenarios must reflect and be consistent with a realistic working task.

Note: that the expectation is that all the tasks will take up to 9 hours +/-10% to complete and therefore must be sufficiently complex to match this duration.

The live practical task also includes questioning from the employer technical expert. The questioning is designed to confirm the apprentice's understanding of the rationale for actions taken and choices made to complete the task. To prepare the apprentice for this aspect of the practice practical task, we recommend developing some open-ended questions which focus on the rationale for each part of the task.

The tutor or supervisor supervising the practice task should write a factual report of the practical task

verifying whether the task was completed appropriately. The independent assessor will review the report before conducting the technical interview part 1. Additional support and guidance can be found in 'Section 5' of this Specification including 'Section 7' which includes two example briefs.

Technical Interview, underpinned by the logbook

Preparing for the Technical Interview Part 1 and Part 2

The technical interview covers a large part of the standard and therefore, the logbook has the potential to become very large. It is important to understand that the logbook is **NOT** assessed, even though the assessor will confirm the evidence requirements of the logbook are met prior to the technical interview.

The purpose of the logbook is to support the apprentice in providing evidence of their achievements when asked about them in the technical interview. It is particularly useful in supporting apprentices in achieving distinction. For example, the distinction grading criteria (see Section 5) makes reference to 'taking a lead in accepting additional responsibility'– the logbook may contain witness testimony describing the circumstances, and the apprentice would be able to refer to this testimony when answering questions during the technical interview.

It is also important to index the logbook and cross reference it to the skills within the Standard. It is strongly recommended that you use the same referencing system as used within this Specification document.

Preparing and carrying out a practice Technical Interview underpinned by logbook

When the logbook is complete, towards the end of the formal training period is a good time to schedule a practice interview. It must be done with enough time to provide feedback to the apprentice that they can learn from 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 they get at the end of the practice.

Practice interviews are valuable to apprentices in order to effectively prepare them for the EPA Technical Interviews. Apprentices should appreciate that the interview forms a significant part of their EPA and it is not just a 'bolt on' to the knowledge and skills assessment, and practical task. Apprentices should be encouraged to volunteer information willingly in a full descriptive and explanatory manner. If the apprentice does not provide information during the technical interview the apprentice will not be allocated any marks. The independent assessor will use various questioning techniques to be able to receive adequate responses.

A period of at least two hours 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 technical interview.

A tutor or supervisor should play the part of the independent assessor carrying out the technical

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.

Level 3 End-Point Assessment for Gas Network Craftsperson – Electrical and Instrumentation

EPA Specification Section 7 – Supporting Documents and Guidance

- Gateway Eligibility Report
- Gas Network Craftsperson Practical (Task(s), Briefs and Site Approval Form
- Practice Knowledge and Skills Assessment, with Answer Scheme
- Practical Tasks – Fault Diagnosis on Electrical and Instrumentation Equipment

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 713 8310

EUIAS End-point Assessment for Gas Network Craftsperson- Electrical and Instrumentation

Gateway Eligibility Report

(Standard Version: ST0205 version 1.2 dated 2018; Assessment Plan Version: ST0205/AP03)

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:

The apprentice must confirm their achievement of the following:

Eligibility requirement	Achieved by the apprentice? Y/N	Evidence (scans of certificates MUST be included)
A competent logbook has been produced and meets the Specification and Assessment Plan requirements		
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 365 days
5. The apprentice has produced and finalised a competent Logbook that meets the Specification and Assessment Plan requirements
6. The apprentice has achieved Level 2 English and mathematic requirements as detailed in this document
7. 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
8. The apprentice has been directed to the EUIAS Appeals Policy and Complaints Policy
9. The employer/training provider has given the EUIAS at least three months' notice of requesting this EPA for this apprentice
10. 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:	

Gas Network Craftsperson – Electrical and Instrumentation

Practical Task, Brief(s) and Site Approval Form

Introduction

The purpose of the GNC Practical Task, Brief(s) and Site Approval Form is to provide support in ensuring that the practical task proposed for the apprentice is sufficiently complex to allow the apprentice to demonstrate the widest range of knowledge, skills and behaviours against the mandatory elements of the Gas Network Craftsperson (GNC) Assessment Plan.

Details of the mandatory elements are included in Section 4 of the GNC EPA Specification.

Each Apprenticeship Standard and Assessment Plan details the content, form, and nature of the components of end-point assessment (EPA). The practical task will be set by EUIAS with the employer, taking account of workplace considerations in discussions with the apprentice's employer. Practical task may have a number of elements, but all tasks must be of equal size and complexity for each option.

The employer must ensure that the practical task is conducted in either the workplace or a simulated environment appropriate to the task(s) and risk involved, with the exception of not necessarily being connected to a live gas network. The employer technical expert **must** complete and submit the 'GNC Practical Task, Brief(s) and Site Approval Form', to the EUIAS Service Delivery Team for approval 2 months before the start of the end-point assessment. The form should be accompanied by photographs and or video of the plant/machinery, including practical task and brief(s) which the apprentice will be working on.

The EUIAS approval process will be conducted by an independent assessor who will review the 'GNC Practical Task, Brief(s) and Site Approval Form', which will include information in relation to the workplace and or simulated environment appropriate to the practical task including the practical task, brief(s), plant/machinery and site to ensure the assessment is fit for purpose. The outcomes will be recorded in this form and used to communicate with the employer to advise of all approval outcomes. EUIAS will ensure this form is available for Internal Quality Assurance. The outcomes will be shared with the employer technical expert no later than 5 working days following the review. Where remedial action is required by the employer and or training provider the form will be accompanied by a notice to improve which will include those aspects that were of concern and a deadline for receipt of an appropriate remedial action plan. The employer or training provider **must not** conduct the practical task or use the brief(s), plant/machinery, site for the practical task until a final approval confirmation has been received from the EUIAS.

Please be aware:

- Practical task review does not guarantee that the apprentice will pass the practical task
- No health and safety risk assessment has been carried out by EUIAS
- EUIAS review does not remove any of the provider's obligations to ensure full coverage of the standard, and full compliance with relevant legislation
- EUIAS review is based only on information supplied and is not a guarantee that the task and plant/equipment on the day of the practical will be sufficient for an EPA practical task
- The information provided in this GNC Practical Task(s), Brief(s) and Site Approval Form must not be shared with the apprentice

[Please turn to the next page for the GNC Practical Task, Brief(s) and Site Approval Form]

GNC Practical Task, Brief(s) and Site Approval Form

Return completed form to enquiries@euias.co.uk

Employer name and site address	
Training provider (if applicable) name and site address	
Standard	
Pathway	
Level	
Practical Task Title	
Practical Task Brief(s) Titles	
Name of site to be approved	
Contact Details: Employer or training provider technical expert full name, email address and contact number overseeing the setup of the practical task (documents and site)	
Independent assessor carrying out the review full name	
Date of review	

Practical Task Assessment Criteria	Evidence Sampled
Please complete one form per scenario - As several scenarios will be used to cover the depth and breadth of the criteria. Please answer all questions concisely and thoroughly, and provide accurate details to the questions listed below:	
1. Description of the practical task scenario including the purpose for which this scenario task is to be used for (i.e. List the specific tasks to be undertaken in the scenario)	
2. Is the practical task to be conducted in the workplace appropriate to the task(s) and risk involved, with the exception of not necessarily being connected to a live gas network?	
3. Is the practical task to be conducted in a simulated environment that reflects the real working environment appropriate to the task(s) and risk involved, with the exception of not necessarily being connected to a live gas network?	
4. Provide a description of the proposed practical task(s).	
5. Does the practical task(s) have a number of elements, if yes how many?	
6. If answered yes to question 4. Do the practical task elements meet the requirements of the Assessment Plan page 9?	
7. Do the practical task(s) include briefs?	
8. Does the practical task(s) meet the knowledge, skills and behaviours requirements as specified in Section 2 of the Specification?	
9. If answered yes to question 6. Do the briefs meet the practical task(s) requirements?	
10. Does the practical task brief(s) meet the knowledge, skills and behaviours requirements as specified in Section 2 of the Specification?	
11. Provide details of the plant and machinery to be used	
12. Site- specific details including access and or induction arrangements	
13. Will the Employer technical expert require PPE?	

14. Will the apprentice require PPE?	

Remember: tasks should be kept confidential from the apprentices, and you will require several tasks where you have more than one apprentice so that the apprentice cannot predict which task they will be given.

Employer Technical Expert Practical Task, Brief(s), Photographic and or Video Evidence

Practical Task Scenario
Details of the practical task scenario including the purpose for which this scenario task is to be used for or state if the task is included for submission.
Practical Task Brief(s)
Details – List the specific tasks to be undertaken in the above scenario or state if the brief(s) are included for submission.
Photographs and or Videos
Photograph and or Video 1: Insert Title –
Insert photograph
Photograph and or Video 2: Insert Title –
Insert photograph

Photograph and or Video 3: Insert Title -
Insert photograph
Photograph and or Video 4: Insert Title -
Insert photograph
Photograph and or Video 5: Insert Title -
Insert photograph
Photograph and or Video 6: Insert Title -
Insert photograph
Please add more rows as required

EUIAS Office use only

Notice to improve including remedial action(s)	
Practical task scenario(s) approved	
Practical brief(s) approved	
Workplace approved	
Simulated environment approved	

Summary Feedback			
Number of minor infringements	0	Number of major infringements	0
Recommendations			
Review Outcome			
Standards not yet achieved (include which have not been achieved KSB and number)		Standards achieved (include which KSB has been achieved and number)	
Standards achieved with recommendations			
Declaration			
I confirm this report is a true an accurate reflection of the situation on site.			
Independent Assessor Full Name		Date	
Independent Assessor Signature			

End-point Assessment
Knowledge and Skills Practice Assessment

Please write clearly in block capitals below	
Company name	
First name (s)	
Last name (s)	
Date of birth	
Apprentice number	
Apprentice signature	
Date of knowledge and skills assessment	

Level: 3
Standard: Gas Network Craftsperson
Pathway: Electrical and Instrumentation
Duration: 1 hour 15 minutes

Materials

For this paper you must have:

- Pens
- Calculators and reference documents are not required

Instructions

- Use black or blue ink or black ball-point pen
- Fill in the boxes at the top of this page
- Answer **all** questions
- There are questions, possible answers as well as a column for you to mark your answer
- Mark your answer with an ☒ against the possible answer you think is

correct- if you wish to change your answer please put a line through ☒ and re-select with another ☒

- Only one answer per question allowed. Answers which do not follow the rules of selection will be disallowed. This may impact on the grade awarded
- Do all rough work in this answer book, spare paper is provided in this answer booklet and can be used but **MUST NOT** be removed
- Additional spare paper will not be provided
- All questions are closed book

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**

Information

- The marks for questions are 1 mark each
- There are 50 questions in total
- All questions should be attempted

Advice

- You are not permitted to leave the examination room for the duration of the assessment
- Do not spend too long on one question
- Read all questions thoroughly before starting your examination
- Mobile phones and SMART watches must not be taken into the examination room. The examination must be conducted under examination conditions i.e. you may not speak to other candidates, if you have a question raise your hand and the invigilator will attend

- Cheating: you will be asked to leave the examination room and will be classified an automatic fail and referred to your employer

THIS PAPER MUST NOT BE COPIED OR CIRCULATED WITHOUT THE WRITTEN PERMISSION OF THE EUIAS

Do not turn over the page or commence the knowledge test until the invigilator instructs you to

You may use this page to work out on.

This page must not be removed.

Question 1		
Which ONE of the following activities relates the Gas Safety (Management) Regulations 1996 (GSMR)?		
Possible answers		**Answer**
a)	The transportation of natural gas to the public	
b)	The supply of natural gas to consumers	
c)	The control of hazards associated with gas products	
d)	The setting of parameters for charging customers for the supply of gas	

Question 2		
Which Regulation states the requirements for Flow Weighted Average Calorific Value (FWACV)?		
Possible answers		**Answer**
a)	Pressure Systems Safety Regulations 2000 (PSSR)	
b)	Pipelines Safety Regulations 1996 (PSR)	
c)	Gas Safety (Management) Regulations 1996 (GSMR)	
d)	Provision and Use of Work Equipment Regulations 1998 (PUWER)	

Question 3		
Instrumentation cables should meet which British Standard?		
Possible answers		**Answer**
a)	BS 2391	
b)	BS 5308	
c)	BS 7671	
d)	BS 9322	

Question 4		
An operative is using a piece of equipment which leaks oil onto the ground. What are the next actions the operative should take?		
Possible answers		**Answer**
a)	Contain the oil leak, clean it up and report it	
b)	Repair the oil leak and report the spill	
c)	Wash away the oil into a nearby drain	
d)	Wipe up the oil and dispose as general waste	

Question 5			
What does this symbol mean?			
Possible answers		**Answer**	
a)	Hearing protection is available		
b)	Hearing protection must be worn		
c)	Hearing protection is advised		
d)	Hearing protection is not required		

Question 6			
According to the Control of Substances Hazardous to Health Regulations 2002 (COSHH), what does this symbol mean?			
Possible answers		**Answer**	
a)	Harmful substance		
b)	Oxidising substance		
c)	Toxic substance		
d)	Flammable substance		

Question 7		
What is the first principle of safe manual handling?		
Possible answers		**Answer**
a)	Dismantle the load	
b)	Avoid the need for lifting if possible	
c)	Use more than one person for the lift	
d)	Use safe manual handling lifting techniques	

Question 8		
Prior to using any tool or equipment, what must the operator check and confirm?		
Possible answers		**Answer**
a)	It is intrinsically safe	
b)	It is suitable for the task	
c)	It has all appropriate certification labels	
d)	It is supplied by a recognised hire company	

Question 9		
According to the Control of Noise at Work Regulations 2005, ear protection must be worn when the upper exposure action value is above:		
Possible answers		**Answer**
a)	75 db (A)	
b)	80 db (A)	
c)	85 db (A)	
d)	90 db (A)	

Question 10		
When would the use of leaning ladders be considered a suitable option to carry out work at height?		
Possible answers		**Answer**
a)	Where the work area cannot be reached from a fixed scaffold	
b)	Where the work activity is low risk and short duration	
c)	Where it is the most cost-effective solution	
d)	Where work will take less than one hour to complete	

Question 11		
What does **N/O** and **N/C** mean on site equipment and or drawings?		
Possible answers		**Answer**
a)	Nearly Open, Nearly Closed	
b)	Not Operating, Not Compliant	
c)	Normally Open, Normally Closed	
d)	Normal Operation, Normal Compliance	

Question 12		
A three-term controller employs **PID** in order to apply accurate and responsive correction to a control function. What does **PID** stand for?		
Possible answers		**Answer**
a)	Power, immediate, direct	
b)	Pipeline, invertor, downstream	
c)	Proportional, integral, derivative	
d)	Pneumatic, intermediate, damping	

Question 13		
How is capacitance calculated?		
Possible answers		**Answer**
a)	Voltage plus Charge	
b)	Voltage divided by Charge	
c)	Charge multiplied by Voltage	
d)	Charge divided by Voltage	

Question 14		
Which statement describes the Joule-Thomson effect?		
Possible answers		**Answer**
a)	Gas cools when it expands rapidly	
b)	Gas cools when its pressure is increased	
c)	Gas freezes on the inlet to a regulator	
d)	Gas freezes when it flows into above-ground pipework	

Question 15		
When installing a replacement pressure instrument, what should be referred to for the correct installation method?		
Possible answers		**Answer**
a)	Site logbook	
b)	Site drawings	
c)	Gas Safe website	
d)	Manufacturer's instructions	

Question 16		
Where a pressure transmitter has a span of 16 mA and the permitted tolerance is 0.3% of the span, what does the tolerance equate to in mA?		
Possible answers		**Answer**
a)	0.048 mA	
b)	0.053 mA	
c)	0.48 mA	
d)	0.53 mA	

Question 17		
According to a risk assessment, what is meant by the term ‘hazard’?		
Possible answers		**Answer**
a)	The likelihood to cause harm	
b)	The outcome and severity of an accident	
c)	Anything that could cause equipment to fail	
d)	Anything that has the potential to cause harm	

Question 18		
The purpose of a risk assessment is to:		
Possible answers		**Answer**
a)	ensure tasks are done in the correct order	
b)	ensure work can be carried out in reasonable safety	
c)	protect the employer and employee from prosecution	
d)	fully meet the requirements of the Construction (Design and Management) Regulations 2015	

Question 19		
What is a Permit to Work?		
Possible answers		**Answer**
a)	A way of recording work undertaken on site	
b)	A method to control works in potentially hazardous areas	
c)	A document to record that a job has been completed safely	
d)	Proof of the competence of individuals to undertake work on site	

Question 20		
Where work encroaches on to a road or footway, what must be installed on the site to protect both the workers and members of the public?		
Possible answers		**Answer**
a)	Traffic lights	
b)	Warning signs	
c)	Electrical safety measures	
d)	Signing, lighting and guarding	

Question 21		
Who is responsible for implementing Permit to Work requirements on an Above Ground Installation (AGI) site?		
Possible answers		**Answer**
a)	A local manager	
b)	A competent person	
c)	An authorising engineer	
d)	A manager in system control	

Question 22		
On-site, who is responsible for ensuring compliance requirements of a Permit to Work?		
Possible answers		**Answer**
a)	The authorising engineer who issued the permit to work	
b)	The competent person to whom the permit to work was issued	
c)	The manager responsible for the site where the permit to work was issued	
d)	The team working on the site where the permit to work was issued	

Question 23		
What is the priority action to take on site where gas is escaping?		
Possible answers		**Answer**
a)	Risk assessment	
b)	Secure the escape	
c)	Set up an exclusion zone	
d)	Safeguard life and property	

Question 24		
Which ONE of the following electrical protection concepts represents ‘increased safety’?		
Possible answers		**Answer**
a)	Ex ia	
b)	Ex e	
c)	Ex d	
d)	Ex n	

Question 25		
Where the voltage of a circuit is 230 V and the current is 11.5 A, what is the resistance of the load?		
Possible answers		**Answer**
a)	10 Ω	
b)	15 Ω	
c)	20 Ω	
d)	23 Ω	

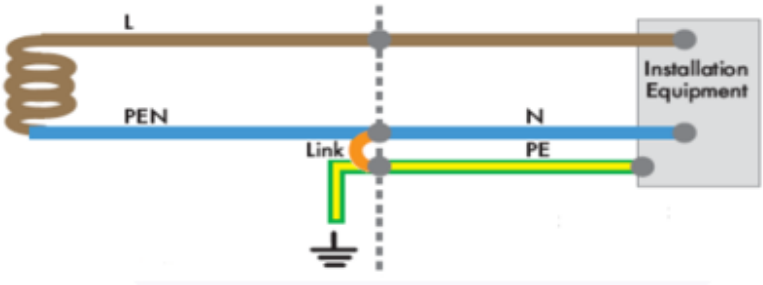
Question 26		
When working on an Above Ground Installation (AGI), which action must be undertaken every day?		
Possible answers		**Answer**
a)	Log on and off site	
b)	Request a Permit to Work	
c)	Contact the responsible manager	
d)	Contact the authorising engineer	

Question 27		
After an electrical circuit is isolated, in which sequence is the voltage indicator and proving unit used?		
Possible answers		**Answer**
a)	Test-Prove-Prove	
b)	Test-Prove-Test	
c)	Prove-Test-Test	
d)	Prove-Test-Prove	

Question 28		
What is the minimum permitted distance between adjacent intrinsically safe circuits?		
Possible answers		**Answer**
a)	3 mm	
b)	4 mm	
c)	5 mm	
d)	6 mm	

Question 29		
What should an operative refer to in order to check that the earth loop impedance values fall within an acceptable value?		
Possible answers		**Answer**
a)	BS7671:2018	
b)	Work instructions	
c)	Circuit drawings	
d)	The test kit manual	

Question 30		
If power of a load is 3000 W and voltage is 230 V, what is the resistance?		
Possible answers		**Answer**
a)	20.33 Ω	
b)	17.63 Ω	
c)	13.04 Ω	
d)	10.05 Ω	

Question 31		
Which earthing arrangement is this? 		
Possible answers		**Answer**
a)	IT	
b)	TT	
c)	TN-S	
d)	TN-C-S	

Question 32		
According to the sequence of tests for initial verification of a circuit, which test must be completed first?		
Possible answers		**Answer**
a)	Insulation resistance	
b)	Prospective fault current	
c)	Residual-current device tests	
d)	Continuity of protective conductors	

Question 33		
When testing analogue inputs on telemetry systems, input signals should be tested at which points?		
Possible answers		**Answer**
a)	Input signals equivalent to 0, 25, 50, 75 and 100% (Rising only)	
b)	Input signals equivalent to 0, 25, 50, 75 and 100% (Rising and falling)	
c)	Input signals equivalent to 0, 25, 50, 75 and 100% (Falling only)	
d)	Input signals equivalent to 0, 25, 50, 75 and 100% (Rising twice)	

Question 34		
A piece of equipment has the following markings on the case:  What does this mean?		
Possible answers		**Answer**
a)	It is approved under the Personal Protective Equipment 2002 Regulations	
b)	It is certified under Appareils destinés à être utilisés en ATmosphères Explosives (ATEX)	
c)	It meets the requirements of Reporting of Injuries, Diseases and Dangerous Occurrence Regulations 2013	
d)	It meets the requirements of the Provision and Use of Work Equipment Regulations 1998	

Question 35		
Safety is put at risk from fire, explosion, and corrosion of metal. Identify the Regulation that places a duty on employers and the self-employed to protect people from these risks?		
Possible answers		**Answer**
a)	Pipelines Safety Regulations 1996	
b)	Gas Safety (Management) Regulations 1996	
c)	Pressure Systems Safety Regulations 2000	
d)	Dangerous Substances and Explosive Atmospheres Regulations 2002	

Question 36		
The Regulations that are commonly referred to by the initials 'WEEE' is the:		
Possible answers		**Answer**
a)	Work Environmental & Ethical Enactment Regulations	
b)	Workforce Entry & Egress Equipment Regulations	
c)	Waste Ethics & Environmental Emergency Regulations	
d)	Waste Electrical & Electronic Equipment Regulations	

Question 37		
Which Regulation from the Electricity at Work Regulations 1989 outlines working on or near live conductors?		
Possible answers		**Answer**
a)	Regulation 1	
b)	Regulation 11	
c)	Regulation 12	
d)	Regulation 14	

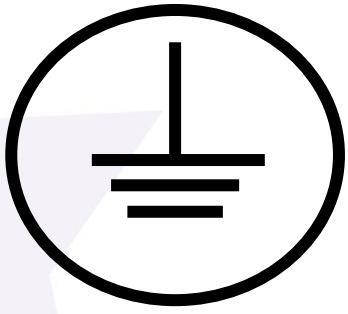
Question 38		
What are the most up to date colours used for electrical single-phase wiring?		
Possible answers		**Answer**
a)	Red (live), black (neutral), green & yellow (protective earth)	
b)	Brown (live), blue (neutral), green & yellow (protective earth)	
c)	Brown (live), blue (neutral), green (protective earth)	
d)	Red (live), blue (neutral), green & yellow (protective earth)	

Question 39		
What is BS7671 more widely known as?		
Possible answers		**Answer**
a)	15th Edition – IET wiring regulations	
b)	16th Edition – IET wiring regulations	
c)	17th Edition – IET wiring regulations	
d)	18th Edition – IET wiring regulations	

Question 40		
In which hazardous area zone could an operative install equipment that is marked with ‘Ex n’?		
Possible answers		**Answer**
a)	Zone 0	
b)	Zone 1	
c)	Zone 2	
d)	Zone 3	

Question 41			
What does the sign below mean if displayed at the entrance to an operational site?			
Possible answers		**Answer**	
a)	Warning - Explosive gas		
b)	Warning - Explosive atmosphere		
c)	DSEAR regulations apply		
d)	ATEX certified equipment only		

Question 42		
Which ONE of the following is a type of earthing?		
Possible answers		**Answer**
a)	Cathodic protection	
b)	Circuit Protective Conductor	
c)	Double insulation	
d)	Impressed current	

Question 43			
What type of electrical equipment would this symbol be found on?			
Possible answers		**Answer**	
a)	Class I		
b)	Class II		
c)	Class III		
d)	Class IV		

Question 44		
When removing an orifice plate there is an accidental equipment failure that results in the loss of more than 500kg of natural gas through leakage to atmosphere. According to which Regulations must this be reported?		
Possible answers		**Answer**
a)	Dangerous Substances and Explosive Atmospheres Regulations 2002	
b)	Reporting of Injuries, Diseases and Dangerous Occurrence Regulations 2013	
c)	Control of Major Accident Hazards Regulations 2015	
d)	Provision and Use of Work Equipment Regulations 1998	

Question 45		
During an electrical isolation procedure, what is the correct sequence to follow when checking with a voltage indicator?		
Possible answers		**Answer**
a)	Earth to Neutral, Earth to Live, Neutral to Live	
b)	Live to Earth, Neutral to Earth, Live to Neutral	
c)	Live to Earth, Neutral to Earth, Neutral to Live	
d)	Earth to Earth, Neutral to Neutral, Live to Live	

Question 46		
Which type of valve should be adjusted before testing a pressure switch?		
Possible answers		**Answer**
a)	Equaliser valve	
b)	Isolation valve	
c)	Output valve	
d)	Stream valve	

Question 47		
A BS88 fuse can be used for which purpose?		
Possible answers		**Answer**
a)	Emergency switching	
b)	Functional switching	
c)	Two-way switching	
d)	Means of isolation	

Question 48		
How often should an orifice plate be removed and inspected?		
Possible answers		**Answer**
a)	Annually	
b)	Every two years	
c)	Every 6 months	
d)	Every month	

Question 49		
What action should be taken when coming into contact with asbestos at work?		
Possible answers		**Answer**
a)	Work cautiously on an identified asbestos gas main	
b)	Gently handle gaskets which may contain asbestos	
c)	Carefully drill walls with a textured coating which may contain asbestos	
d)	Take precautions when materials are found which may contain asbestos	

Question 50		
Which ONE of the following is a duty under the Gas Safety Management Regulations 1996 (GSMR)?		
Possible answers		**Answer**
a)	To design and safely operate pipelines	
b)	To protect people from fire and explosion	
c)	To minimise the risk of a gas supply emergency	
d)	To prevent major accidents involving dangerous substances	

End of Knowledge and Skills Practice Assessment

Answers

Question	Answer	Question	Answer
1	A	**26**	A
2	C	**27**	D
3	B	**28**	D
4	A	**29**	A
5	B	**30**	B
6	C	**31**	D
7	B	**32**	D
8	B	**33**	B
9	C	**34**	B
10	B	**35**	D
11	C	**36**	D
12	C	**37**	D
13	D	**38**	B
14	A	**39**	D
15	D	**40**	C
16	A	**41**	B
17	D	**42**	B
18	B	**43**	A
19	B	**44**	B
20	D	**45**	A
21	B	**46**	A
22	D	**47**	D
23	D	**48**	A
24	B	**49**	D
25	C	**50**	C

Practical Task

The practical task is designed to cover Part 1 of the technical interview which will focus on the - practical task evidence in the logbook. Apprentices will complete a practical task during which they will also be asked questions by the technical expert to confirm their understanding of the rationale for actions taken and choices made during the task(s). The content of this practical task will relate to the specific role they are working towards. The duration of this activity will typically be no longer than 9 hours +/- 10%, this can be split across a maximum of three days. The actual time allowed will be based on the comparable time that an industry competent worker would take to achieve successful task(s) completion. The EUIAS will provide the performance criteria and the recording documents for the tasks. Through consultation with the employer and training provider, the EUIAS will ensure sufficient complexity to allow the apprentice to demonstrate the required knowledge, skills and behaviours (KSB) in an integrated way, which will test:

- Core skills (CS1; CS2; CS3; CS4; CS5; CS6; CS7; CS8; CS9; CS10; CS11; CS13)
- Core behaviours (CB1; CB3; CB4; CB5; CB6; CB8)
- Selected role specific skills for electrical and instrumentation craftsperson (NMCEi1; NMCEi2; NMCEi4; NMCEi5; NMCEi9; NMCEi12; NMCEi15)

See Section 4 for the references to the standard.

Note that the apprentice is only required to demonstrate the electrical and instrumentation craftsperson specific knowledge, skills and behaviours requirements, and the task must be chosen carefully to ensure that the apprentice has opportunity to cover all aspects of the knowledge, skills and behaviours in an integrated way.

The task(s) will be supervised and managed by an employer technical expert approved by EUIAS, and this technical expert **must not** be the independent assessor who conducts the technical interview.

As part of the practical task the technical expert will write a factual account of the practical task verifying whether the task was completed appropriately. The apprentice will be asked 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 practical task provides the opportunity for the apprentice to synoptically demonstrate core and specific knowledge, skills and behaviours as detailed in Section 4, on actual plant and equipment in a workplace or a simulated environment that reflect the real working environment appropriate to the task(s) and risk involved, with the exception of not necessarily being connected to a live gas network. This provides the opportunity to apply and integrate their learning and to safely perform maintenance and operational activities.

End-Point Assessment
Gas Network Craftsperson Electrical and Instrumentation

Practical Tasks

Fault Diagnosis on Electrical and Instrumentation Equipment

Level 3

Practical Task Specification

This assessment specification has been developed as part of the gas network craftsperson - electrical and instrumentation standard. The specification details the apprentice's required skills, knowledge and behaviour on all the key aspects of the gas network craftsperson - electrical and instrumentation activity.

This end-point assessment should allow the apprentice to demonstrate the competence required to follow work instructions and specifications in order to diagnose faults and test electrical and instrumentation systems.

The assessment specification is the minimum core technical standard of these requirements, but this does not preclude employers from enhancing the skills and knowledge of the learner through additional or company specific assessment.

Successful completion of this unit should provide evidence that the apprentice has the required knowledge, understanding and performance skills.

What does this specification look like?

To achieve this unit the apprentice must demonstrate their achievement of all assessment outcomes. This unit will be evidenced through practical assessment, these being delivered in the workplace under simulated conditions or alternatively in a realistic workplace environment. Evidence of the apprentice's achievement must be included in their work log or their portfolio.

What does the assessment include?

Gas network craftsperson - electrical and instrumentation apprentices will be expected to:

- Work safely at all times
- Use company and / or manufacturers' drawings and maintenance documentation
- Adhere to procedures or systems in place for risk assessment, COSHH, personal protective equipment (PPE) and other relevant safety regulations
- Where appropriate, ensure the insertion, or program override, of any relevant system trip defeats (such as fire extinguishant, emergency shutdown)
- Provide and maintain safe access and working arrangements for the fault finding and or maintenance area
- Where appropriate, use electrostatic discharge (ESD) precautions
- Carry out the fault diagnostic activities, using appropriate procedures
- Collect equipment fault diagnostic evidence from 'live' and isolated circuits
- Disconnect or isolate components to confirm the diagnosis
- Identify the fault and complete the appropriate corrective action
- Dispose of waste items in a safe and environmentally acceptable manner and leave the work area in a safe condition

Realistic Working Environments (RWE) Centre Requirements

Centres are responsible for ensuring that the RWE assessment is suitably controlled to ensure that assessment decisions are valid and reliable, and that work submitted for assessment by the apprentice is prepared and produced by them independently, without assistance from others, and free of plagiarism.

The practical tasks must be designed following the guidance and requirements given in this document. The assessor checklist must be adhered to and cannot be altered without prior written consent from EUIAS.

The combined electrical and instrumentation option requires the performance and knowledge criteria of each unit assessment to be satisfied and the respective assessor checklists must be completed.

The necessary operational procedures should be made available to the apprentice throughout the assessment process.

Practical Assessment Centre Requirements

The assessment requirements are in the following areas:

TTIEPA1	Fault diagnosis on instrumentation equipment
TTEEPA1	Fault diagnosis on electrical equipment

A technical expert assessor who is independent of the apprentice and approved by the EUIAS must assess the assessments. Please refer to Section 5.2 of this Specification for further details.

The assessment area must be designed to allow the apprentice to demonstrate the skills as prescribed in the performance criteria. Evidence for the practical aspects should be observed in the realistic working environment. The equipment used must be connected to the electrical supply and must include controls and cabling that is non-serviceable, allowing the apprentice to diagnose the faults and make repairs. A technical drawing of the proposed task must be made available to the apprentice.

The assessment area must allow or be designed to provide variability and must include a fault that can be rectified by adjustment or maintenance and another fault, which will require a component or cabling to be changed. On the technical expert checklist record, the technical expert must describe the fault set that required adjustment or maintenance and the fault set that required a component or cable to be replaced. The practical assessment rig **must** therefore be capable of accommodating a number of differing faults to be set by the technical expert. The faults set must be recorded on the assessor checklist to demonstrate variability of the task from apprentice to apprentice.

Centres may create workbooks that will allow the apprentice to demonstrate their underpinning knowledge, skills and behaviours.

The equipment used for this assessment **must** be for assessment purposes only and the apprentice must not have had prior access to this.

Apprentice Requirements

To achieve a pass in the practical tasks the apprentice **must** complete all of the following:

- Ensure all health and safety requirements are observed throughout the assessment
- Complete a site specific risk assessment
- Select method statements appropriate for the activity
- Use company specific procedures
- Complete any documentation regarding, isolation, testing, commissioning and decommissioning of the apparatus
- Remove and replace a faulty component or cabling
- Complete all testing and commissioning requirements following the repair
- Reinstate the repaired system back to operational condition

Technical Expert Requirements

Apprentices carrying out the practical tasks will be observed by an EUIAS approved technical expert.

Each practical task must consist of three assessment components for fault diagnosis on instrumentation equipment and three assessment components for fault diagnosis on electrical equipment. Each assessment component being drawn from three different equipment categories as detailed in the “scope” section of the assessment document.

Due to the diverse nature of the tasks undertaken all performance criteria may not be captured in each assessment component, however the performance criteria as stated in the assessment documentation must be satisfied across the three components of each practical task.

The technical expert may question the apprentice as they are carrying out the practical task, but the technical expert **must** remain unobstructive whilst the apprentice is carrying out tasks. Questions asked should be included in the feedback section of each assessment document and may cover the following areas:

- Practical experience and knowledge gained through work experience
- Technical questioning related to the isolation, installation, testing, commissioning and maintenance of operational equipment.

- A variety of “what if” scenarios to determine problem solving skills
- Comprehension of basic operations or electrical principles related to plant and equipment
- Ability of apprentice to elaborate in their field of expertise
- General attitude and enthusiasm of the apprentice

Apprentices should be able to demonstrate a depth of understanding of the practical principles of the systems they are working on.

Permissible allowances and reasons for immediate failure

- Apprentices do not have to carry out the task in a prescribed sequence but must cover all of the assessment criteria required, provided health and safety is not compromised
- Apprentices should ensure that the tasks are completed safely. It is permissible not to have identified all tools and safety equipment prior to the task starting but the additional requirements must be identified and acted upon appropriately as the task progresses
- Apprentices may not be able to return the equipment to service or check its operation at the end of the task due to other issues identified during the course of the work. If this occurs an assessment of the apprentice’s competence in those areas can be made via technical questioning and professional discussion
- Apprentices will fail immediately if they do not select and wear the correct PPE for the task
- Apprentices will fail immediately if they do not follow safe control measures as set out in the risk assessment
- Apprentices will fail immediately if they put themselves or anyone else at danger – i.e. by failing to safely isolate plant and equipment
- Where an apprentice fails a component of the practical task this will not necessarily invalidate any other practical task or assessment components successfully completed

Grading

This assessment is graded as Pass or Fail. The technical expert will determine successful completion of the practical tasks using the technical expert checklist. The technical expert must record a factual account as a witness testimony. This will determine Pass or Fail. Where an apprentice fails a practical task or a component thereof this must be recorded on the practical task checklist. A suitable action plan should be agreed between the apprentice and their Trainer or Line Manager or Mentor. The apprentice must retake the assessment component and practical task within the end-point assessment window. A new practical task checklist **must** be used for each subsequent attempt and a factual record of which attempt is being undertaken must be recorded on the checklist.

Apprentice Feedback

On successful completion of the practical tasks the technical expert may provide feedback to the apprentice to inform them of the assessment outcome. If an apprentice fails a practical task or a component thereof; the technical expert can only inform the apprentice of the performance criteria **not** satisfied. The technical expert **must not** provide detailed feedback, with or without corrective actions to be taken, to the apprentice. The technical expert should provide detailed feedback to the apprentice's Trainer or Line Manager or Mentor. Should a technical expert provide detailed feedback to the apprentice, this would be considered a conflict of interest and the entire practical task may have to be re-assessed by a different technical expert.

Assessment Documentation and Duration

The following are indicative durations for the completion of each assessment area:

- TTIEPA1 Fault diagnosis on instrumentation equipment 4.5 hours
- TTEEPA1 Fault diagnosis on electrical equipment 4.5 hours