ENERGY & ENVIRONMENT AWARDS

Skills for a greener world

Energy & Environment Awards Level 3 End-point Assessment for Gas Network Craftsperson (Network Maintenance Craftsperson: Electrical and Instrumentation; Emergency Response; Pipelines Maintenance and Pressure Management)

Apprentice Guide

QAN 610/6017/3
ST0205 V1.1 V1.2 V1.3

Apprentice Guide for

Energy & Environment Awards Level 3 End-point Assessment for Gas Network Craftsperson

QAN 610/6017/3

Updates to this Guide

Since the first publication of Energy & Environment Awards Gas Network Craftsperson Apprentice Guide, the following updates have been made.

Version	Date first published	Section updated	Page(s)
v4.0	May 2025	Rebranded	A;;
v3.0	November 2024	Component 2 - Technical Interview – Session 1: Based on your practical task(s)	27
v2.0	July 2023	New template and rebranded	All
v1.0	January 2022	First published	All

At A Glance Component 1: Knowledge and Skills Assessment

Date(s):	
Time:	
Location:	
Examination Conditions:	Controlled by an invigilator
Additional Requirements:	
Assessed and marked by:	Energy & Environment Awards

At A Glance Component 2: Technical Interview based on your logbook

Date(s):	
Time:	
Location:	
Examination Conditions:	With an Energy & Environment Awards assessor in your place of work or training environment
Additional Requirements:	
Assessed and marked by:	Independent assessor/Energy & Environment Awards

Introduction

Energy & Environment Awards has been selected by your employer to carry out end-point assessment (EPA) and it is our job to ensure that you are assessed fairly.

How This Apprentice Guide Is Organised

- ✓ Section 1:

  What is in the Apprentice Guide?

- ✓ Section 2:

  An Apprentice's End-point Assessment Journey

- ✓ Section 3:

  End-point Assessment Components

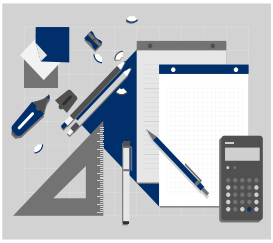
How to Use This Guide

This guide has been split into 3 sections. You can dip into each section that you are working on where you will find useful information, practical advice, tips you need and useful dates to successfully complete your EPA.

Throughout we have used headings and cross referenced to our EPA Gas Network Craftsperson (GNC) Specification which provides details of the EPA components.

Section 1: The Basics

What is an Apprenticeship Standard?



An apprenticeship standard is a description of your apprenticeship and it is based on the Gas Networks Craftsperson standard, which was written by employers. It contains the gas network craftsperson's job profile, and describes the knowledge, skills and behaviours (KSBs):

- Knowledge: (as part of KSBs) – specific information, technical detail, and 'know-how' identified as part of the apprenticeship standard that must be evidenced during your end-point assessment
- Skills: (as part of KSBs) – the practical application of knowledge identified as part of the apprenticeship standard that must be evidenced during end-point assessment
- Behaviours (as part of KSBs) – specific mindsets, attitudes or approaches identified as part of the apprenticeship standard that must be evidenced during end-point assessment

The standard can be accessed via the link below:
https://skillsengland.education.gov.uk/apprenticeship-standards/st0205-v1-2

What is an Assessment Plan?

An Assessment Plan is also written by employers and provides details of what is required for you to pass your end-point assessment. It includes details of what you will be assessed on, how each assessment will take place, what methods will be used and who will assess you.

Energy & Environment Awards designed the end-point assessment (EPA) to meet the requirements of the Assessment Plan. The Assessment Plan can be accessed via the link below:
https://skillsengland.education.gov.uk/media/1809/st0205_gas-network-craftsperson_l3_ap_for-publication_19may18.pdf

What is an end-point assessment (EPA)?

The end-point assessment is the assessments you take at the end of your apprenticeship. Your apprenticeship will typically take 48 months on-programme working towards your standard, with a minimum of 20% off-the-job training. After this you have a Gateway meeting with your employer or training provider to confirm you are ready for the end-point assessments. The words end-point means that you will be assessed at the end of your on-programme (training) to confirm you have met the standard. Your EPA must be taken and completed in the last 6 months. The end-point assessments consist of 2 components:

- Knowledge and Skills Assessment
- Technical Interview based on your logbook

Each component has a provisional grade and each grade is carried forward to award a final grade. You must pass both components to pass your apprenticeship.

The final grade can be a Fail, Pass or Distinction.

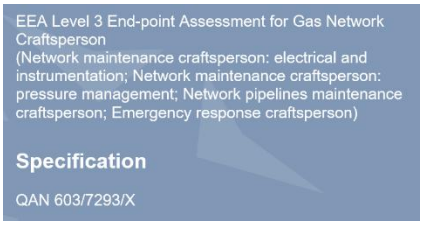
What are the Gateway Requirements?

Gateway is a meeting where your employer, training provider and you ensure that you are confident that you can demonstrate all the KSBs defined in the apprenticeship standard and you are ready for EPA. After the meeting, your training provider will confirm the outcomes of the Gateway meeting by sending a signed document to Energy & Environment Awards. The document confirms that you have met the following Gateway requirements:

- achieved English and maths at Level 2
- compiled a logbook with a mapping document, which the technical interview will be based on

Your training provider will send copies of these documents to Energy & Environment Awards.

What is the EPA Specification?



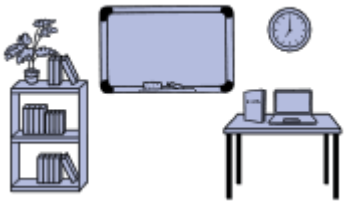
The end-point assessment specification provides details of the assessment methods used in your EPA, which:

- KSBs that are covered by each assessment
- KSBs amplification and guidance

The Specifications for your job role can be accessed via the link below:

Job role	Specification Link
Network Maintenance Craftsperson Electrical and Instrumentation	https://energyenvironmentawards.co.uk/epa/gas-network-craftsperson/
Emergency Response Craftsperson	
Network Pipelines Maintenance Craftsperson	
Network Maintenance Craftsperson Pressure Management	

Section 2: Apprentice EPA Journey



Let us Begin Your EPA Journey.

Find a quiet place and read on….

Gas Network Craftsperson is a core and options apprenticeship standard. You must be trained and assessed against the core and one of the following specialisms:

- Network Maintenance Craftsperson (Electrical and Instrumentation)
- Emergency Response Craftsperson
- Network Pipelines Maintenance Craftsperson
- Network Maintenance Craftsperson (Pressure Management)

Your EPA journey consists of 3 elements:

- A training programme with on the job, off the job elements, typically 48 months
- Gateway meeting window
- End-point Assessment (EPA) must be completed within a maximum of 6 months

Your journey begins with the training program. Your employer and training provider are responsible for this part. This is where you will gain the required Knowledge, Skills and Behaviours (KSBs).

How will you be assessed in the end-point assessment?

You will be assessed on the following components, which **must** be taken in this order:

1. **Knowledge and Skills Assessment**
2. **Technical Interview based on your logbook**

It is important for you to keep a record of when your 2 components are scheduled. We suggest you use the ‘At a Glance’ tables on page 5.

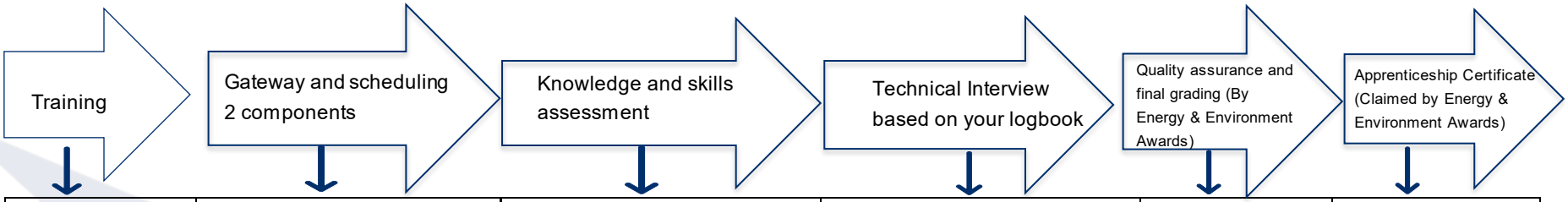
You must pass both components to achieve this qualification. For further guidance refer to Section 3 End-point Assessment Components.

Reasonable adjustments

A reasonable adjustment is any action that helps to reduce the effect of a disability or difficulty that places you at a substantial disadvantage during assessments. If this applies to you make sure you tell your training provider who can make an application for a reasonable adjustment to Energy & Environment Awards on your behalf.

Your EPA Journey in a Diagram

The diagram below illustrates the order of your EPA **journey** from the day you register to your final certification:



Typically, 48 months, with a minimum of 20% off-the-job training.	You have: Attended a Gateway meeting with your employer/provider. Achieved English and maths at level 2. Compiled a logbook, which your technical interview will be based on.	1 hour 15 Minutes. Multiple-choice 50 questions. Under exam conditions supervised by an invigilator. Face to face. Closed book.	Typically 2 hours. Under examination conditions. Face to face or remote as agreed and recorded using relevant technology. Independent assessors. For further interview details that will be covered * see below.	Awarded Final Grading: Distinction, Pass or Fail.	ESFA will send your Certificate to your training provider or employer. Contact your training provider or employer if you do not receive your certificate.

*For further details refer to Section 3 in this Apprentice Guide or Section 2 of the Specification

Section 3: End-point Assessment Components

Now let us continue your journey through EPA. There are 2 components that you must pass to be awarded a certificate.

Component 1: Knowledge and Skills Assessment

Overview

The knowledge and skills assessment is a multiple-choice test and is paper based. You will have 1 hour 15 minutes to complete the test. The test consists of 50 questions.

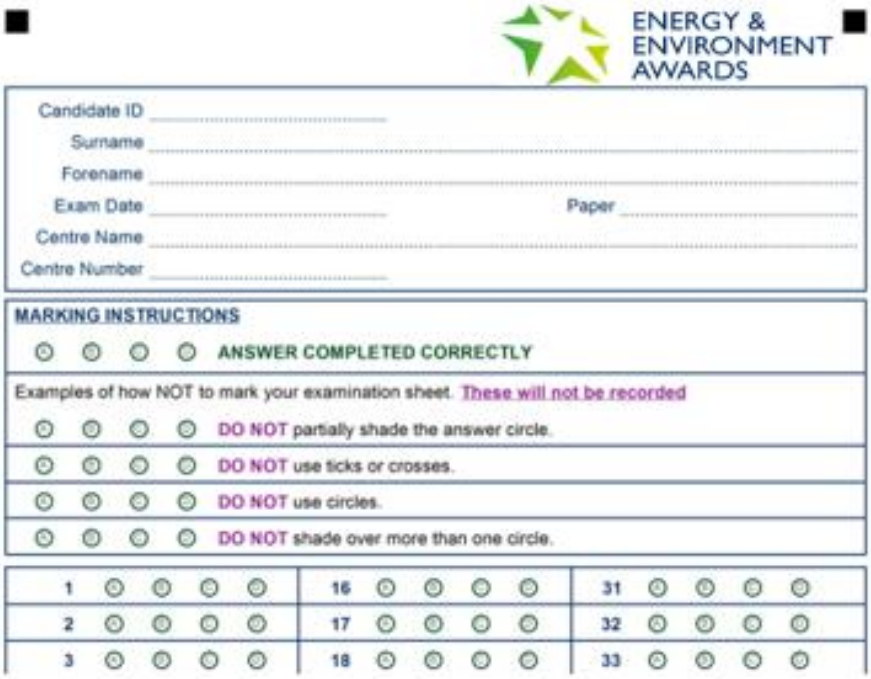
The multiple-choice questions will have four possible answers of which one will be correct.

Step-by-Step Guide

The table below provides a step-by-step guide on how the knowledge and skills assessment (multiple-choice test) will be carried out:

<table>
<tr><td>Who will start and finish your knowledge and skills assessment?</td><td>You will sit your knowledge and skills assessment (multiple-choice test) in the presence of an invigilator.</td></tr>
<tr><td>How will the question appear?</td><td>Here is an example of how the question will appear:

<table>
<tr><th colspan="2">Question 1</th></tr>
<tr><td colspan="2">In a workplace, who is responsible for maintaining health and safety?</td></tr>
<tr><th colspan="2">Possible answers</th></tr>
<tr><td>a)</td><td>Employers</td></tr>
<tr><td>b)</td><td>Safety managers</td></tr>
<tr><td>c)</td><td>Most senior person on-site</td></tr>
<tr><td>d)</td><td>Everyone</td></tr>
</table>
</td></tr>
</table>

	 You must **select one answer** that you think is correct. You will be provided with an answer sheet where you will be expected to shade in the answer you have selected. Here is an example: **Always have a go even if you are not sure that it is the correct answer.**
Can I take any resources into the exam room?	The test is closed which means that you cannot refer to reference books or any other materials. You will be provided with stationery on the day. You can take into the exam a scientific non-programmable calculator.
Can I have access to the internet?	No access to the internet is allowed and this means you must not take your SMART watch into the exam room.
How will the knowledge and skills assessment be organised for me?	**Locations:** Your knowledge and skills assessment (multiple-choice test) will take place at your employer's or training provider's premises or a suitable venue. • You will take the test in a quiet space and in the presence of an invigilator • Your test will be scheduled by your employer or training provider with Energy & Environment Awards • If you fail the knowledge and skills assessment (multiple-choice test), you can re-sit or re-take the failed test at your employer's discretion. There are no limits to the number of re-sits or re-takes you can take but it is

<table>
<tr><td></td><td>important to revise and ensure that you are confident with the knowledge you are being tested on</td></tr>
<tr><td>What criteria will I have to learn?

AND

How many questions will be asked on each criteria?</td><td>The knowledge and skills assessment (multiple-choice test) questions are based on core and option knowledge and skills. Below is a list of the knowledge and skills criteria, assessed in the knowledge and skills assessment along with the range of questions that will be allocated to an assessment paper:

<table>
<tr><th>Number of Questions</th><th>Criteria</th></tr>
<tr><td>2 - 3</td><td>K2 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</td></tr>
<tr><td>6 - 9</td><td>K3 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</td></tr>
<tr><td>5 - 8</td><td>K5 Gas engineering and mechanical and /or electric principles and processes that underpin the location, diagnosis and rectification of faults</td></tr>
<tr><td>4 - 7</td><td>S12 Through risk assessment, minimise risks to life, property and the environment when undertaking work activities</td></tr>
</table>
</td></tr>
</table>

Network Maintenance Craftsperson Electrical and Instrumentation – Specialist Skills	
4 - 6	**NMCEi16** The safety processes to be applied when testing for voltages across the range likely to be encountered
6 - 9	**NMCEi21** Understand how to safely apply diagnostic fault-finding principles to electrical systems
4 - 6	**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
Emergency Response Craftsperson Specialist Skills	
3 - 5	**NERC12** Locate and avoid underground plant and equipment whilst undertaking activities in the highway
2 - 3	**NERC13** Liaise with emergency services and other statutory authorities as necessary
6 - 9	**NERC15** The safety actions to be applied where critical gas level concentrations are encountered when dealing with reported gas emergencies
2 - 3	**NERC16** The requirements of the Gas Safety (Management) Regulations when dealing with reported gas emergencies
6 - 9	**NERC17** The requirements of the relevant British standards in relation to the safe installation of gas appliances, pipework, and meters
2 - 3	**NERC20** Understand how to recognise the signs and symptoms of suspected carbon monoxide poisoning
4 - 7	**NERC22** The New Roads and Street Works Act requirements for the provision of signing, lighting, and guarding when working in or adjacent to the public highways
3 - 5	**NERC23** Understand how to apply suitable control measures for the location and avoidance

	of supply apparatus and sub-structures prior to and whilst working on gas network assets
Network Pipelines Maintenance Craftsperson Specialist Skills	
1 - 3	**NPMC7** Liaise with relevant landowners and third parties e.g., statutory agencies and members of the public
1 - 3	**NPMC12** Locate and avoid underground plant and equipment prior to and whilst undertaking activities
1 - 3	**NPMC13** Install signing, lighting and guarding systems
1 - 3	**NPMC14** Liaise with emergency services and other statutory authorities as necessary
1 – 3	**NPMC16** Respond to reported pipeline gas emergencies
2 – 4	**NPMC17** The health and safety requirements when conducting operations on gas pipeline systems
2 – 4	**NPMC18** Understand how to test and confirm the suitability and effectiveness of corrosion control measures
3 – 5	**NPMC19** The requirements for the testing and inspection of pipelines in accordance with the Pipeline safety and Pressure systems safety regulations
2 - 4	**NPMC20** The permitry requirements when entering or working on gas operational sites
2 - 4	**NPMC21** The company specific requirements for the inspection of pipeline systems and associated systems and equipment, including the frequency of such inspection
2 - 4	**NPMC22** The implications of and assessment of damage sustained to pipelines by third party persons
1 - 3	**NPMC23** The hazards and permitry requirements associated with working on or in proximity of pipelines that contain pressurised gas
1 - 3	**NPMC24** The implications of the pressure systems safety regulations when assessing the suitability of equipment to be used

1 - 3	**NPMC25** Understand how to apply company specific procedures when responding to reported pipeline gas emergencies
2 - 4	**NPMC26** The New Roads and Street Works Act requirements for the provision of signing, lighting and guarding when working in or adjacent to the public highways
Network Maintenance Craftsperson Pressure Management – Specialist Skills	
2 - 4	**NMCPM4** Undertake corrosion inspection activities
1 - 3	**NMCPM16** Locate and avoid underground plant and equipment prior to and whilst undertaking activities
1 - 3	**NMCPM17** Install signing, lighting and guarding systems
4 - 6	**NMCPM18** Understand how to apply diagnostic fault finding procedures to pressure control equipment
3 - 5	**NMCPM19** Understand how to operate the systems and processes used for remote pressure monitoring & control of the gas network
2 - 4	**NMCPM20** Understand the permitry requirements when maintaining or configuring pressure control equipment
2 - 4	**NMCPM21** Understand the company specific and legislative requirements for the inspection and monitoring of mechanical pressure control systems and equipment
2 - 4	**NMCPM22** The requirements for corrosion inspection activities in line with the requirements of both the pressure systems safety regulations and pipeline safety regulations
3 - 5	**NMCPM23** The hazards associated with working on systems that contain pressurised gas
3 - 5	**NMCPM24** The security of gas supply implications when undertaking pressure control work operations
2 - 4	**NMCPM25** The implications of the pressure systems safety regulations when assessing the suitability of equipment to be used

	1 - 3	**NMCPM27** The New Roads and Street Works Act requirements for the provision of signing, lighting, and guarding when working in or adjacent to the public highways
	Remember the questions have been written to reflect the Gas Network Craftsperson role. For amplification and guidance refer to Section 2 of the GNC Specification.	
What should I do to prepare for the knowledge and skills assessment?	**You should be prepared to**: • revise the knowledge criteria listed above • ask your employer or training provider for additional questions that they have prepared to support you • attend the knowledge and skills assessment test which will last 1 hour 15 minutes While on-programme, the employer or training provider must ensure you are: • familiar with all areas assessed by the knowledge and skills assessment test as listed above • supported in completing a practice test and provide you with constructive feedback to enable you to identify areas you need to carry out further revision in	

Practice Component 1: Knowledge and Skills Assessment

You should have an opportunity to have a practice knowledge and skills assessment test which mirrors the real assessment. The practice knowledge and skills assessment test would be set up using the structure in the table above by your employer or training provider. The feedback provided will assist you with preparing for the actual knowledge and skills assessment test.

Component 2: Technical Interview – Session 1: Based on your practical task(s)

Overview

The technical interview will be conducted in two sessions. The first session will be based on your practical task(s). The second session will be based on your on-programme evidence in your logbook.

You will complete a practical task in preparation for your technical interview session 1. The practical task involves an employer assessor, appointed by Energy & Environment Awards observing and questioning you undertaking a set task or a series of set tasks in your normal place of work in a suitable area provided you can work unhindered or in a simulated environment. The simulated environment must closely relate to your natural working environment. The practical task(s) must be capable of being completed by a competent Gas Network Craftsperson.

Step-by-Step Guide

The table below provides a step-by-step guide on how the practical task will be carried out, observed and when it will be referred to during the technical interview session 1:

Who will assess the practical task?	**Practical Task Observation:** • An employer technical expert appointed by Energy & Environment Awards will write a facutal account (facts, true details and extact examples observed watching you on the day) of the practical task. **Technical Interview – Session 1 will focus on your practical task (post gateway evidence):** • An independent assessor appointed by Energy & Environment Awards will conduct your interview, in the presense of a techincal expert from your employer approved by Energy & Environment Awards and this may be the same person who observered you during your practical task • The technical interview will take place on a different day to your practical task

	• The practical task will be indirectly assessed during the interview
Structure of your practical task	The total assessment time is no longer than 12 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. **IMPORTANT NOTE - For an Emergency Response Craftsperson Apprentice ONLY:** When you have successfully completed the emergency response craftsperson option you will need to obtain Gas Safe Registration after completing the apprenticeship Standard, in order to practice as an emergency response craftsperson. To satisfy the requirements of Gas Safe Registration, you will need to successfully complete Matters of Gas Safety (MoGS) assessments'. This assessment will be delivered through a certification body approved to deliver the Nationally Accredited Certification Scheme. This may be delivered by Energy & Environment Awards: • **If you are undertaking your Matters of Gas Safety (MOGS) assessments with Energy & Environment Awards to achieve your Gas Safe Certifications for** CESP1, REGT1, TPCP1a and MET4 then you must complete Practical Tasks 1,2,6,7 and 8 • **If you are NOT undertaking your MOGS assessment with Energy & Environment Awards** then you must only complete the following Practical Tasks**:** ○ Task 3 (NERC 7 & 18) ○ Task 4 (NERC 10 & 21) ○ Task 5 (NERC 9) ○ Task 8 (NERC 1 & 15) ○ Task 9 (NERC 2 & 16) • You will be the only one being assessed by the employer technical expert during your practical task(s) • Breaks may be taken during the practical task to allow you to move from one location to another and for meal/comfort

	breaks, which will be supervised by an invigilator on a one-to one basis. Where breaks occur, the clock will be paused. The assessment time is not reduced
Where will the practical task take place?	• In your normal place of work in a suitable area provided you can work unhindered OR • In a simulated environment that reflects the real working environment and realistic work situation

What knowledge, skills and behaviours (KSBs) do I have to demonstrate during the practical task?	**NOTE:** You are only required to demonstrate your job role specific knowledge, skills and behaviours and the task will be chosen carefully by your employer/training provider to ensure that you have the opportunity to cover all aspects of the KSBs in an integrated way. **Core Skills**: **S1** Undertake and document risk assessments in accordance with company procedures **S2** Comply with workplace health, safety & environmental practices and regulations, maintaining a safe and secure working environment **S3** Follow engineering instructions and company procedures to complete tasks safely and on-time **S4** 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 **S5** Maintain and/or install gas engineering assets, components and associated equipment **S6** Install, test, purge and commission gas network assets **S7** Operate powered tools and equipment, such as drills, angle grinders, brush cutters and shot blasting equipment as required for network maintenance operations **S8** Use approved gas detection equipment to ensure safe environment **S9** Use Personal Protective Equipment (PPE) and safety equipment in accordance with manufacturer's instructions and employer policy **S10** Use Personal Protective Equipment (PPE) and safety equipment in accordance with manufacturer's instructions and employer policy **S11** Identify, organise and use resources effectively to complete tasks, with consideration for cost, quality, safety, security and environmental impact **S13** Accurately record job information, complete job reports and process

Core Behaviours:

B1 Display a self-disciplined, self-motivated approach

B3 Demonstrate and apply a safety first approach

B4 Accept accountability when undertaking individual and team tasks

B5 Follows instruction from appropriate supervision, and makes decisions when required

B6 Quality-focussed and professional in work and in personal standards

B8 Accepts responsibility for work undertaken

Network Maintenance Craftsperson Electrical and Instrumentation Role Specialist Skills

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

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

Role specific Knowledge only required for an Emergency Response Craftsperson

	NERC18 Understand how to identify gas appliances and installations that are not compliant with industry standards and may be deemed as unsafe **NERC19** Understand how to comply with the requirements of the Gas Industry Unsafe Situations Procedure, including RIDDOR reporting requirements **NERC24** Understand when to liaise with emergency services and other statutory authorities as necessary **Emergency Response Craftsperson Role Specialist Skills** **NERC1** Respond to public reported upstream gas emergencies, including damage to or failure of gas mains and services that supply a consumer's premise **NERC2** Respond to public reported downstream gas emergencies, including reported gas escapes inside customers properties and reports of carbon monoxide **NERC3** Carry out site investigations in relation to gas emergencies, in line with company procedures **NERC4** Use gas detection equipment to identify gas concentrations **NERC5** Interpret gas readings to determine the safety of the site **NERC6** Apply evacuation procedures where required **NERC7** Apply the industry unsafe situations procedures **NERC8** Install and exchange gas meters and pressure regulators **NERC9** Install domestic pipework **NERC10** Tightness test, purge, commission and decommission domestic gas pipework **NERC11** Tightness test, purge, commission and decommission non-domestic gas pipework **NERC18** Understand how to identify gas appliances and installations that are not compliant with industry standards and may be deemed as unsafe

	NERC19 Understand how to comply with the requirements of the Gas Industry Unsafe Situations Procedure, including RIDDOR reporting requirements **NERC24** Understand when to liaise with emergency services and other statutory authorities as necessary **Network Pipelines Maintenance Craftsperson Role Specialist Skills** **NPMC1** Apply non-destructive testing theories and principles in order to carry out diagnostic fault finding procedures **NPMC2** Apply the theories and principles of integrity testing, purging commissioning and de-commission of gas pipelines and associated equipment and components **NPMC3** Inspect, monitor, maintain, dismantle, install and repair pipeline systems and equipment for example; flow regulators, safety devices, system protection devices, measurement devices and monitoring equipment **NPMC4** Remove, repair and replace components of gas transportation pipelines and associated equipment **NPMC6** Take action to prevent third parties causing damage to gas transportation pipeline assets and equipment i.e. tracing, marking, monitoring third party activities and responding to encroachments **NPMC9** Interpret plans and drawings to install, position or re-locate pipeline equipment and components **NPMC10** Test, service and repair pipeline equipment as part of planned preventative maintenance and/or reactive maintenance programmes **NPMC11** Operate specialised tools and equipment for pipeline maintenance operations for example; in line inspection tools, damage assessment, intelligent pigging, valve repairs, flow stopping and under pressure drilling **Network Maintenance Craftsperson Pressure Management Role Specialist Skills** **NMCPM1** Apply mechanical theories and principles for example thermo dynamics and laminar flow theories, in order to carry out diagnostic fault finding procedures

NMCPM2 Carry out remote pressure monitoring & control on the gas network

NMCPM3 Inspect and monitor mechanical systems and equipment in order to ensure safety and suitability for service

NMCPM5 Maintain, dismantle and repair mechanical equipment and components

NMCPM7 Assist in installing mechanical systems and equipment

NMCPM8 Install, maintain and dismantle a wide range of complex plant, machinery and components including pressure regulators, safety devices, system protection devices and monitoring equipment

NMCPM10 Interpret plans and drawings to install, position or re-locate mechanical equipment and components

NMCPM11 Test, service and repair mechanical equipment as part of planned preventative maintenance and/or reactive maintenance programmes

NMCPM12 Install mechanical components including regulators, filters, valves, compressor equipment

For amplification and guidance refer to the GNC Role Specific Specifications links on page 9.
https://energyenvironmentawards.co.uk/epa/gas-network-craftsperson/

What tasks will I have to cover?	The practical task must allow you to undertake the activities required for a practical observation. For further details refer to 'Knowledge, Skills and Behaviours (KSBs) Coverage' in the role specific specification, refer to links on page 9.
What resources can I use?	**Practical task -** Equipment and resources needed for the practical task must be: • provided by your employer or training provider • a suitable premises • the plant, machinery, equipment and PPE required for the job • in good and safe working condition Relevant work instructions/manuals must be available for you to use in hard copy or electronically. **Technical Interview – Session 1** which will be based on your practical task(s): • During the interview you must refer to the technical expert's factual account which is a witness testimony of the practical task(s) completed by you during the EPA period • The independent assessor will be referring to the factual report written by the employer technical expert to carry out your interview
How many questions will I be asked?	**The employer technical expert** will ask open questions to confirm their understanding of the rationale for actions taken and choices made by you to complete the practical task. **Technical Interview – Session 1 based on your practical task. The independent assessor:** • will ask 10 open questions relating to confirm authenticity of your work and assess your KSBs relating to the practical task
Grading	The employer technical expert will **not** grade your practical task.

	Grading will take place by the independent assessor during your technical interview session 1 which will be based on the factual report written by the employer technical expert.
Overall grading for this component	Fail, Pass or Distinction.

Practice Component 2: Practical Task and Technical Interview Session 1

You should have an opportunity to have a practice practical task and a technical interview which mirrors the real assessment. A practice practical task and technical interview would be set up for you using the structure in the table above by your employer or training provider.

Component 2: Technical Interview – Session 2: Based on your logbook

Overview

The technical interview session 2 is based on your logbook. It is to allow you to demonstrate how you have met the KSBs in order to carry out your occupational role as a Gas Network Craftsperson effectively and safely. The technical interview allows for testing of responses where there are a range of potential answers that cannot be tested through the knowledge and skills assessment.

Step-by-Step Guide

The table below provides a step-by-step guide on how the technical interview based on your logbook will be carried out:

Who will assess me?	1 independent assessor, appointed by Energy & Environment Awards. 1 technical expert, approved by Energy & Environment Awards. 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(s). They are not allowed to amplify your answers.
How will the technical interview be organised?	**Locations:** Your technical interview will take place at your employer's premises or a suitable venue. **Time:** Your technical interview will last for 2 hours and +/- 10% to allow you to finish your last answer. **Your technical interview will be in two sessions:** • Session 1 – will focus on your practical task as described earlier • Session 2 – will focus on your on-programme (pre-gateway contents of your logbook) ○ Each session will last for 1 hour +/-10%, with a 15 - 20 minute break between each session. Your break will be supervised by an invigilator at all times ○ discussion between you and the independent assessor ○ face to face or remote, as agreed

	○ assessed and outcomes will be recorded by the independent assessor on official Energy & Environment Awards interview documents ○ recorded using the relevant technology such as Microsoft Teams or an audio recording device
What topics will I have to cover?	The technical interview sessions 1 and 2 will focus on each knowledge, skills and behaviours listed in the grading criteria in Section 3 of the specification. **For amplification and guidance refer to the GNC Specification, links available on page 9.**
How many questions will I be asked?	• **Session 1** – will only focus on your practical task (post gateway evidence) and the independent assessor will ask a set of 10 open questions relating to the practical task, to confirm authenticity of your work and assess your KSBs relating to the task • **Session 2** -will only focus on pre-gateway evidence in your logbook and the independent assessor will ask a set of 10 questions relating to this evidence • Set questions which maybe contextualised to the contents of your logbook • Follow-up questions in order to seek clarification
Provisional Grading	The independent assessor will award a provisional grade. You must pass **ALL** the pass criteria in order to achieve a pass.
Overall grading for this component	Fail, Pass or Distinction.

Logbook Requirements

The requirements are as follows:

Logbook Mapping Document

You must map your logbook of evidence to the KSBs covered by the technical interview. You must include a mapping document at the front of your logbook that clearly references the location of the evidence in your logbook.

For further guidance on how to map refer to:

- Section below 'How do I organise my logbook of evidence and map it to the mapping document?'
- GNC Specification Section 5: Guidance on logbook of evidence and apprentice mapping
- Apprentice Guide: Appendix B for the logbook mapping document

How do I organise my logbook of evidence and map it to the mapping document?

Step-by-Step Guide

You must include a logbook mapping document and place it at the front of your logbook, see table above for guidance and where to locate the logbook mapping document.

Your logbook is not assessed. It serves two purposes:

- The independent assessor reviews your logbook before the technical interview to help focus and contextualise their questions
- You should carefully prepare, index and map your logbook as this will further support you during your technical interview. Your organised logbook will allow you with ease to refer to examples and discuss the evidence with the independent assessor

What should I include in my logbook?

Quality vs quantity

You should be supported in selecting and mapping evidence for your logbook by your employer or training provider.

We would advise you to choose the best pieces of evidence and map them to each KSB which will be covered during your technical interview. To be confident of

meeting the KSB, you should aim to have two/three pieces of evidence mapped to each KSB.

Technical Interview Session 1 – Practical task: Will only be focused on the practical task (post gateway evidence) in your logbook. In this section of the logbook you must include the factual account produced by the technical expert.

Technical Interview Session 2 – On-programme: Will only be focused on your on-programme period (pre-gateway) contents of evidence in your logbook, which must be compiled from the last 12 months. This section of your logbook must include:

- a 'Logbook Mapping Document' this must be mapped against the relevant KSBs which will be assessed by the technical interview. A template has been produced which you can use to collect and map your evidence. A copy of the template is included in Appendix B 'Logbook Mapping Document'
- quality pieces must be selected
- direct observation of knowledge and skills development or formative assessments from the **last 12 months of your 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 specialism role) and the evidence must be mapped against the KSBs, each piece of evidence is likely to demonstrate more than one KSB
- **if applicable to you and your role is emergency response** you must have evidence that you have met the industry requirements for the standards of training in gas work. This evidence must be referenced against the relevant domestic natural gas training specification, details of which are currently available from: http://energyenvironmentawards.co.uk/matters-gas-safety-criteria
- where practicable this should include and clearly labelled:
    - certificates of training
    - job cards
    - maintenance records
    - risk assessments
    - photographs of workplace activities
    - videos of work carried out (no more than 10 minutes)
    - images
    - diagrams

- job descriptions and witness evidence/ testimony

- situations that have been difficult and challenging, and how these have been overcome e.g. equipment breakdown which has results in a change in working practice while still adhering to company procedures
- any employer contributions must focus on direct observation of evidence (e.g. review/witness statements) of competence rather than opinions

The above is not a definitive list. You can include other relevant evidence sources.

You **must not** include in your logbook any methods of self-assessment.

Evidence must be:

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

What can I do to prepare for the technical interview?

You should:

- be familiar with the structure of your logbook for session 1 and 2
- know the KSBs covered by the technical interview for session 1 and 2
- know where you have mapped your KSBs by referring to your logbook mapping document
- ensure there is quality evidence to cover every KSB in the technical interview
- practise mapping evidence and completing the evidence mapping grid
- know how you will be graded

The role of your employer or training provider

Employers or training providers are expected to support you in preparing your logbook by:

- clarifying responsibility for supporting you in selecting and mapping evidence for your logbook, including the role of employer coaches/mentors where applicable
- advising you on which pieces of evidence you should select to ensure that when it is looked at as a whole, your evidence provides coverage of all the required elements of the standard (KSBs) assessed in the technical interview
- supporting the mapping of your evidence and production of your mapping document
- authenticating evidence you provide is valid
- signing off your logbook
- submitting your logbook to Energy & Environment Awards as part of Gateway

Practice Component 2: Technical Interview based on Logbook of Evidence

You should have an opportunity to have a practice technical interview which mirrors the real assessment. The practice technical interview based on your logbook of evidence would be set up using the structure in the table above by your employer or training provider.

Overall grading

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

Grades from individual assessment components will be combined in the following way to determine your overall EPA grade as a whole.

The knowledge and skills assessment is based on the percentage score you achieve:

Knowledge And Skills Assessment	Distinction	Pass	Fail
Grade Boundaries	45– 50 marks	35 – 44 marks	≤ 34 marks

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

Technical Interview Session 1 Grade	Technical Interview Session 2 Grade	Technical Interview Grade
Pass	Pass	Pass
Distinction	Pass	Pass
Pass	Disctintion	Pass
Distinction	Distinction	Distinction

Energy & Environment Awards will combine the grade of the two assessment components (knowledge and skills assessment and technical interview based on your logbook) to determine your EPA and final grade. To achieve a pass you must achieve a pass or distinction in both assessment components. If you fail any of the assessment components will result in an overall fail.
Overall grading for both assessment components:

Knowledge and Skills Assessment Grade	Technical Interview – Session1 Grade	Technical Interview – Session 2 Grade	Final grade
Pass	Pass	Pass	**Pass**
Pass	Pass	Distinction	**Pass**
Pass	Distinction	Pass	**Pass**
Pass	Distinction	Distinction	**Pass**
Distinction	Pass	Distinction	**Pass**
Distinction	Distinction	Pass	**Pass**
Distinction	Distinction	Distinction	**Distinction**

Section 4: Resits and retakes

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

Your employer and Energy & Environment Awards will agree the timescale for your re-sit or re-take.

A technical interview based on your logbook of evidence must be re-sat/re-taken within three months of the fail notification, otherwise the whole EPA must be re-sat/re-taken.

Re-sits and re-takes will not be offered to you if you wish to move from pass to a higher grade.

You will get a maximum EPA grade of pass for a re-sit or re-take unless you have extenuating circumstances.

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

Section 5: Appendices

Appendix A: Glossary

Appendix B: Logbook Mapping Document

Appendix A: Glossary

Amplification – provides more detail on how individual knowledge, skills or behaviours statements should be interpreted. Where the KSB statements, themselves are deemed self-explanatory, no amplification is provided. Assessment may include questions on anything identified in the amplification

Behaviours –mindsets, attitudes or approaches needed for competence. Whilst these can be innate or instinctive, they can also be learnt. Behaviours tend to be very transferable. They may be more similar across occupations than knowledge and skills. For example, team worker, adaptable and professional

Elements – are the knowledge, skills and behaviours and what is needed to competently undertake the duties required for an occupational standard

Guidance – is only provided where it is required to support interpretation of the KSB statements

Gateway – the stage of the apprenticeship where the apprentice, employer and trainer determine whether the apprentice is ready to undertake the End-Point Assessment

Independent Assessor – Will holistically assess the knowledge, skills and behaviours (KSBs) that you have been learnt throughout the apprenticeship. Their role as an Independent Assessor would involve assessing component 2 (technical interview based on your logbook)

Knowledge – the information, technical detail, and 'know-how' that someone needs to have and understand to successfully carry out the duties. Some knowledge will be occupation-specific, whereas some may be more generic

Options / Pathways – a specialist route within an occupational standard that builds on the occupational competence for a new entrant to the occupation

Skills – the practical application of knowledge needed to successfully undertake the duties. They are learnt through on and/or off-the-job training or experience

Standard – An occupational standard is a description of an occupation. It contains occupational profile, and describes KSBs needed for someone to be competent in the occupation's duties. The occupational standards are developed by employers for

occupations that meet the Institute for Apprenticeships & Technical Education current criteria. For further details refer to: https://skillsengland.education.gov.uk/apprenticeship-standards/st0205-v1-2

Topic - is a collection of elements grouped into a theme e.g., Health and Safety

Appendix B: Logbook Mapping Document

Introduction

Throughout the on-programme part of the apprenticeship, you will need to compile a logbook to support the requirements of the technical interview. The evidence within the logbook will need to be mapped by you to the KSB requirements using the mapping document below.

The independent assessor will use the mapping document to review the evidence in your logbook in preparation for the technical interview. The independent assessor will not assess your logbook.

The logbook mapping document below consists of the core requirements.

Your next steps

1. Complete all the details on the first page and include employer details of where relevant competencies from your experience at work was gained

2 Ensure each piece of evidence is signed off by your tutor/supervisor/mentor and lead provider (employer or training provider). You can use a number of different types of evidence to demonstrate your competence as described in Section 5 of the Specification – 'What to include in the logbook?'. For further guidance, you must seek advice from your tutor/supervisor/mentor and lead provider

3 Map evidence to the criteria in the following pages using a referencing system indicating where the evidence for the criteria is located in your logbook e.g., work based evidence Job 1 (J1) page 5 paragraph 2. This will allow the independent assessor to locate the section or specific piece of evidence being discussed with you during the technical interview

4 Place the logbook mapping document at the front of the logbook of evidence

5 Your lead provider must make arrangements for Energy & Environment Awards to have access to your logbook including the logbook mapping document at Gateway

Logbook Mapping Document

Mapping Sign off on Logbook Completion:

Place this logbook mapping document at the front of your logbook of evidence.

Apprentice Full Name (Print)	Apprentice Signature	Training Provider (Company)	Training Provider Signatory	Date of Sign Off

Core Knowledge

Ref.	Apprenticeship Standard Criteria	LOGBOOK EVIDENCE REFERENCE (Apprentice Input)		
		1	2	3
K1	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			
K4	Company maintenance practices, processes and procedures associated with gas network systems, controls and equipment			
K6	Company policies, procedures and engineering instructions as specified by the employer			

Core Skills

Ref.	Apprenticeship Standard Criteria	LOGBOOK EVIDENCE REFERENCE (Apprentice Input)		
		1	2	3
S1	Undertake and document risk assessments in accordance with company procedures			
S2	Comply with workplace health, safety & environmental practices and regulations, maintaining a safe and secure working environment			
S3	Follow engineering instructions and company procedures to complete tasks safely and on-time			
S4	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			
S5	Maintain and/or install gas engineering assets, components and associated equipment			
S6	Install, test, purge and commission gas network assets			
S7	Operate powered tools and equipment, such as drills, angle grinders, brush cutters and shot blasting equipment as required for network maintenance operations			
S8	Use approved gas detection equipment to ensure safe environment			
S9	Use Personal Protective Equipment (PPE) and safety equipment in accordance with manufacturer's instructions and employer policy			
S10	Obtain and analyse asset condition and performance information to facilitate decision making			
S11	Identify, organise and use resources effectively to complete tasks, with consideration for cost, quality, safety, security and environmental impact			
S13	Accurately record job information, complete job reports and process			
S14	Liaise with gas consumers, statutory agencies and members of the public in order to ensure their safety			
S15	Accurately update company systems with details of work undertaken			

Core Behaviours

Ref.	Apprenticeship Standard Criteria	LOGBOOK EVIDENCE REFERENCE (Apprentice Input)		
		1	2	3
B1	Display a self-disciplined, self-motivated approach			
B2	Deliver a polite, courteous professional service to all customers, stakeholders and members of the public as appropriate			
B3	Demonstrate and apply a safety first approach			
B4	Accept accountability when undertaking individual and team tasks			
B5	Follows instruction from appropriate supervision, and makes decisions when required			
B6	Quality-focussed and professional in work and in personal standards			
B7	Recognise personal limitations and seek advice from managers, experts and specialists when required			
B8	Accepts responsibility for work undertaken			
B9	Receptive to the needs and concerns of others, especially where related to diversity and equality			
B10	Committed to carrying out and recording Continued Professional Development necessary to maintain and enhance competence			
B11	Exercises responsibilities in an ethical manner			
B12	Interacts with people and approaches work activities in a way that contributes to continuous self-improvement			

Ref.	Apprenticeship Standard Criteria	LOGBOOK EVIDENCE REFERENCE (Apprentice Input)		
		1	2	3
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			

Ref.	Apprenticeship Standard Criteria	LOGBOOK EVIDENCE REFERENCE (Apprentice Input)		
		1	2	3
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			

Pathway: Emergency Response Craftsperson Specific Skills

Ref.	Apprenticeship Standard Criteria	LOGBOOK EVIDENCE REFERENCE (Apprentice Input)		
		1	2	3
NERC1	Respond to public reported upstream gas emergencies, including damage to or failure of gas mains and services that supply a consumer's premise			
NERC2	Respond to public reported downstream gas emergencies, including reported gas escapes inside customers properties and reports of carbon monoxide			
NERC3	Carry out site investigations in relation to gas emergencies, in line with company procedures			
NERC4	Use gas detection equipment to identify gas concentrations			
NERC5	Interpret gas readings to determine the safety of the site			
NERC6	Apply evacuation procedures where required			
NERC7	Apply the industry unsafe situations procedures			
NERC8	Install and exchange gas meters and pressure regulators			
NERC9	Install domestic pipework			
NERC10	Tightness test, purge, commission and de-commission domestic gas pipework			
NERC11	Tightness test, purge, commission and de-commission non-domestic gas pipework			
NERC14	Organise additional resources to facilitate repairs as required			
NERC18	Understand how to identify gas appliances and installations that are not compliant with industry standards and may be deemed as unsafe			
NERC19	Understand how to comply with the requirements of the Gas Industry Unsafe Situations Procedure, including RIDDOR reporting requirements			
NERC21	Describe the requirements for the application of gas tightness testing procedures			
NERC24	Understand when to liaise with emergency services and other statutory authorities as necessary			

Pathway: Network Pipelines Maintenance Craftsperson Specific Skills

Ref.	Apprenticeship Standard Criteria	LOGBOOK EVIDENCE REFERENCE (Apprentice Input)		
		1	2	3
NPMC1	Apply non-destructive testing theories and principles in order to carry out diagnostic fault finding procedures			
NPMC2	Apply the theories and principles of integrity testing, purging commissioning and de-commission of gas pipelines and associated equipment and components			
NPMC3	Inspect, monitor, maintain, dismantle, install and repair pipeline systems and equipment for example; flow regulators, safety devices, system protection devices, measurement devices and monitoring equipment			
NPMC4	Remove, repair and replace components of gas transportation pipelines and associated equipment			
NPMC5	Undertake corrosion prevention activities i.e. cathodic protection systems and monitoring, coating and wrapping			
NPMC6	Take action to prevent third parties causing damage to gas transportation pipeline assets and equipment i.e. tracing, marking, monitoring third party activities and responding to encroachments			
NPMC8	Consult design specifications to analyse and calculate pipeline system parameters and rectification procedures			
NPMC9	Interpret plans and drawings to install, position or re-locate pipeline equipment and components			
NPMC10	Test, service and repair pipeline equipment as part of planned preventative maintenance and/or reactive maintenance programmes			
NMPC11	Operate specialised tools and equipment for pipeline maintenance operations for example; in line inspection tools, damage assessment, intelligent pigging, valve repairs, flow stopping and under pressure drilling			
NPMC15	Organise additional resources to facilitate repairs as required			

Ref.	Apprenticeship Standard Criteria	LOGBOOK EVIDENCE REFERENCE (Apprentice Input)		
		1	2	3
NMCPM1	Apply mechanical theories and principles for example thermo dynamics and laminar flow theories, in order to carry out diagnostic fault finding procedures			
NMCPM2	Carry out remote pressure monitoring & control on the gas network			
NMCPM3	Inspect and monitor mechanical systems and equipment in order to ensure safety and suitability for service			
NMCPM5	Maintain, dismantle and repair mechanical equipment and components			
NMCPM6	Test mechanical equipment and systems to ensure integrity, safety and security of supply			
NMCPM7	Assist in installing mechanical systems and equipment			
NMCPM8	Install, maintain and dismantle a wide range of complex plant, machinery and components including; pressure regulators, safety devices, system protection devices and monitoring equipment			
NMCPM9	Consult design specifications to analyse and calculate mechanical system parameters and rectification procedures			
NMCPM10	Interpret plans and drawings to install, position or re-locate mechanical equipment and components			
NMCPM11	Test, service and repair mechanical equipment as part of planned preventative maintenance and/or reactive maintenance programmes			
NMCPM12	Install mechanical components including regulators, filters, valves, compressor equipment			
NMCPM13	Maintain mechanical components including regulators, filters, valves, compressor equipment			
NMCPM14	Apply pressure reduction techniques to assist in dealing with gas emergencies			
NMCPM15	Inspect and maintain condition monitoring equipment			
NMCPM26	The safety processes to be followed when planning to access pressure control equipment			