



EEA Level 3 End-point Assessment for Heat Network  
Maintenance Technician  
(Distribution; Residential)

## **Apprentice Guide**

QAN 610/6335/6 ST1308 V1.0

# Apprentice Guide for

## EEA Level 3 End-point Assessment for Heat Network Maintenance Technician

### (Distribution; Residential)

**QAN 610/6335/6**

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## Updates to this Guide

Since the first publication of Energy & Environment Awards (EEA) Heat Network Maintenance Technician Apprentice Guide, the following updates have been made.

Version	Date first published	Section updated	Page(s)
v1.0	January 2026	First published	All



### At a Glance Component 1: Multiple-choice test

Date(s):	
Time:	
Location:	
Examination Conditions:	Controlled by an invigilator
Additional Requirements:	Scientific calculator allowed
Assessed and marked by:	EEA



### At a Glance Component 2: Practical Assessment with questions

Date(s):	
Time:	
Location:	
Examination Conditions:	Conducted in a simulated environment which reflects your natural work environment
Additional Requirements:	
Assessed and marked by:	1 Independent assessor, approved by EEA



### At a Glance Component 3: Interview based on an EPA portfolio

Date(s):	
Time:	
Location:	
Examination Conditions:	With an EEA Independent assessor, usually on-screen using MS teams. You must be at your employer's premises or a suitable venue for example training provider's premises  You will have access to your EPA portfolio throughout the interview
Additional Requirements:	EPA Portfolio to be completed and submitted at Gateway
Assessed and marked by:	1 Independent assessor, approved by EEA

## Introduction



Energy & Environment Awards (EEA) 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

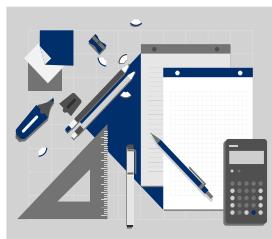


This guide has been split into 3 sections. You can dip into each section that you are working on where you will find useful information, practical advice, tips you need and useful dates to successfully complete your EPA.

Throughout we have used headings and cross referenced to our EPA Heat Network Maintenance Technician (HNMT) Specification and/or Supporting Documents 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 Heat Network Maintenance Technician Standard, which was written by employers. It contains the heat network maintenance technician'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:

[Heat network maintenance technician / Skills England](#)

Select the occupational standard tab.

### 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:

[Heat network maintenance technician / Skills England](#)

Select the EPA plan tab.

## 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 36 months. You are required to spend a minimum of 8 months on-programme. 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 period typically last 3 months.

## 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 in line with the apprenticeship funding rules
- compiled an EPA portfolio, which will be the focus of the interview based on an EPA portfolio.

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:

EEA Level 3 End-point Assessment for Heat Network Maintenance Technician (Distribution; Residential)

### Specification

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

The Specification can be accessed via the link below:

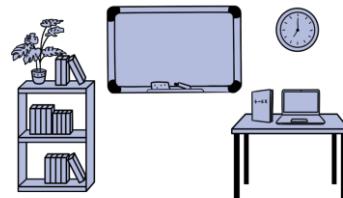
<https://energyenvironmentawards.co.uk/epa/heat-network-maintenance-technician-level-3/>

## Section 2: Apprentice EPA Journey

Let us Begin Your EPA Journey.

Find a quiet place and read on....

Your EPA journey consists of 3 elements:



- A training programme with on the job, off the job elements, typically 36 months
- Gateway meeting window
- End-point Assessment (EPA) typically 3 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).

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

- Distribution Systems Specialist
- Residential Systems Specialist

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

You will be assessed on the following components, which can be taken in any order:

- 1. Multiple-choice test**
- 2. Practical assessment with questions**
- 3. Interview based on an EPA portfolio**

It is important for you to keep a record of when your 3 components are scheduled. We suggest you use the 'At a Glance' tables on page 5.

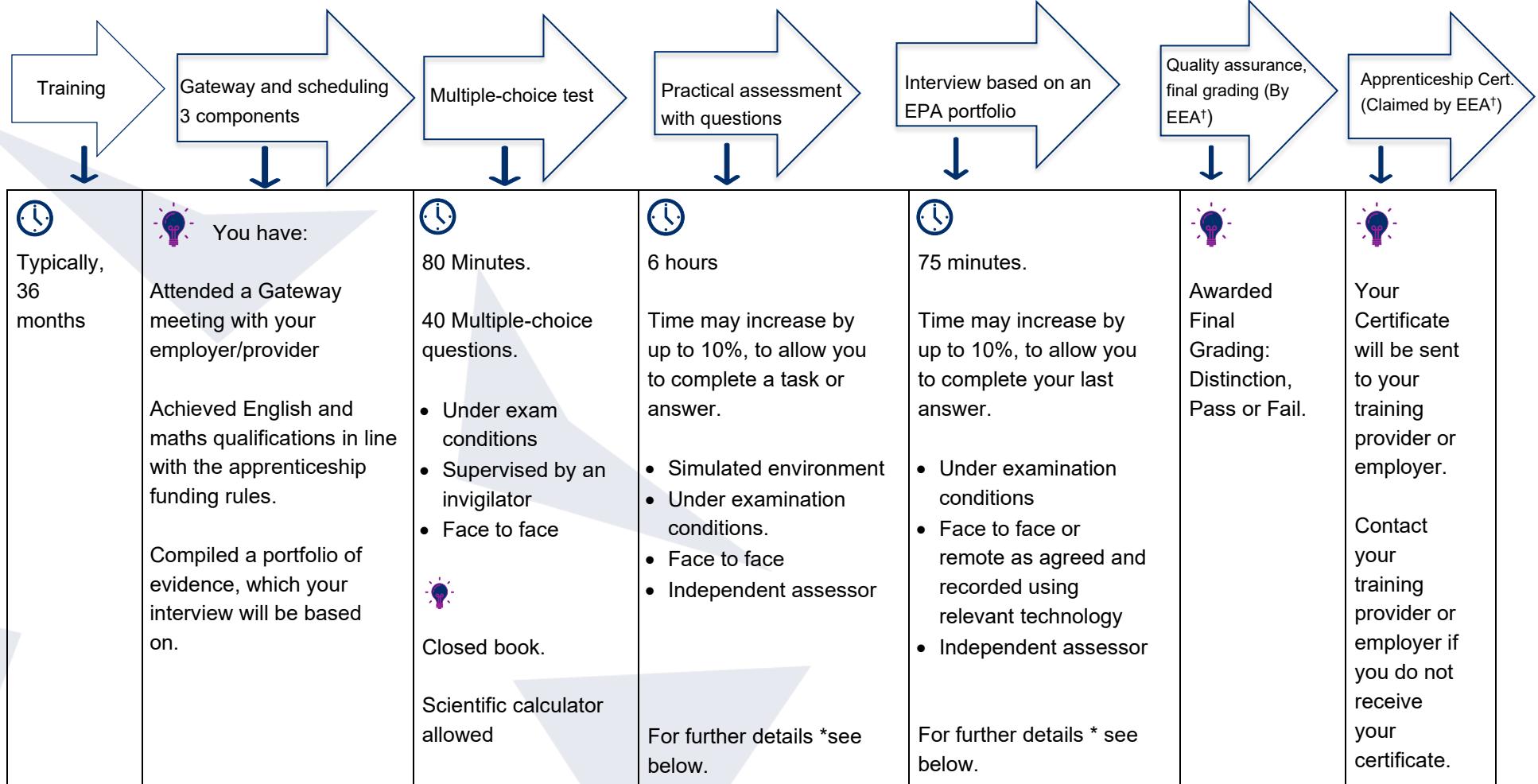
You must pass all 3 components to achieve this qualification. For further guidance refer to Section 3 End-point Assessment Components.

## 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:



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

<sup>†</sup>EEA (Energy & Environment Awards)

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Apprentice Guide v1.0 (Distribution; Residential)

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## Section 3: End-point Assessment Components

Now let us continue your journey through EPA. There are 3 components that you must pass to be awarded a certificate.

### Component 1: Multiple-choice Test

#### Overview

The multiple-choice test is a computer or paper-based test. You will have 80 minutes to complete the test. The test consists of 40 questions.

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

You must be given at least **2 week's notice** of the date and time of the multiple-choice test.



The following table outlines the procedure for conducting the multiple-choice test:

Who will start and finish my multiple-choice test?	You will sit your multiple-choice test in the presence of an invigilator.
What format will my test take?	<p>The test may be paper-based or taken online. Your training provider will let you know what the format of your test is.</p> <p>All other aspects of the test are exactly the same, including:</p> <ul style="list-style-type: none"><li>• content</li><li>• timings</li><li>• question types</li><li>• scoring</li></ul>

How will  
the  
question  
appear in a  
paper-  
based test?

Here is an example of how the question will appear:

**Question 1**

In a workplace, who is responsible for maintaining health and safety?

**Possible answers**

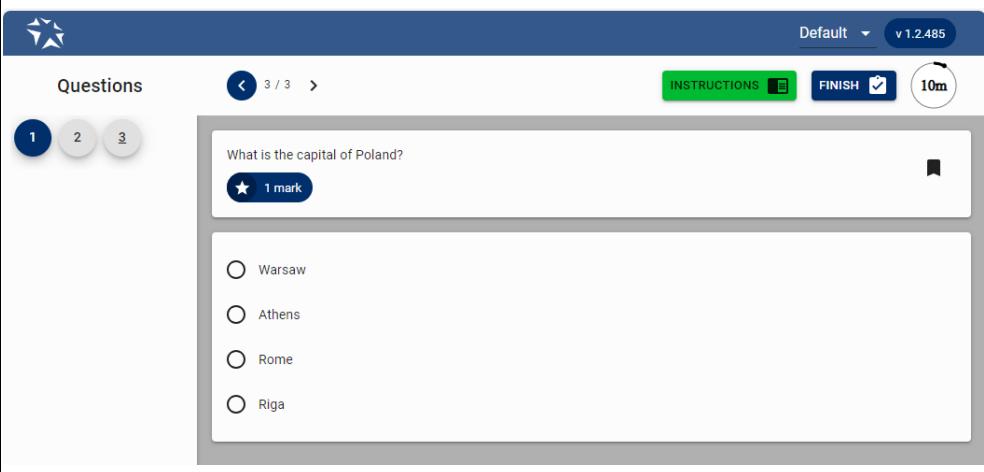
- a) Employers
- b) Safety managers
- c) Most senior person on-site
- d) Everyone

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:

SAMPLE ANSWER SHEET	 <p>ENERGY &amp; ENVIRONMENT AWARDS</p>												
<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%;">Candidate ID .....</td> <td style="width: 50%;">Attempt .....</td> </tr> <tr> <td>Last Name .....</td> <td></td> </tr> <tr> <td>First Name .....</td> <td></td> </tr> <tr> <td>Exam Date .....</td> <td>Paper .....</td> </tr> <tr> <td>Centre Name .....</td> <td></td> </tr> <tr> <td>Centre Number .....</td> <td></td> </tr> </table>		Candidate ID .....	Attempt .....	Last Name .....		First Name .....		Exam Date .....	Paper .....	Centre Name .....		Centre Number .....	
Candidate ID .....	Attempt .....												
Last Name .....													
First Name .....													
Exam Date .....	Paper .....												
Centre Name .....													
Centre Number .....													
<p><b>MARKING INSTRUCTIONS</b></p> <p>Answers should be completed using a HB pencil.</p> <p><input type="radio"/> <input type="radio"/> <input type="radio"/> <input checked="" type="radio"/> <b>ANSWER COMPLETED CORRECTLY</b></p> <p>Examples of how NOT to mark your examination sheet. <b>These will not be recorded</b></p> <p><input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <b>DO NOT</b> partially shade the answer circle.</p> <p><input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <b>DO NOT</b> use ticks or crosses.</p> <p><input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <b>DO NOT</b> use circles.</p> <p><input type="radio"/> <input type="radio"/> <input checked="" type="radio"/> <b>DO NOT</b> shade over more than one circle.</p>													
1 <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> 2 <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> 3 <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> 4 <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/>	21 <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> 22 <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> 23 <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> 24 <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/>	41 <input type="radio"/> <input type="radio"/> <input type="radio"/> 42 <input type="radio"/> <input type="radio"/> <input type="radio"/> 43 <input type="radio"/> <input type="radio"/> <input type="radio"/> 44 <input type="radio"/> <input type="radio"/> <input type="radio"/>											



**Always have a go even if you are not sure that it is the correct answer.**

<p>How will the question appear in an online test?</p>	<p>Here is an example of how the question will appear in an online version of the test:</p>  <p>You must select one answer that you think is correct.</p>
<p>Can I take any resources into the exam room?</p>	<p>The test is closed which means that you cannot refer to reference books or any other materials.</p> <p>You may use a non-programmable scientific calculator.</p> <p>You will be provided with stationery on the day.</p>
<p>Can I have access to the internet?</p>	<p>No access to the internet is allowed and this means you must not take your SMART watch into the exam room.</p>
<p>How will the multiple-choice test be organised for me?</p>	<p><b>Locations:</b> Your multiple-choice test will take place at your employer's or training provider's premises or a suitable venue.</p> <ul style="list-style-type: none"> <li>• You will take the test in a quiet space and in the presence of an invigilator</li> <li>• Your test will be scheduled by your employer or training provider with EEA</li> <li>• If you fail the 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 important to revise and ensure that you are confident with the knowledge you are being tested on.</li> </ul>

<p>What criteria will I have to learn?</p> <p>AND</p> <p>How many questions will be asked on each criteria?</p>	<p>The multiple-choice test questions are based on knowledge. Below is a list of the knowledge criteria, assessed in the multiple-choice test along with the range of questions that will be allocated to a multiple-choice test paper:</p> <table border="1" data-bbox="397 471 1365 1976"> <thead> <tr> <th data-bbox="397 471 1365 628">Number of Questions</th><th data-bbox="397 628 1365 1976">Knowledge</th></tr> </thead> <tbody> <tr> <td data-bbox="397 628 1365 763">2 - 4</td><td data-bbox="397 763 1365 853"><b>K1:</b> Heat network systems: heat sources, materials and technology, scale and scope of networks, sustainability, efficiency and cost-effectiveness.</td></tr> <tr> <td data-bbox="397 853 1365 943">1 - 3</td><td data-bbox="397 943 1365 1033"><b>K2:</b> Types of heat networks: local, district and city-wide.</td></tr> <tr> <td data-bbox="397 1033 1365 1212">2 - 4</td><td data-bbox="397 1212 1365 1302"><b>K3:</b> Awareness of legislative, regulatory frameworks and regulators: Department for Energy Security and Net Zero, The Association for Decentralised Energy (ADE), Office of Gas and Electricity Markets (OFGEM), Energy Ombudsman, Heat Networks (Scotland) Act, Heat Networks (Metering and Billing) Regulations.</td></tr> <tr> <td data-bbox="397 1302 1365 1527">2 - 4</td><td data-bbox="397 1527 1365 1617"><b>K4:</b> Awareness of codes of conduct and technical standards: The Heat Trust, Chartered Institution of Building Services Engineers (CIBSE) CP1.2, Building Services Research and Information Association (BSRIA), Building Engineering Services Association (BESA), Manufacturers of Equipment for Heat Networks Association.</td></tr> <tr> <td data-bbox="397 1617 1365 1976">4 - 6</td><td data-bbox="397 1617 1365 1976"><b>K6:</b> Awareness of health and safety regulations and the impact on role: Health and Safety at Work Act, Reporting of Injuries, Diseases and Dangerous Occurrences Regulations (RIDDOR), Personal Protective Equipment (PPE) at Work Regulations, Control of Substances Hazardous to Health (COSHH) Regulations, Electrical regulations, Manual Handling Operations Regulations (MHOR), Construction Design Management Regulations (CDM), working at height, confined spaces and lone working.</td></tr> </tbody> </table>	Number of Questions	Knowledge	2 - 4	<b>K1:</b> Heat network systems: heat sources, materials and technology, scale and scope of networks, sustainability, efficiency and cost-effectiveness.	1 - 3	<b>K2:</b> Types of heat networks: local, district and city-wide.	2 - 4	<b>K3:</b> Awareness of legislative, regulatory frameworks and regulators: Department for Energy Security and Net Zero, The Association for Decentralised Energy (ADE), Office of Gas and Electricity Markets (OFGEM), Energy Ombudsman, Heat Networks (Scotland) Act, Heat Networks (Metering and Billing) Regulations.	2 - 4	<b>K4:</b> Awareness of codes of conduct and technical standards: The Heat Trust, Chartered Institution of Building Services Engineers (CIBSE) CP1.2, Building Services Research and Information Association (BSRIA), Building Engineering Services Association (BESA), Manufacturers of Equipment for Heat Networks Association.	4 - 6	<b>K6:</b> Awareness of health and safety regulations and the impact on role: Health and Safety at Work Act, Reporting of Injuries, Diseases and Dangerous Occurrences Regulations (RIDDOR), Personal Protective Equipment (PPE) at Work Regulations, Control of Substances Hazardous to Health (COSHH) Regulations, Electrical regulations, Manual Handling Operations Regulations (MHOR), Construction Design Management Regulations (CDM), working at height, confined spaces and lone working.
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2 - 4	<p><b>K7:</b> Awareness of environmental and sustainability regulations and requirements: Environmental Protection Act, Pollution Prevention and Control Act, Clean Air Act, Radioactive Substances Act, Controlled Waste Regulations, Controls on Dangerous Substances and Preparations Regulations. Efficient use of resources. Recycling, reuse and safe disposal of waste.</p>
1 - 3	<p><b>K9:</b> Environmental management and environmental management systems: ISO 14000, ISO 14004, ISO 14001.</p>
1 - 2	<p><b>K11:</b> Awareness of principles of climate change, including causes and environmental impact and contribution of heat network industry to achieving carbon budgets and net zero.</p>
2 - 4	<p><b>K13:</b> Principles of asset management, maintenance systems and asset tagging.</p>
2 - 4	<p><b>K14:</b> Thermodynamics in heat networks: units of measurement, formulae including <math>Q = mc\Delta T</math>, properties of materials, relationship between energy, heat and power.</p>
2 - 4	<p><b>K15:</b> Principles of fluid dynamics in heat networks: units of measurement, formulae including <math>Q = V/t</math> and <math>p = \rho gh</math> and hydrodynamics, and how they impact pressure, operational pressures, differential pressure and heat network efficiency issues.</p>
2 - 4	<p><b>K19:</b> Industrial plant and process control systems: characteristics, modes of control, tuning methods, hierarchical and advanced process control systems.</p>
2 - 4	<p><b>K20:</b> Water quality: the impact of poor water quality on heat networks, scale, corrosion, fouling and microbiology. Open and closed systems, chemical and chemical free systems, industry body and standard.</p>
2 - 4	<p><b>K22:</b> Pipe work: types and pipework common issues, riser and lateral pipework, stainless steel, carbon steel, barrel, plastic and copper pipe.</p>

	<p>1 – 2      <b>S7:</b> Conduct thermodynamic calculations.</p> <p>1 - 2      <b>S8:</b> Complete calculations for cold fill pressure of building and differential pressure across pump.</p> <p> <b>Remember</b> the questions have been written to reflect the heat network maintenance technician role as a whole and are not focussed on specific plant, machinery, or employer-specific processes. For amplification and guidance refer to Section 3 of the HNMT Specification.</p> <p><b>What should I do to prepare for the multiple-choice test?</b></p> <p> <b>You should be prepared to:</b></p> <ul style="list-style-type: none"> <li>revise the knowledge criteria listed above</li> <li>ask your employer or training provider for additional questions that they have prepared to support you</li> <li>attend the multiple-choice test which will last 80 minutes</li> </ul> <p> While on-programme, the employer or training provider must ensure you are:</p> <ul style="list-style-type: none"> <li>familiar with all areas assessed by the multiple-choice test as listed above</li> <li>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.</li> </ul>
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### Practice Component 1: Multiple-Choice test

 You should have an opportunity to have a practice multiple-choice test which mirrors the real assessment. The practice multiple-choice 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 multiple-choice test.

## Component 2: Practical Assessment with Questions

### Overview

A practical assessment with questions involves an independent assessor, appointed by Energy & Environment Awards observing you undertaking a set task or series of set tasks in a simulated environment. The simulated environment must closely relate to your natural working environment. The task(s) must be capable of being completed by a competent heat network maintenance technician. The independent assessor will ask you questions during or after the practical assessment.



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

<p>Structure of your practical assessment</p>	<p> The total assessment time is 6 hours for completing the set task(s) and questions. The assessor can increase the time by up to 36 minutes (10%) to allow you to complete your work or respond to a question if necessary.</p> <ul style="list-style-type: none"> <li>• Breaks may be taken during the practical assessment to allow you to move from one location to another and for meal/comfort breaks</li> <li>• Where breaks occur, the clock will be paused. The assessment time is not reduced</li> </ul>
<p>Where will the assessment take place?</p>	<ul style="list-style-type: none"> <li>• In a simulated environment which closely relates to your natural work environment</li> </ul>
<p>What knowledge, skills and behaviours (KSBs) do I have to demonstrate during the practical assessment with questioning?</p>	<p><b>Health and safety (Core)</b></p> <p><b>S2:</b> Comply with health and safety regulations and guidance.</p> <p><b>B1:</b> Prioritise health and safety.</p> <p><b>Engineering representations (Core)</b></p> <p><b>K18:</b> Engineering representations: design principles, piping and instrumentation diagrams, single-line electrical diagrams, control panel schematics, circuit and network diagrams.</p> <p><b>S12:</b> Interpret and use engineering representations.</p>

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### **Task and work area organisation (Core)**

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**K5:** Planning, organising and time management techniques.

**K10:** Site management: work area preparation and maintenance techniques.

**S1:** Plan and organise tasks including the selection and organisation of resources.

**S5:** Prepare and maintain the work area.

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### **Tools and equipment (Core)**

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**K34:** Tools and equipment used in district heat system maintenance. Requirements for cleaning, storage, care, and operational checks.

**S25:** Check tools and equipment including calibration. Use and store tools and equipment.

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### **Core maintenance and fault-finding (Core)**

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**K16:** Flow, pressure and temperature measurement techniques, portable measurement instruments, static pressure and differential pressure reading.

**K35:** Visual inspection techniques.

**K36:** Fault finding techniques.

**S9:** Conduct flow, pressure and temperature measurements using portable instrumentation, including static pressure and differential pressure reading.

**S26:** Conduct visual inspection.

**S28:** Apply fault finding techniques.

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### **Distribution systems maintenance (Distribution)**

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**K38:** Planned and unplanned maintenance techniques: servicing, repair and replacement.

**K39:** Distribution plant equipment: pumps, inverters, motors, fans, strainers, thermal stores, expansion and vibration bellows and plant heat exchangers.

**K40:** Pressurisation plant equipment: pressurisation unit, expansion vessel, fill and spill unit, break tank and Automatic Air Vents (AAVs).

**K41:** Water treatment plant equipment: de-gasser, chemical dosing pot, chemical auto dosing equipment, dirt air separator and water softener.

**K42:** Valves and associated actuators: including Pressure Independent Control Valve (PICV), Differential Pressure Control Valve (DPCV), Non-Return Valve (NRV) temperature and pressure release valve (PRV), three port valves and isolation valves.

**K43:** Building Management System (BMS) remote plant operation techniques: fault reset, heat generation asset commercial gas boilers, pumps, valves and pressurisation units.

**K44:** Plant equipment control panels and local operation techniques: pumps and heat source.

**K45:** E-Stops and safety circuits: operation and return to normal service techniques.

**S29:** Perform maintenance on distribution plant equipment.

**S30:** Operate plant equipment remotely through BMS using remote plant operation techniques, including switch duty of a duty standby pump, change lead heat source and valve operation.

**S31:** Operate plant equipment locally from control panel, including pump and heat source.

**S32:** Operate e-stop and safety circuits on equipment and return plant to normal service, including fire alarm re-activation.

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#### **Residential systems maintenance (Residential)**

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**K46:** Planned and unplanned maintenance techniques: servicing, repair and replacement.

**K47:** Heat Interface Unit (HIU): single plate (direct or indirect heating system), twin Plate, electrical and mechanical. Cooling Interface Unit (CIU), Hot Water Cylinders and Fan Coil Units (FCU).

**K48:** Tertiary system assets: radiator, Thermostatic Radiator Valves (TRVs), heating control units, under floor heating systems, automatic air valves, lock shield, dynamic balancing valve, Direct Hot Water (DWH) systems and trace heating.

**K49:** Tertiary system wiring, controls and metering: pre and post pay systems, 2 and 3 port (S and Y plan), valves, programmers, thermostats, heating circuit pumps, heating circuit and zone control.

**K50:** Applied calculation techniques: HIU energy balance and efficient operation.

**K51:** Balancing and flow optimisation techniques: radiators and underfloor heating.

**K53:** Electrical, mechanical Heat Interface Unit (HIU) and space heating circuit commissioning techniques.

**S33:** Perform maintenance on residential heat network systems.

**S34:** Conduct HIU energy balance and efficient operations calculations.

**S35:** Apply balancing and flow optimisation techniques.

**S37:** Perform commissioning of electrical HIU and mechanical HIU and a space heating circuit.



**For amplification and guidance refer to the HNMT Specification. A link to the HNMT Specification is available on page 9.**

<p>What tasks will I have to cover?</p>	<p>You will be observed carrying out 2 tasks specific to your Specialism:</p> <p><b><u>Distribution System</u></b></p> <p><b>Task 1: Distribution system planned service</b> Carry out planned servicing tasks on a distribution system.</p> <p><b>Task 2: Distribution system unplanned maintenance</b> Visually inspect, fault find and carry out unplanned maintenance on a distribution system. The system must have faults pre-installed by the EPAO.</p> <p>The range of maintenance tasks must include:</p> <ul style="list-style-type: none"> <li>• the taking of flow, pressure and temperature measurements using portable instrumentation</li> <li>• remote operation of distribution plant equipment through BMS (Building Management System)</li> <li>• local operation of distribution equipment through the control panel</li> <li>• operation of E-Stop and safety circuits</li> </ul> <p><b><u>Residential System</u></b></p> <p><b>Task 1: HIU (Heat Interface Unit) and tertiary system (hot water and radiator or underfloor heating) commissioning and subsequent service.</b> Commission and service <b>ONE</b> of the following:</p> <ul style="list-style-type: none"> <li>• an electrical or mechanical HIU</li> <li>• a space heating circuit</li> </ul> <p><b>Task 2: Residential system unplanned maintenance</b> Visually inspect, fault find and carry out unplanned maintenance on a residential system. The system must have faults pre-installed by the EPAO.</p> <p>The range of maintenance tasks must include:</p> <ul style="list-style-type: none"> <li>• flow and balancing related faults</li> <li>• conducting HIU energy balance and efficient operations calculations</li> </ul>
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	<ul style="list-style-type: none"> <li>the taking of flow, pressure and temperature measurements using portable instrumentation</li> </ul> <p><b>The task(s) will allow you to undertake the activities required for the practical assessment. For further details refer to 'Knowledge, Skills and Behaviours (KSBs) Coverage' in Section 2 of the HNMT specification.</b></p>
<b>What resources can I use?</b>	<p>Equipment and resources needed for the practical assessment must be:</p> <ul style="list-style-type: none"> <li>provided by your employer / training provider</li> <li>a suitable premises</li> <li>the tools, equipment and PPE required for the job</li> <li>in good and safe working condition</li> </ul> <p>Relevant work instructions/manuals must be available in hard copy or electronically.</p>
<b>How many questions will I be asked?</b>	<p>The independent assessor:</p> <ul style="list-style-type: none"> <li>will ask a minimum of 3 questions</li> <li>may ask follow-up questions in order to seek clarification from you</li> </ul>
<b>Who will assess me?</b>	<p>An independent assessor, appointed by EEA.</p>
<b>Preliminary Grading</b>	<p>The independent assessor will award a preliminary grade. You must pass <b>ALL</b> the pass criteria in order to achieve a pass.</p>
<b>Overall grading for this component</b>	<p>Fail or Pass</p>

### Practice Component 2: Practical Assessment with Questioning

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

## Component 3: Interview based on an EPA Portfolio

### Overview

The interview is based on your EPA portfolio. An EPA Portfolio Template has been designed to assist you during your interview. You should use the EPA Portfolio to collate evidence in preparation for your interview. You will have **access to your EPA portfolio** throughout the interview. A set of tasks are provided to support the compilation of your EPA portfolio. Each task should help you to demonstrate how you have met the KSBs in order to carry out your occupational role as a Heat Network Maintenance Technician effectively and safely. The interview allows for testing of responses where there are a range of potential answers.



The following table outlines the procedure for conducting the interview based on an EPA portfolio:

Who will assess me?	1 independent assessor, approved by EEA will conduct the interview.
How will the interview be organised?	<p><b>Locations:</b> Your interview will take place at your employer's premises or a suitable venue.</p> <p> <b>Time:</b> Your interview must last 75 minutes. The independent assessor can increase the time of your interview by up to 10%, to allow you to respond to a question if necessary.</p> <p><b>Your interview will be:</b></p> <ul style="list-style-type: none"> <li>• a discussion between you and the independent assessor</li> <li>• face to face or remote, as agreed</li> <li>• assessed and outcomes will be recorded by the assessor on official EEA interview documents</li> <li>• recorded using the relevant technology such as Microsoft Teams or an audio recording device</li> </ul> <p>You will have <b>access to your EPA portfolio</b> throughout the interview.</p>
What topics will I have to cover?	<p>The interview focuses on the tasks in your EPA portfolio:</p> <p><b>Core</b></p> <ul style="list-style-type: none"> <li>• Environment and sustainability</li> <li>• Health and safety</li> <li>• Communication and working with others <ul style="list-style-type: none"> <li>◦ Communication and documentation</li> </ul> </li> </ul>

	<ul style="list-style-type: none"> <li>○ Information technology</li> <li>○ Team working, ethical practices and equity, diversity and inclusion</li> <li>● Quality assurance, continual professional development and continuous improvement</li> <li>● Core maintenance techniques and problem solving</li> </ul> <p><b><u>Residential Systems</u></b></p> <ul style="list-style-type: none"> <li>● Heat meters and network communications</li> </ul> <p>For further details refer to knowledge, skills and behaviours (KSBs) coverage in the HNMT Specification.</p> <p><b>A link to the HNMT Specification is available on page 9.</b></p>
How many questions will I be asked?	<ul style="list-style-type: none"> <li>● The independent assessor will ask at least 6 questions to explore your level of knowledge, skills and behaviours</li> <li>● Standardised open questions will be asked based on the contents of the evidence in your EPA portfolio</li> <li>● Follow-up questions in order to seek clarification</li> </ul>
Preliminary Grading	<p>The independent assessor will award a preliminary grade. You must pass <b>ALL</b> the pass criteria in order to achieve a pass. To achieve a distinction, you must achieve <b>All</b> the pass criteria and <b>ALL</b> the distinction criteria.</p>
Overall grading for this component	Fail, Pass or Distinction

## EPA Portfolio Requirements

The requirements are as follows:

### EPA Portfolio Template

Throughout the on-programme part of your apprenticeship you must compile an EPA portfolio to support you in your interview. During the interview the independent assessor will ask questions based on the evidence contained in your EPA portfolio.

For further guidance refer to:

- Section below 'How do I organise my EPA portfolio?'
- HNMT Specification Section 5: Guidance on EPA portfolio

### How do I organise my EPA portfolio?

You must complete an EPA Portfolio Template. You should request the EPA Portfolio Template from your training provider.

Your EPA portfolio template comprises of tasks to support the compilation of the portfolio. Each task should help you focus on the specific knowledge, skills and behaviours that will be assessed in the interview.

For each task there is:

- a series of questions to be answered
- a text box following each question for you to provide your response. These boxes will expand to take more text; however, quality of answer is more important than quantity. You will be able to use your answers as prompts in the interview
- tables for you to record evidence that supports the examples provided in response to the questions. A copy of the tables can be found in Appendix B

Your EPA portfolio is **not assessed**. It serves the following purposes:

- A carefully prepared EPA portfolio will support you during the interview
- Your organised EPA portfolio will allow you to refer to examples and discuss the evidence with the independent assessor
- It allows the assessor to review it before the interview to help focus and contextualise the questions that you will be asked

## What should I include in my EPA portfolio?

### Quality vs quantity



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

We would advise you to choose the best pieces of evidence to support the answer to each question in the EPA portfolio template. Your completed EPA portfolio must contain the tasks with your responses and at least one piece of evidence backing up each of the questions. A piece of evidence may cover more than one question. No other evidence should be included.

### Examples of acceptable evidence:

- workplace documentation/records, for example: job task sheets/job card/times sheets, equipment maintenance /service records related to you
- workplace policies and procedures
- witness statements signed and dated by coaches/trainers
- any employer contributions should focus only on direct observation of evidence (for example witness statements) rather than opinions
- annotated photographs/diagrams
- video clips (maximum total duration 10-minutes); you must be in a view and identifiable

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



You **must not** include in your portfolio any methods of self-assessment or reflective accounts.

### Evidence must be:

- produced by you (authentic)
- relevant to the task
- cross referenced and easily accessible in the portfolio
- produced during the time you were carrying out your on-programme training

## What can I do to prepare for the interview?

You should:

- ensure there is quality evidence to cover the KSBs in the EPA portfolio template
- be familiar with the structure of your EPA portfolio
- know the tasks/KSBs covered by the interview
- know where you have referenced your evidence by referring to your EPA Portfolio Evidence Log. A copy is included in Appendix B
- 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 portfolio by:

- providing clear instructions and deadlines to allow you to plan and compile your portfolio in preparation for the Gateway meeting
- advising on which pieces of evidence to select
- authenticating evidence as valid
- signing off the EPA portfolio
- submitting your portfolio to Energy & Environment Awards as part of Gateway requirements

## Practice Component 3: Interview based on an EPA Portfolio

You should have an opportunity to have a practice interview which mirrors the real assessment. The practice interview 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 three assessment components.

In order to gain a pass, you must achieve a minimum of a pass in each EPA component. A pass represents full competence against the standard.

To achieve a distinction grade, you must achieve a distinction in the Multiple-choice test and the Interview based on an EPA portfolio and a pass in the practical assessment with questions.

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

Multiple-choice test	Practical assessment with questions	Interview based on an EPA portfolio	Overall grading
Fail in any component			<b>Fail</b>
Pass	Pass	Pass	<b>Pass</b>
Distinction	Pass	Pass	<b>Pass</b>
Pass	Pass	Distinction	<b>Pass</b>
Distinction	Pass	Distinction	<b>Distinction</b>

## Section 4: Resits and retakes

If you fail one or more EPA component 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 re-sit is typically taken within 3 months of the EPA outcome notification. The timescale for a re-take is dependent on how much re-training is required and is typically taken within 4 months of the EPA outcome notification.

Failed EPA component(s) must be re-sat or re-taken within 6 months of the EPA outcome notification, otherwise the entire EPA will need to be re-sat or re-taken in full.

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 a pass if you need to re-sit or re-take one or more assessment methods, unless Energy & Environment Awards determines there are exceptional circumstances.

Energy & Environment Awards resit and re-take policy can be found at:  
[Policies and Fees - Energy & Environment Awards](#)

## Section 5: 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 taught throughout the apprenticeship. Their role as an Independent Assessor would involve assessing components 2 (practical assessment with questions) and 3 (interview based on an EPA portfolio)

**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 Skills England current criteria. For further details refer to:  
[Heat network maintenance technician / Skills England](#)

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

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