ENERGY & ENVIRONMENT AWARDS

Skills for a greener world

EEA Level 3 End-point Assessment Water Industry Network Technician
(Water distribution network technician; Water leakage technician; Wastewater network technician)

Specification

QAN 610/6025/2
ST1292 V1.0

Specification for

EEA End-point Assessment for Level 3 Water Industry Network Technician

(Water distribution network technician; Water leakage technician; Wastewater network technician)

QAN 610/6025/2

Updates to this specification

Since the first publication of Energy & Environment Awards Water Industry Network Technician Specification – (Water distribution network technician; Water leakage technician; Wastewater network technician) the following updates have been made.

Version	Date first published	Section updated	Page(s)
v3.0	August 2025	Rebranded	All
v2.0	June 2023	Rebranded	All
v1.2	Jan 2023	Responsibility of invigilator	42
v1.01	Nov 2022	First published	All

Section 1: At a Glance EPA Summary

Qualification name	EEA Level 3 End-point Assessment for Water Industry Network Technician
Ofqual qualification number	610/6025/2
Standard reference	ST1292
Assessment plan	AP01
Standard title	Water Industry Network Technician
Pathways	Water distribution network technician Water leakage technician Wastewater network technician
Level	3
Gateway pre-requisites submitted to Energy & Environment Awards	Apprentice has: • Achieved English and mathematics at level 2 • Compiled and submitted a portfolio of evidence, which will underpin the interview
On-programme duration	Typically 30 months
Gateway readiness	Apprentice has met all Gateway pre-requisites. Employer completes, signs and submits Gateway Eligibility Form (GER) form to Energy & Environment Awards. See Appendix B, Supporting Documents 'Gateway Eligibility Form.'
End-point assessment duration	Typically 4 months after the Gateway

End-point assessment methods and their order	• Can be delivered in any order. • The result of one assessment method does not have to be known before an apprentice starts the next one
End-point assessment methods and component grading	Observation with questions: Fail, Pass or Distinction Interview underpinned by a portfolio of evidence: Fail, Pass or Distinction Multiple-choice test: Fail, Pass or Distinction
Overall Grading	Fail; Pass; Merit or Distinction
Certification	Energy & Environment Awards request Apprenticeship completion certificates from the ESFA
Glossary of Terms	Appendix A, WINT Supporting Documents

Objective

The purpose of the Water Industry Network Technician (WINT) end-point assessment (EPA) is to test that an apprentice is fully capable of doing their job before they receive their apprenticeship certificate. It also helps to demonstrate that what an apprentice has learned can be applied in the real world.
Once the apprentice has completed the WINT end-point assessment requirements successfully and has been certified they could take on the following job roles:

- Network customer technician or inspectors
- Quality assurance technician
- Sewer network inspector
- Sewerage technician
- Wastewater network technician
- Wastewater sewerage network technician
- Water distribution leakage technician
- Water distribution network technician

- Water field technician
- Water recycling technician

Professional recognition

This apprenticeship standard aligns with

- The Institute of Water for Registered Environmental Technician (REnvTech).

The experience gained and responsibility held by the apprentice on completion of the apprenticeship will either wholly or partially satisfy the requirements for registration at this level.

- The Institute of Water for Engineering Technician (EngTech).

The experience gained and responsibility held by the apprentice on completion of the apprenticeship will either wholly or partially satisfy the requirements for registration at this level.

- The Science Council for Registered Science Technician (RSciTech).

Upon successful completion of the apprenticeship and upon receipt of the apprenticeship certificate, individuals are eligible to apply for RSciTech through a shortened application route. Individuals also need to be a member of a professional body that is licensed by the Science Council to be awarded this status. Further information is on the Science Council's website.

Gateway Readiness

The employer must be satisfied that the apprentice is consistently working at, or above, the level of the occupational standard. Gateway pre-requisites are listed in the summary table above.

Recognition of prior learning (RPL)

Energy & Environment Awards does not recognise any apprentice prior learning (RPL) or prior achievement (RPA) for the purpose of amending the assessment requirements of any end-point assessments.

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

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

- each of the EPA components must be completed in full with Energy & Environment Awards
- where an apprentice transfers to Energy & Environment Awards from another EPAO they have to undertake the entire EPA with Energy & Environment Awards
- components of the EPA cannot be certificated in isolation
- evidence produced for the portfolio must be related to the time the apprentice is on their apprenticeship programme to demonstrate current practice
- examples used by the apprentice, during the interview, must relate to the time they were on their apprenticeship programme

This does not affect the Gateway requirements which must be met in order for an apprentice to be eligible for end-point assessment.

This does not affect any reasonable adjustments that may be granted.

Section 2: End-point Assessment Components

Component 1: Observation with Questions

Overview

In an observation with questions, an independent assessor observes an apprentice in their workplace. The apprentice completes their day-to-day duties under normal working conditions. This allows the apprentice to demonstrate the required KSBs through naturally occurring evidence. The independent assessor may ask questions both during and after the observation. To remain as unobtrusive as possible, independent assessors will ask questions during natural stops between tasks and after completion of work rather than disrupting the apprentice's flow. Simulation is not permitted during the observation.

Step-by-Step Guide

The table below provides a step-by-step guide on how the observation with questions will be carried out:

Assessors	1 independent assessor, appointed by Energy & Environment Awards.
Practical structure	The observation must take 6 hours The observation may be split into discrete sections held on the same working day Questioning may occur both during and after the observation. The time for questioning is included in the overall time There may be breaks during the observation to allow the apprentice to move from one location to another and for meal/comfort breaks During these breaks, the clock must be stopped and then restarted to ensure that the assessment duration is not reduced
Where will the assessment take place?	The observation will take place in the apprentice's normal place of work such as • their employer's premises • a customer's premises

	Questioning that occurs after the observation should take place in a quiet location free from distractions and influence
What are the tasks that will be covered?	The apprentice will undertake the following activities: Core activities • liaise with customers • survey and arrange street works and traffic management requirements • maintain health and safety • maintain asset security • maintain network digital data and documentation Activities in the context of the apprentice's occupational context (option): water distribution, leakage, or wastewater: Option 1. Water distribution network technician activities • conduct valve operations in public access area • test water quality Option 2. Water leakage technician activities • carry out leakage detection in public access area - validating the result and identifying action required Option 3. Wastewater network technician activities. • remove mains blockages in public access area • conduct asset inspection The independent assessor will ask questions about KSBs that were not observed to gather assessment evidence.
Who sets the task(s)?	Employers set the task based on Energy & Environment Awards template provided within in the Support Documents. The task must provide apprentices with the opportunity to achieve all the KSBs assessed in the observation. Tasks completed during the observation should contribute to workplace productivity and must be valid.
What resources can the	Equipment and resources needed for the observation must be • provided by the employer • the tools, equipment and PPE required for the job

apprentice use?	• in good and safe working condition. Work instructions/manuals must be available in hard copy or electronically
How many questions will the apprentice be asked?	The independent assessor: • will ask a minimum of five questions • may ask follow-up questions in order to seek clarification • will ask questions about KSBs that were not observed to gather assessment evidence. These questions are in addition to the minimum five questions for the observation
What will the questions focus on?	Underpinning knowledge and/or skills and behaviours where an opportunity to observe them has not occurred.
Grading	Fail, Pass or Distinction.

Observation Knowledge, Skills and Behaviours (KSBs) coverage

The observation with questions covers:

Observation Elements: Knowledge	Amplification and Guidance
K4 Operational and quality systems and procedures. Escalation procedures. What they are and how to use them	**Operational and quality systems and procedures**: such as Water Network and Water Leakage – may include company requirements and procedures relating to customer contacts, Calm network procedures, disinfection procedures, safe working on the highway, valve operations, leakage detection, interruption to supply Wastewater network – may include company requirements and procedures relating to customer contacts, Jetting, CCTV, hydrant disinfection procedures, safe working on the highway, DSEAR, Confined spaces, working at height **Escalation procedures**: a knowledge of the escalation process
K5 Digital documentation requirements (data logging) for example, maintenance records, and asset check records	To support **distinction** requirements the apprentice should be able to explain the importance of updating mapping systems and having correct mapping records. Consideration should be given to potential impact on the network and customers

Observation Elements: Knowledge	Amplification and Guidance
K8 New Roads and Street Works Act (NRSWA) - signing, lighting, and guarding	Should also be evidenced by production of the NRSWA qualification ID card
K12 Asset security requirements and procedures	
K16 Communication techniques: verbal, written and electronic. Adapting style to audience	Communication should be professional with correct use of terminology
K17 Customer service techniques. Priority customers	
K18 Documentation requirements for example maintenance records, asset check records	
K30 Water distribution network technician. Valve and hydrant operations. Interruption to supply (DG3)	To support distinction requirements the apprentice should be able to explain the • importance of valve and hydrant operations in maintaining a calm network • impact of pressure transients on company assets and customers
K54 Wastewater network technician. Fat, oil, grease, and un-flushables procedures	

Observation Elements: Knowledge	Amplification and Guidance
K56 Wastewater network technician. Investigatory equipment operations for example, CCTV operations	

Observation Elements: Skills	Amplification and Guidance
S1 Comply with (water or wastewater) industry regulations and procedures	
S2 Complete risk assessments: identify and document risks and hazards in the workplace. Apply control measures	**Risk assessments**: types of risk assessments such as for generic site, site specific and dynamic. Hazards such as chemicals; confined spaces; working at height; isolation of equipment; gases; working on the highway: using tools and equipment. Control measures are how they're implemented; consequences of not carrying out risk assessments
S3 Comply with health and safety regulations, and safe working and security practices and procedures	
S4 Set out and remove signing, lighting, and guarding	Should also be evidenced by production of the NRSWA qualification ID card
S5 Conduct vehicle checks	

Observation Elements: Skills	Amplification and Guidance
S9 Trace and locate network services	Using maps, plans, digital systems and electronic locating equipment. Wastewater networks – dye tracing
S11 Check technician tools and equipment. Conduct maintenance for example, calibration	Pre use checks. May include calibration of hand held testing equipment such as chlorine and ammonia monitors, zeroing CCTV cameras
S15 Interpret digital mapping systems and update	
S16 Complete work documentation: enter and record data and information using digital technology for example, hand-held devices	Documentation should be filled out fully and correctly
S17 Read and interpret written information. For example, work instructions, and service level agreements	
S20 Communicate verbally and in writing. For example, with colleagues, customers, and stakeholders. Use water industry terminology where appropriate	
S21 Identify and escalate issues	Comply with company procedures
S22 Provide advice and guidance to customers	Comply with company procedures and provide guidance to the level of their authority

Observation Elements: Skills	Amplification and Guidance
S28 Water distribution network technician. Identify different valve types. Operate multiple valves, hydrants and washouts including isolation and recharging of mains	Comply with company procedures for operating network assets
S29 Water distribution network technician. Follow hygiene practices for example, disinfect equipment	
S30 Water distribution network technician. Select and use water quality testing equipment to test for water quality for example, chlorine, turbidity, taste, odour, and clarity	Select, inspect and use the appropriate tools and equipment for the task being undertaken
S35 Water distribution network technician. Inspect and check network assets for example, air values, PRV, critical values, fire hydrant. Identify action	Comply with company procedures for inspecting and checking network assets
S37 Water leakage technician. Install pressure gauges.	Comply with company procedures for installing network assets
S39 Water leakage technician. Follow hygiene practices for example, disinfect equipment	
S40 Water leakage technician. Set up temporary loggers (flow and pressure)	Comply with company procedures for installing network assets

Observation Elements: Skills	Amplification and Guidance
S41 Water leakage technician. Select and use initial leakage detection equipment and methods. For example, acoustic and electronic, data logging, ground microphones, and correlators	Select, inspect and use the appropriate tools and equipment for the task being undertaken
S42 Water leakage technician. Use specific leakage detection equipment and methods to identify leakage pin-point for example, network or customer side	Select, inspect and use the appropriate tools and equipment for the task being undertaken. To support **distinction** requirements the apprentice should be able to demonstrate how task efficiencies were achieved through the choice of equipment. Examples of efficiencies could include the use of the equipment's advanced features
S44 Water leakage technician. Read and interpret technical data for example, flows and pressures	Use available data to identify and interpret network condition
S48 Wastewater network technician. Trace or locate drain or sewer	Using maps, plans, digital systems and electronic locating equipment, dye tracing
S49 Wastewater network technician. Complete visual inspection to check assets for example, combined sewer overflow, non-return valves, flow control devices, and storage tanks. Identify action	Comply with company procedures for inspecting and checking network assets

Observation Elements: Skills	Amplification and Guidance
S51 Wastewater network technician. Use digital inspection equipment for example, CCTV to check assets. Identify action	Select, inspect and use the appropriate tools and equipment for the task being undertaken. Use available data to identify and interpret network condition and if any action is required
S53 Wastewater network technician. Select and use blockage removal equipment for example, rods and jetting equipment	Select, inspect and use the appropriate tools and equipment for the task being undertaken To support distinction requirements the apprentice should be able to demonstrate how task efficiencies were achieved through the choice of equipment. Examples of efficiencies could include the use of the equipment's advanced features
S54 Wastewater network technician. Select and use equipment to apply first line maintenance techniques for example, replace seals, lubricate, de-silt, and de-scale	Select, inspect and use the appropriate tools and equipment for the task being undertaken. May include check and clean the in-line filters on jetter, addition of anti-freeze to the jetter, check oil, check/replace burst seals/discs, check and inspect NRV, lubricate mechanical CSO

Practical Observation Elements: Core Behaviours	Amplification and Guidance
B1 Prioritise and promote public health, workplace health and safety, and security	Examples of typical behaviours include • no preventable injuries, accidents, environmental incidents • consistently follows policies, procedures and standard operating practices as directed • consistently applies health and safety knowledge to work activities and has an awareness of the impact of changing circumstance • takes personal responsibility for their own and others health, safety and security, and assesses risks • seeks guidance on health and safety issues when not confident • identifies distractions and deals with them accordingly to enable tasks to be achieved safely
B3 Apply a professional approach	Examples of typical behaviours include: • timekeeping, attendance, behaviours all meet expectations required • takes action to deliver on time, recognising the impact they have on other people if they don't. where potential

Practical Observation Elements: Core Behaviours	Amplification and Guidance
	delays or issues are unavoidable informs others promptly. • listens to and acts on feedback to build on what has gone well to learn and improve • ensures other people have the information they need to make the right decision quickly and to do their job well
B4 Take ownership for work and responsibility for the quality of work and impact on others	Examples of typical behaviours include: • maintains personal accountability and ownership to resolve issues • maintains self-discipline and motivation to achieve required outputs • demonstrates understanding of internal customer concept and treats all customers with high levels of sensitivity and respect • interacts with the public in a courteous and cooperative manner • completes other required tasks within competence levels without hesitation, including additional assignments after expected/delegated work is completed • works well with a range of people

Observation Roles and Responsibilities

Role	Responsibility
Independent Assessor	Record and report assessment outcome decisions for each apprentice, following instructions and using assessment recording documentation provided by Energy & Environment Awards.
Employer/Training Provider	Provide the venue for the observation with questions which must be suitably equipped to allow the apprentice to attempt all aspects of the observation with questions Provide all necessary tools and equipment for the apprentice Ensure the apprentice has access to the resources used on a daily basis
Energy & Environment Awards	Arrange for the observation to take place, in consultation with the employer/training provider and assessor

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

Overview

The interview is based on the apprentice's portfolio of evidence. The interview will allow an independent assessor and an apprentice to have a formal two-way conversation. It will give the apprentice the opportunity to demonstrate their competency across the required KSBs.

Step-by-Step Guide

The table below provides a step by step guide on how the interview based on the portfolio of assessment will be carried out:

Assessors	1 independent assessor approved by Energy & Environment Awards
Interview (based on a portfolio) structure	**Number of questions:** At least 10 open questions. Additional follow up questions are allowed, to seek clarification **Location**: a quiet room, free from distractions and influence **Time**: 90 minutes **The interview will be:** • face to face or remote, as agreed • recorded in writing using an interview record template provided by Energy & Environment Awards • video recorded using relevant technology such as Microsoft Teams or an audio recording device • conducted under controlled conditions The apprentice will have access to their portfolio of evidence throughout the interview The apprentice will have at least two weeks' notice of the interview
What topics will be covered?	Questions will cover the following topics, a minimum of one question per topic will be asked: Core • working in the water industry • the environment and sustainability

	• collecting evidence • fault-finding and problem solving; making recommendations • team working • information technology and written communications The themes will be assessed in the context of the apprentice's occupational context (option): water distribution, leakage, or wastewater **Water distribution network technician** • detecting leakage • pressure and flow measurement • water sampling • network optimisation • network maintenance • water fittings regulations **Water leakage technician** • monitoring leakage performance • contributing to leakage trials • step testing • maintenance of meters or loggers **Wastewater network technician** • responding to pollution incidents • reacting to alarms • combined sewer overflow maintenance • specialist techniques
When will the portfolio of evidence be submitted and referred to?	**The portfolio of evidence:** • will be reviewed by the independent assessor before the interview • can be referred to by the apprentice to illustrate their answers **Note:** the portfolio of evidence • is not directly assessed • must be submitted to Energy & Environment Awards at Gateway

Grading	Fail, Pass or Distinction

Portfolio of Evidence Requirements

The requirements are as follows:

Portfolio Mapping Document The apprentice must map their portfolio of evidence to the KSBs as this evidence will be used by the independent assessor to assess the apprentice during the interview. The portfolio mapping document must be clearly referenced and included at the front of the portfolio. For further guidance on mapping refer to: • Section 5 Practice Guidance on portfolio of evidence and apprentice mapping • Appendix D, Acronym Supporting Documents 'Portfolio Mapping Document.'
How will the training provider submit the apprentice's Portfolio to Energy & Environment Awards? As part of the pre-requisite gateway requirements the apprentice must have complied and completed a portfolio of evidence The training provider must submit the portfolio of evidence to Energy & Environment Awards, either in an electronic or paper format, at the same time as the other Gateway pre-requisites

Interview Knowledge, Skills and Behaviours (KSBs) coverage

The Interview based on portfolio of evidence covers:

Interview Elements: Knowledge	Amplification and guidance
K2 Technician's role. Limits of autonomy. Different teams and functions involved in operations: how they work together	
K14 Fault finding and problem-solving techniques: root cause analysis and diagnostics. Optimisation	**Fault finding and problem-solving techniques** include sensory perception: visual, trend analysis, previous history, comparison of information sources, loggers, locating assets, incorrect mapping / data sources, waste water specific – dye testing Optimisation – rezoning, installation / change of assets, change of planned maintenance frequency Apprentices should include at least two examples of identifying and resolving issues in their portfolio
K15 Information and digital technology: email, word processing, spreadsheets, presentation, remote working platforms, and	Apprentices should include • at least two examples of information and digital technology use

Interview Elements: Knowledge	Amplification and guidance
work and asset management systems. General Data Protection Regulation (GDPR). Cyber security	• evidence to demonstrate understanding application of GDPR and cyber security
K19 Team working and culture. How to work as part of a team, the importance of establishing and meeting the requirements of different roles. Negotiation and conflict management techniques	Negotiation techniques such as speaking, listening, being flexible, understanding the situation from both sides Conflict management techniques such as being aware of the situation, speaking, listening, collaborating, compromising
K20 Equality, diversity, and inclusion in the workplace	Examples • acts in a fair and honest manner when dealing with colleagues and customers and tries to do the right thing • recognises regulatory standards and legal requirements and applies them in principle as well as in practice • acts in the spirit of what is intended to meet customers' needs • working with others across a team
K27 Water distribution network technician. Types of maintenance: planned preventative maintenance, and reactive. Calibration requirements	Maintenance may include exercising & lubricating valves, installation of loggers, conduct high velocity mains cleansing and low turnover flushing

Interview Elements: Knowledge	Amplification and guidance
	Maintenance and calibration of equipment such as water meters, pressure and flow loggers, correlators, CAT & Genny To support distinction requirements the apprentice should be able to justify the use of planned preventative maintenance approach over others. The impact on cost, effectiveness or water quality could be considered
K28 Water distribution network technician. Water quality monitoring, sampling, and testing requirements and techniques. Equipment, resources, and materials used. Sampling points	Apprentices will need to have knowledge on compliance and performance monitoring requirements and the correct procedures to take water samples from suitable sampling locations using the correct equipment and materials. Wastewater apprentices will need to understand wastewater parameters, pollution identification procedures and sampling requirements On-site monitoring of parameters: such as chlorine, turbidity, and ammonia

Interview Elements: Knowledge	Amplification and guidance
	Techniques: such as quality assurance for sampling, potential sources of contamination, storage and usage of equipment, representative sample Materials: such as approved sampling equipment
K31 Water distribution network technician. Pressure management. Low Pressure Register (DG2)	Understand Guaranteed Standards Scheme (GSS) pressure requirements and company procedures for managing network assets To support distinction requirements the apprentice should be able to evaluate why meeting DG2 requirements is critical to the water industry
K32 Water distribution network technician. Leakage monitoring methods and equipment: leak noise correlators, ground microphones, listening stick, acoustic loggers, and step test. 'Reactive' use of flow meter data (telemetry or nightlines)	Knowledge and understanding of the use and suitability of different leakage detection methods and equipment
K36 Water leakage technician. Leakage detection operations. Sources of leakage. High users. Unaccounted for properties.	Knowledge and understanding the potential causes of water loss

Interview Elements: Knowledge	Amplification and guidance
Change of use of buildings. Theft investigation. Customer side leakage. Determining pipe ownership	
K37 Water leakage technician. Leakage performance monitoring methods and equipment: leak noise correlators, ground microphones, listening stick, acoustic loggers, and dynamic pressure modelling. Data logging operations. 'Proactive' use of flow meter data (telemetry or nightlines)	Knowledge and understanding of the use and suitability of different leakage detection methods and equipment
K38 Water leakage technician. New leakage technology trials	Comparison of different technologies
K41 Water leakage technician. Valve and hydrant operations	Knowledge of how to comply with company procedures for valve and hydrant operations such as Calm Networks
K43 Water leakage technician. Types of maintenance: planned preventative maintenance, and reactive. Calibration requirements	May include exercising & lubricating valves, installation of loggers Maintenance and calibration of equipment such as water meters, pressure and flow loggers, correlators, CAT & Genny
K45 Wastewater network technician. Regulatory pollution reporting requirements and individuals limits of authority. Flooding reporting (DG5)	Knowledge of how to comply with regulatory and company procedures for pollution reporting

Interview Elements: Knowledge	Amplification and guidance
	To support distinction requirements the apprentice should be able to evaluate the importance of meeting regulatory requirements
K52 Wastewater network technician. Types of maintenance: planned preventative maintenance, and reactive	May include knowledge of CCTV surveys and routine jetting operations To support distinction requirements the apprentice should be able to justify the use of planned preventative maintenance approach over others. The impact on cost, effectiveness or whole-life asset costs could be considered
K53 Wastewater network technician. Combined sewer overflows operation and maintenance requirements	Knowledge of regulatory requirements for CSO operation and company requirements for maintenance
K55 Wastewater network technician. Water jetting operations	Knowledge of the selection, checking, use and suitability of jetting equipment for a variety of situations. Should include the different pressure requirements, use of different nozzles and composition of sewers and drains.

Interview Elements: Knowledge	Amplification and guidance
K57 Wastewater network technician. Sonde equipment for location of blockages or defects	Knowledge of the selection, checking, use and suitability of sonde equipment for a variety of situations. Should include the different modes of operation

Interview Elements: Skills	Amplification and Guide
S6 Conduct and assess impact of activity for example, environmental, cost, reputation, safety, and health. Apply control measures	Apprentices will need to be able to talk about how they • conduct and assess the impact of activity • apply control measures in response to an incident
S7 Comply with environmental and sustainability regulations and requirements. For example, safe disposal of waste, re-cycling or re-use of materials, and efficient use of resources	Apprentices will need to be able to talk about how they comply with company environmental procedures within their working environment
S8 Apply principles of sustainable development. For example, in choice of materials	May include • considers use of resources • recycles waste materials • disposes of waste material following safe practices
S10 Collect mitigation data or evidence	

Interview Elements: Skills	Amplification and Guide
S12 Identify issues. Apply fault-finding and problem-solving techniques: identify root cause. Resolve faults	See K14
S13 Consider, identify, and promote areas for improvement. For example, in relation to quality, cost, time, safety, and impact	Apprentices will need to be able to talk about how they • conduct and assess the impact of activity • identify areas for improvement • promote recommendations To support **distinction** requirements the apprentice should be able to evaluate the actual or potential value of a specific suggested improvement
S14 Use information technology. Follow cyber security requirements. Comply with GDPR	
S18 Identify and organise resources to complete tasks. For example, equipment, traffic management, and personnel	Apprentices will need to include evidence in their portfolio which shows how they have planned their resources for a job and had to adapt resources and behaviour to meet changing work demands
S19 Prioritise work activities	Apprentices will need to include evidence in their portfolio which shows how they have prioritised their resources for a job

Interview Elements: Skills	Amplification and Guide
	To support **distinction** requirements the apprentice should be able to describe how they have achieved efficiencies of time or resource in their work
S23 Liaise with, negotiate with, and handle conflict in individual or group environments	Apprentices will need to be able to talk about how they liaise, negotiate, handle conflict in individual and group situations
S24 Water distribution network technician. Apply and enforce water fittings regulations to customer installations for example, rainwater harvest systems and solar panels	Apprentices will need to include at least one example in their portfolio of where they have applied and enforced water fitting regulations.
S25 Water distribution network technician. Read and interpret technical data for example, flows and pressures	Apprentices will need to include at least one example in their portfolio
S26 Water distribution network technician. Install pressure gauges	Apprentices will need to include at least one example in their portfolio
S27 Water distribution network technician. Conduct flow and pressure measurements	Apprentices will need to include at least one example in their portfolio
S31 Water distribution network technician. Sample for chemical and micro-biological analysis	Apprentices will need to include at least one example in their portfolio

Interview Elements: Skills	Amplification and Guide
S32 Water distribution network technician. Set up temporary loggers (flow and pressure).	Apprentices will need to include at least one example in their portfolio
S33 Water distribution network technician. Carry out network optimisation activity. For example, PRV, PSV, and air valve maintenance.	Apprentices will need to include at least one example in their portfolio
S34 Water distribution network technician. Select and use leakage detection tools and methods to identify source of leakage. For example, step testing, acoustic and electronic, data logging ground microphones, and correlators.	Apprentices will need to include at least one example in their portfolio
S36 Water distribution network technician. Select and use equipment to complete planned preventative maintenance. For example, conduct high velocity mains cleansing and low turnover flushing.	Apprentices will need to include at least one example in their portfolio
S38 Water leakage technician. Conduct step testing using valves.	Apprentices will need to include at least one example in their portfolio

Interview Elements: Skills	Amplification and Guide
	To support distinction requirements the apprentice should be able to justify how their step testing plan mitigated risks and ensured the planned outcome
S43 Water leakage technician. Conduct targeted DMA (district metered area) survey.	Apprentices will need to include at least one example in their portfolio
S45 Water leakage technician. Access, download, and interpret data from pressure and flow loggers.	Apprentices will need to include at least one example in their portfolio To support distinction requirements the apprentice should be able to evaluate data to justify potential approaches to improve network performance
S46 Water leakage technician. Test and assess application of innovative leakage equipment	Apprentices will need to include at least one example in their portfolio
S47 Water leakage technician. Apply maintenance practices to meters and loggers. Identify and arrange repairs	Apprentices will need to include at least one example in their portfolio
S50 Wastewater network technician. Use dye testing to trace and investigate cross or illegal connections	Apprentices will need to include at least one examples in their portfolio

Interview Elements: Skills	Amplification and Guide
S52 Wastewater network technician. Use sonde equipment	Apprentices will need to include at least one example in their portfolio
S55 Wastewater network technician. Follow alarm response procedures	Apprentices will need to include at least one example in their portfolio. May include a pollution incident or emergency reactive work

Interview Elements: Behaviours	Amplification and Guidance
B2 Prioritise and promote the environment, and sustainability	Examples of typical behaviours include • considers use of resources • recycles waste materials • disposes of waste material following safe practice
B5 Team-focus to meet work goals: support others	Examples of typical behaviours include • develops positive relationships with individuals to support specific issues • works well with a range of people • takes personal responsibility for their own and others health, safety and security, and assesses risks

Interview Elements: Behaviours	Amplification and Guidance
	• understands how they contribute to team and company results and how their decisions and the way they work impact on costs and other teams • takes action to deliver on time, recognising the impact they have on other people if they do not. Where potential delays or issues are unavoidable informs others promptly • ensures other people have the information they need to make the right decision quickly and to do their job well
B6 Respond and adapt to work demands	Examples of typical behaviours include • consistently follows policies, procedures and standard operating practices as directed • consistently applies health and safety knowledge to work activities and has an awareness of the impact of changing circumstance e.g. weather, new team members/people on site • takes personal responsibility for their own and others health, safety and security, and assesses risks

Interview Elements: Behaviours	Amplification and Guidance
	• seeks guidance on health and safety issues when not confident • identifies distractions and deals with them accordingly to enable tasks to be achieved safely • maintains composure in unfamiliar situations and adverse conditions, acting in a calm and confident manner • is rarely intimidated by others • knows the limitation of one's own experience and when/where to refer for support
B7 Committed to continued professional development to maintain and enhance competence in own area of practice	Examples of typical behaviours include • applies knowledge gained to work-related tasks with little or no support • keeps up to date with industry development • willingly participates in training to maintain or enhance current knowledge of principles, procedures, methods, and/or technology • understands the importance of maintaining competence and records progress

Interview Elements: Behaviours	Amplification and Guidance
	• attempts to improve performance following constructive feedback • follows policies set by supervisor without reminder

Interview Roles and Responsibilities

Role	Responsibility
Independent Assessor	Record and report assessment outcome decisions for each apprentice, following instructions and using assessment recording documentation provided by Energy & Environment Awards.
Employer/Training Provider	Ensure that the portfolio of evidence has been submitted to Energy & Environment Awards at Gateway. Ensure the interview based on the portfolio is scheduled with Energy & Environment Awards for a date and time which allow the apprentice to be well prepared Ensure the apprentice has access to their portfolio before and on the day of the interview
Energy & Environment Awards	Arrange for the interview to take place, in consultation with the employer/training provider and independent assessor.

Component 3: Multiple-choice Test

Overview

The multiple-choice test is paper based. Apprentices have 90 minutes to complete the test. It consists of 50 questions. 70% of the questions cover the core knowledge and 30% cover the option knowledge, relevant to the apprentice's option.

The multiple-choice questions will have four possible answers. One answer will be correct.

The test is closed which means that the apprentice cannot refer to reference books or materials

The Pass mark is 35 correct answers.

The Distinction mark is 43 correct answers.

For this paper:

- a (scientific) calculator is required
- access to the internet or intranet is NOT allowed

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

Multiple-choice Test Coverage

The table below lists each of the knowledge elements, assessed in the knowledge test, with additional amplification and guidance, where appropriate, from Energy & Environment Awards on the range and depth expected. Energy & Environment Awards has worked with employers and subject matter experts to develop the amplification and guidance.

Number of Questions	Knowledge	Amplification and Guidance (where required)
4-6	**K1 Core** Overview of water and wastewater industries Regulators and stakeholders (roles and powers): • Drinking Water Inspectorate (DWI) • Water Services Regulation Authority (OFWAT) • Customer Council for Water (CCWater) • Environment Agency (EA) • Health and Safety Executive (HSE) • Department for Environment Food and Rural Affairs (Defra) • Highway Authority • Market Operator Services Limited (MOSL) (wholesale and retail)	**Overview of water and wastewater industries:** An overview of water and wastewater industries i.e. how the water companies are permitted to operate, are governed and regulated, legislative requirements, licences required to be a water company

Number of Questions	Knowledge	Amplification and Guidance (where required)
2-4	**K3 Core** Business operation considerations: • How activities may impact customers ▪ financial constraints ▪ ethical business practices • Customer Experience Measure (CMEX). • Regulatory and legislative performance measures: ▪ Guaranteed Standards Scheme (GSS) ▪ Director General (DG) - response to written complaints (DG7)	
3-5	**K6 Core** Water and wastewater science Microbiological parameters Chemical parameters Aesthetic parameters Prescribed concentration or value, or legal limits	**Water and wastewater science:** to include: equipment for measuring distance, area, volume and flow; plus the list to the left **Industry target standards**: how they may vary across companies

Number of Questions	Knowledge	Amplification and Guidance (where required)
	Industry target standards: how they may vary across companies	
2-4	**K7 Core** Maths commonly used in the water and wastewater industries S.I units Calculations Standard form Measurement of distance, area, volume and flow, and unit conversion Simple transposition of formula Routine flow and hydraulics theories, principles, and calculations	**Maths commonly used:** fractions, decimals, percentages, averages, ratios and proportions, measurement (area, volume, circumference, temperature, pH), rounding, estimating, conversions **Calculations:** areas; volumes; gradients, flow rates, retention times, concentrations **Flow and hydraulics principles:** pressure, flow in pipe and open channels, frictional losses
1-2	**K9 Core** Access to Private Land, Streets and Wayleaves	
1-2	**K10 Core** Duty to maintain apparatus in streets (Highway defect notices – section 81)	

Number of Questions	Knowledge	Amplification and Guidance (where required)
13-15	**K11 Core** Health and Safety at Work Act – responsibilities Management of health and safety at work regulations Control of Substances Hazardous to Health (CoSHH) Risks and hazards Risk assessments and controlling risk Control methods for harmful substances and chemicals, effluents, and sludge Health and safety signage Personal Protective Equipment (PPE) Manual handling Reporting of Injuries, Diseases and Dangerous Occurrences Regulations (RIDDOR) Asbestos awareness Lone working Confined spaces awareness Awareness of excavation support Working at height Working time directive	

Number of Questions	Knowledge	Amplification and Guidance (where required)
	First aid Emergency procedures Drug and alcohol awareness Permits to work Storage of tools, equipment and materials ATEX compliance (safety requirements of the workplace and equipment used in explosive atmosphere) Dangerous Substances and Explosive Atmospheres Regulations (DSEAR) Pressure System Safety Regulations (PSSR) Provision of Work Equipment Regulations (PUWER) Lifting Operations and Lifting Equipment Regulations (LOLER) Safe isolation of plant and equipment (lockout, tagout)	
2-4	**K13 Core** Environment and sustainability Environmental Protection Act Types of pollution and control measures	**Principles of sustainable development** such as in choice of materials, re-cycling or re-use of materials

Number of Questions	Knowledge	Amplification and Guidance (where required)
	Principles of sustainable development Waste management and waste streams Invasive species Duty of Care in the Environmental aspect	
1-2	**K21 Water distribution network technician** The Water Supply (water fittings) regulations: • waste • misuse • undue consumption • erroneous measurement • contamination	
1-3 1-3	**K22 Water distribution network technician; and** **K34 Water leakage technician** National water hygiene: • importance of water • water as a carrier of disease • potential contamination and its consequences • preventing contamination	

Number of Questions	Knowledge	Amplification and Guidance (where required)
1-3	**K23 Water distribution network technician** Water science: • Liquids, gases, and solid states commonly found in water industry • Elements, molecules, compounds, and ions • The pH scale, acids, and alkalinity • Physical, chemical, and biological process definition	
3-5 4-6	**K24 Water distribution network technician; and** **K35 Water leakage technician** Water quality requirements Drinking water safety plans Water quality parameters and the role of water quality alarms Exceedance procedures Water quality incident investigation requirements Water quality records Consequences of failure	

Number of Questions	Knowledge	Amplification and Guidance (where required)
1-2	**K25 Water distribution network technician** Restoration of supplies Provision of alternative supplies	
2-4 4-6	**K26 Water distribution network technician; and** **K39 Water leakage technician** Water network assets and design: • pumps and control valves • air valves • PRVs (Pressure Reducing Valve) • PSVs (Pressure Sustaining Valve) • wash-outs and fire hydrants • pumping stations • treated water storage	
1-2 1-2	**K29 Water distribution network technician; and** **K40 Water leakage technician** Materials used in clean water networks (mains and services): regulation 31	

Number of Questions	Knowledge	Amplification and Guidance (where required)
1-2	**K33 Water distribution network technician** Sources of leakage High users Unaccounted for properties Change of use of buildings Theft investigation Domestic and commercial leakage Determining pipe ownership Notification process	Knowledge and understanding the potential causes of water loss, and the action required
1-3	**K42 Water leakage technician** Pressure management Low Pressure Register (DG2)	
2-4	**K44 Wastewater network technician** Wastewater science: Liquids, gases, and solid states commonly found in water industry Elements, molecules, compounds, and ions The pH scale, acids, and alkalinity	Wastewater science: to include: equipment for measuring distance, area, volume and flow; plus the list to the left

Number of Questions	Knowledge	Amplification and Guidance (where required)
	Physical, chemical, and biological process definition Nutrients Odour	
1-3	**K46 Wastewater network technician** Sewer performance and flow surveys	**Sewer performance**: sewer flooding, blockages, pollution events, defects, hydraulic overloading **Flow surveys:** how they are completed, and equipment used
1-3	**K47 Wastewater network technician** Working in confined spaces: • safety equipment • respiratory apparatus • lifting equipment	
1-3	**K48 Wastewater network technician** Wastewater networks assets and design: • new connections • adopted sewers • private sewers	

Number of Questions	Knowledge	Amplification and Guidance (where required)
	Pipework responsibilities and data capture	
1-3	**K49 Wastewater network technician** Wastewater networks construction materials	
1-3	**K50 Wastewater network technician** Wastewater network hydraulics and flow	
1-3	**K51 Wastewater network technician** Sewer pumping station operations	

Multiple-choice Test Roles and Responsibilities

Role	Responsibility
Invigilator	Approved by Energy & Environment Awards. Attend induction training as directed by Energy & Environment Awards.
Employer/Training provider	Ensure that the test is scheduled with Energy & Environment Awards for a date and time which allow the apprentice to be well prepared
Energy & Environment Awards	Arrange for the test to take place, in consultation with the employer/lead provider Mark multiple-choice test answers accurately according to the mark scheme and procedures

Section 3: Grading and Grading Criteria

Component 1: Observation with Questions

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

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

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

Observation KSBs	Pass Apprentices must meet all of the following pass descriptors statements	Distinction Apprentices must meet all the pass descriptors and all the following distinction descriptors statements
(Core) Work environment K8 K12 S2 S3 S4 S5 B1	Identifies and documents risks and hazards and applies control measures in-line with company procedures Prioritises and promotes public health, workplace health and safety, and security by complying with regulations, working practices and procedures, to ensure the working	

Observation KSBs	Pass Apprentices must meet all of the following pass descriptors statements	Distinction Apprentices must meet all the pass descriptors and all the following distinction descriptors statements
	environment is safe for themselves and others and secure Sets out signing, lighting and guarding in compliance with NRSWA requirements Conducts vehicle checks in line with company procedures	
(Core) Work preparation S9 S11 S17	Traces and locates network services required for the task Checks tools and equipment are safe for use. Completes maintenance of tools and equipment including checking calibration records and calibration where required	

Observation KSBs	Pass Apprentices must meet all of the following pass descriptors statements	Distinction Apprentices must meet all the pass descriptors and all the following distinction descriptors statements
	Reads and interprets written information correctly to establish task requirements	
(Core) Procedures K4 S1 S21 B4	Takes responsibility to complete tasks within limits of authority in compliance with industry regulations and company operational and quality procedures, identifying and escalating issues outside of limits of authority	
(Core) Communication and customer service K16 K17 S20 S22 B3	Applies a professional approach using verbal, written and electronic communication techniques suitable for the context, adapting style and use of terminology to suit the audience. Uses sector and industry terminology correctly Provides advice and guidance to customers to meet their needs	Provides additional information to add value for example, provides leaflets to support advice, promotes digital interaction

Observation KSBs	Pass Apprentices must meet all of the following pass descriptors statements	Distinction Apprentices must meet all the pass descriptors and all the following distinction descriptors statements
(Core) Documentation K5 K18 S15 S16	Interprets digital mapping systems to understand asset location and configuration required for the task. Updates digital mapping systems for example, enters corrective action updates identified during the task Completes digital work documentation required for tasks - entering and recording data and information correctly and in full	Explains the importance of updating mapping systems and correct mapping records in relation to the potential impact on the network and customers
(Water distribution network technician) Valve operations K30 S28 S29 S35	Identifies different valve types correctly. Operates multiple valves, hydrants, and washouts including isolating and recharging of mains to achieve task requirements in line with company's procedures and DG3 requirements	Explains the importance of valve and hydrant operations in maintaining a calm network and the impact of pressure transients on company assets and customers

Observation KSBs	Pass Apprentices must meet all of the following pass descriptors statements	Distinction Apprentices must meet all the pass descriptors and all the following distinction descriptors statements
	Follows hygiene practices in line with industry and company's procedures Inspects and checks network assets confirming operability, integrity, and status – identifying action required	
(Water distribution network technician) Test water quality S30	Selects and uses water quality testing equipment to test for water quality parameters in line with company's procedure to ensure water quality compliance	
(Water leakage technician) Leakage detection S37 S39 S40 S41 S42 S44	Installs pressure gauges safely in line with manufacturers and company procedures Follows hygiene practices in line with industry and company procedures	Use of selected equipment achieves task efficiencies; for example, mitigates against potential errors (right first time), applies advanced equipment features and functionality

Observation KSBs	Pass Apprentices must meet all of the following pass descriptors statements	Distinction Apprentices must meet all the pass descriptors and all the following distinction descriptors statements
	Sets up temporary loggers in line with manufacturers and company procedures Selects and uses leakage detection equipment and methods suitable for the network assets to detect source of leakage and validates the result for example, velocity check and filtering Selects and uses specific leakage detection equipment and methods to identify leakage pin-point Reads and interprets technical data correctly for example, from pressure gauges and temporary loggers, identifying units of measurement	

Observation KSBs	Pass Apprentices must meet all of the following pass descriptors statements	Distinction Apprentices must meet all the pass descriptors and all the following distinction descriptors statements
(Wastewater network technician) Remove mains blockages K54 S53	Selects and uses blockage removal equipment appropriate for the task in line with company's procedures	Use of selected equipment achieves task efficiencies; for example, mitigates against potential errors (right first time), applies advanced equipment features and functionality
(Wastewater network technician) Asset inspection K56 S48 S49 S51 S54	Traces or locates drain or sewer required for the task Completes inspection – visual and using digital equipment – to check assets, identifying any issues and action required. Uses digital inspection equipment in line with manufacturer's instructions for use	

Observation KSBs	Pass Apprentices must meet all of the following pass descriptors statements	Distinction Apprentices must meet all the pass descriptors and all the following distinction descriptors statements
	Selects equipment appropriate for the task and applies first line maintenance techniques in line with company's procedures	

Component 2: Interview based on a portfolio of evidence

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

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

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

Interview KSBs	Pass Apprentices must meet all of the following pass descriptors statements	Distinction Apprentices must meet all the pass descriptors and all the following distinction descriptors statements
(Core) Working in the water industry K2	Explains their role, identifying how they work with different teams and functions involved in operations.	
(Core) The environment and sustainability S6 S7 S8 B2	Describes how they assess the impact of activity and apply control measures Describes how they comply with environment and sustainability regulations and procedures and apply the principles of sustainable	

Interview KSBs	Pass Apprentices must meet all of the following pass descriptors statements	Distinction Apprentices must meet all the pass descriptors and all the following distinction descriptors statements
	development in line with regulations and company procedures Describes how they prioritise and promote the environment and sustainability in the workplace	
(Core) Collecting evidence S10	Describes how they collect mitigation data or evidence to support investigations	
(Core) Fault-finding and problem solving: making recommendations K14 S12 S13	Describes how they apply fault-finding and problem-solving techniques, identifying the root cause of issues and resolving faults in line with procedures Describes how they consider, identify, and promote areas for improvement for example, in relation to quality, cost, time, safety, and impact	Evaluates the actual or potential value of a specific improvement suggestion

Interview KSBs	Pass Apprentices must meet all of the following pass descriptors statements	Distinction Apprentices must meet all the pass descriptors and all the following distinction descriptors statements
(Core) Team working K19 K20 S18 S19 S23 B5 B6 B7	Describes how they prioritise work activities and identify and organise resources to meet task requirements Describes how they respond and adapt to meet work demands Describes how they liaise, negotiate, and handle conflict in individual and group environments to achieve desired outcomes Describes how they support others to meet the team's work goals using team working techniques and taking account of equality, diversity and inclusion	Describes how they achieve efficiencies in the use of time or resources

Interview KSBs	Pass Apprentices must meet all of the following pass descriptors statements	Distinction Apprentices must meet all the pass descriptors and all the following distinction descriptors statements
	Describes CPD they have undertaken and future plans for CPD, explaining how they keep up to date with industry and individual development. Explains what the impact of their CPD has been and how it has benefited others and the business	
(Core) Information technology K15 S14	Describes how they use information technology for different purposes (email, word, excel, presentation, remote working platforms, work and asset management systems) Explains the importance of protecting data in line with legal and employer requirements. Explains measures they take to comply with general data protection regulations (GDPR) and cyber security and why it is important	

Interview KSBs	Pass Apprentices must meet all of the following pass descriptors statements	Distinction Apprentices must meet all the pass descriptors and all the following distinction descriptors statements
(Water distribution network technician) Detecting leakage K32 S34	Describes how they select and use different leakage detection tools and methods to identify the source of leakage for different leakage situations	
(Water distribution network technician) Pressure and flow measurement K31 S25 S26 S27 S32	Describes how they install pressure gauges safely in line with manufacturers' and company procedures Describes how they set up temporary loggers following manufacturers' or employer's guidelines to find out if there is a pressure or flow issue Describes how they conduct flow and pressure measurements, reading and interpreting	Evaluates why meeting DG2 requirements is critical to the water industry

Interview KSBs	Pass Apprentices must meet all of the following pass descriptors statements	Distinction Apprentices must meet all the pass descriptors and all the following distinction descriptors statements
	technical data correctly identifying units of measurement and confirming level of service	
(Water distribution network technician) Water sampling K28 S31	Describes how they select and use sampling equipment to test for chemical and micro-biological analysis in line with company procedure avoiding non-compliant samples for example, correct tap selection and transportation	
(Water distribution network technician) Network optimisation S33	Describes how they complete maintenance activity in line with company procedure to maintain or achieve network optimisation and maintain water quality	
(Water distribution network technician) Network maintenance K27	Describes how they select equipment appropriate for the task and use equipment safely to complete planned preventative	Justifies use of planned preventative maintenance approach over others for example, cost, effectiveness, impact on water quality

Interview KSBs	Pass Apprentices must meet all of the following pass descriptors statements	Distinction Apprentices must meet all the pass descriptors and all the following distinction descriptors statements
S36	maintenance in line with company procedures; ensuring equipment is in calibration date	
(Water distribution network technician) Water fittings regulations S24	Describes how they apply and enforce water fittings regulations for customer installations for different situations	
(Water leakage technician) Monitoring leakage performance K36 K37 S43 S45	Describes how they conduct targeted DMA surveys using leakage performance monitoring methods and equipment suitable for the network assets to detect source of leakage Describes how they access, download, and interpret data from pressure and flow loggers to make evidence based judgements about for example, high consumption users, meter faults, and usage trends	Evaluates data to justify potential approaches to improve network performance through optimisation and infrastructure improvement

Interview KSBs	Pass Apprentices must meet all of the following pass descriptors statements	Distinction Apprentices must meet all the pass descriptors and all the following distinction descriptors statements
(Water leakage technician) Contributing to leakage trials K38 S46	Describes how they test and assess the application of innovative leakage equipment to identify its benefits over existing equipment or technology	
(Water leakage technician) Maintenance of meters or loggers K43 S47	Describes how they apply maintenance practices to meters and loggers in line with manufacturer's instructions and company procedures - ensuring equipment is in calibration date, identifying and arranging repairs in line with company procedures.	
(Water leakage technician) Step testing K41 S38	Describes how they conduct step testing using valves in line with company procedures	Justifies how their step testing plan mitigated risks and ensured planned outcome for example, stakeholder and customer engagement, contingencies, network returned to normal operating status

Interview KSBs	Pass Apprentices must meet all of the following pass descriptors statements	Distinction Apprentices must meet all the pass descriptors and all the following distinction descriptors statements
(Wastewater network technician) Responding to pollution incidents K45	Describes regulatory pollution reporting requirements and individual's limits of authority and flooding reporting in line with industry procedures	Evaluates the importance of meeting regulatory requirements
(Wastewater network technician) Maintenance K52 K53	Explains different types of maintenance practices Explains the requirements for combined sewer overflows operation and maintenance in line company's procedures	Justifies use of planned preventative maintenance approach over others for example, cost, effectiveness, impact on whole-life asset costs
(Wastewater network technician) Reacting to alarms S55	Describes how they respond to alarms in line with company's procedures	

Interview KSBs	Pass Apprentices must meet all of the following pass descriptors statements	Distinction Apprentices must meet all the pass descriptors and all the following distinction descriptors statements
(Wastewater network technician) Specialist techniques K55 K57 S50 S52	Explains the circumstances when water jetting operations would be required and considerations for use Describes how they use sonde equipment for blockage or defect location in line with company's procedures Describes how they use dye testing to trace and investigate cross or illegal connections in line with company's procedures	

Component 3: Multiple-choice test

The following grade boundaries apply to the multiple-choice test:

Grade	Minimum mark	Maximum mark
Fail	0	34
Pass	35	42
Distinction	43	50

Overall grading

All assessment methods are weighted equally in their contribution to the overall EPA grade. Grades from individual assessment methods will be combined in the following way to determine the grade of the overall EPA as a whole.

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

Any grade = fail, pass or distinction

Section 4: Resits and retakes

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

The employer and Energy & Environment Awards agree the timescale for a re-sit or re-take. Failed EPA components must be re-sat or re-taken within the 3 month end-point assessment period, otherwise the EPA will need to be re-sat or re-taken in full.

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

An apprentice will get a maximum EPA grade of pass for a re-sit or re-take, unless Energy & Environment Awards determines there are exceptional circumstances.

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

Section 5: Practice Guidance

Preparing for the Observation with Questions

A template is provided in Appendix E to help ensure that the activities assessed during the observation will give complete coverage of the standard. The table below provides a step by step guide on to help prepare and deliver a practice observation with questions:

Structure	**Duration**: 6 hours including the questioning time May be split into discrete sections held on the same working day Breaks are allowed to enable movement between locations and for meal/comfort breaks. Breaks are not included in the assessment time You have the discretion to increase the time by up to 10% to allow the apprentice to complete a task or respond to a question **Location**: workplace, over one or more sites, under normal working conditions **Activities**: day-to-day activities. The activities are listed in Section 2. Simulation is not permitted during the observation
Resources	Equipment and resources needed for the observation must be in good and safe working condition Work instructions/manuals relating to the equipment/service for reference purposes. These can be electronic and/or hard copy Quiet room for questioning after the observation Document to record assessment of observation (see Supporting Documents, Appendix F) Bank of open-ended questions
Questions	Develop open-ended questions which focus on

	• the KSBs assessed in the observation • the Pass / Distinction grading criteria Ask questions both during and after the observation Ask at least five open ended questions Ask additional questions for KSBs not observed to gather assessment evidence. These questions should be kept to a minimum Ask follow-up questions if clarification is required
Delivery of the practice observation	A tutor or supervisor should adopt the role of assessor Assess apprentices in relation to the Apprenticeship Standard option they are completing (Water distribution network technician, Water leakage technician, Wastewater network technician) Record the assessment of how the apprentice performed using the Observation template (see Supporting Documents, Appendix F)

Starting the practice observation	At the start of the practice observation the person in the role of the assessor should:
	• introduce themselves as an assessor
	• confirm their role
	• provide information on the format of the day, including the timescales
	• ask the apprentice to
	  ○ give their full name
	  ○ their date of birth
	  ○ their employer name
	  ○ confirm they are prepared and can continue with the observation
	  ○ show their identification
	• state that an unsafe act/task which contravenes Health and Safety, will mean the observation is halted

	• confirm that
	  ○ notes will be taken
	  ○ feedback will not be given during the observation

After the practice observation	Provide feedback to the apprentice with guidance on what to do to improve their performance

Preparing for the Interview

The practice interview should take place between the apprentice and a person acting the role of the independent assessor. The apprentice should draw on evidence in their portfolio during the discussion.

Guidance on Portfolio of Evidence

The portfolio is not assessed. It serves two purposes:

- The assessor reviews it before the interview to help focus and contextualise their questions
- A carefully prepared portfolio supports the apprentice through the interview

Quality vs quantity

The apprentice should be supported in selecting and mapping evidence for the portfolio.

In theory one comprehensive job-write up could cover all the required KSBs. In practice, this is more likely to be several job write-ups plus a few smaller pieces of evidence targeting specific elements of the standard.

Choose the best pieces of evidence for each KSB covered by the interview. An assessor will look for one suitable piece of evidence for each KSB. To be confident of meeting the standard, apprentices should aim to have two pieces of evidence mapped to each KSB.

Examples of acceptable evidence:

- workplace documentation and records
- workplace policies and procedures, annotated by the apprentice to say how they use them in practice and when they have had to use them
- witness statements signed and dated by coaches/trainers

- annotated photographs/diagrams
- video clips (maximum total duration 20 minutes); the apprentice must be in view and identifiable
- job write-ups by the apprentice.

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

Evidence must be:

- produced by the learner (authentic)
- relevant to the standard (K,S or B) that it is mapped to
- produced during the time the apprentice is in training.

What to include in the portfolio

The portfolio of evidence:

- must contain a portfolio mapping document where evidence is mapped against the KSBs. A template has been produced to help apprentices with collecting and mapping their evidence. A copy of the template is included in the appendices
- must contain evidence related to the KSBs that will be assessed by the interview
- will typically contain ten quality discrete pieces of evidence
- will be available, during the interview, allowing the apprentice to refer to it.

What the apprentice can do

The apprentice should:

- get familiar with the structure of their portfolio
- get to know the KSBs covered by the interview
- get to know the grading criteria, including distinction grading, for the interview
- ensure there is evidence to cover every KSB in the interview
- practise mapping evidence and completing the portfolio mapping document.

The role of the training provider

Training providers are expected to support the apprentice in preparing their portfolio by:

- clarifying responsibility for supporting the apprentice to select and map evidence for the portfolio, including employer coaches/mentors where applicable
- advising on which pieces of evidence to select to ensure that when looked at as a whole, they provide coverage of all the required elements of the standard assessed in the interview
- supporting the mapping of evidence and production of a portfolio mapping document
- authenticating evidence as valid
- signing off the portfolio
- submitting the portfolio to Energy & Environment Awards as part of Gateway.

What to expect in the practice interview

The practice interview provides the apprentice with the opportunity to practice discussing their KSBs gained throughout their on-programme by referring to the evidence from their portfolio using the mapping document.

Step by Step Guide

The table below provides a step by step guide on how we recommend the practice interview based on the portfolio of evidence should be carried out:

Assessors	**Number of assessors**: 1 – The interview must be conducted by a subject matter expert who takes on the role of an Independent Assessor.
Structure	**Duration:** 90 minutes You have the discretion to increase the time of the interview by up to 10%, to allow the apprentice to complete their last answer **Location:** Employer's premises or a suitable venue for example a training provider's premises. The EPA interview is likely to be carried out remotely, i.e. that the assessor and apprentice are in different locations. Energy & Environment Awards would recommend that method of delivery this is mirrored in the practice interview **Number of questions:** A minimum of 10 open questions. Additional follow up questions are allowed, to seek clarification
Resources	Quiet room for interview Document to record assessment of interview (see Supporting Documents, Appendix F) Bank of open-ended questions Apprentice's portfolio
What should the apprentice do to prepare for the interview?	• Compile a portfolio and map the evidence using the mapping document (see Supporting Documents, Appendix D) • Practice answers to potential questions focussing on the topics listed below • Familiarise themselves with their portfolio so they can discuss, refer to and illustrate their answers with evidence recorded in their portfolio

Questions	Develop open-ended questions which focus on • working in the water industry • the environment and sustainability • collecting evidence • fault-finding and problem solving: making recommendation • team working • information technology • water distribution network technician: detecting leakage; pressure and flow measurement; water sampling; network optimisation; network maintenance; water fittings regulations • water leakage technician: monitoring leakage performance; contributing to leakage trial; maintenance of meters or loggers; step testing • wastewater network technician: responding to pollution incidents; maintenance; reacting to alarms; specialist techniques
Delivery of the practice interview	A tutor or supervisor should adopt the role of assessor Schedule before the live end-point interview and with enough time to provide feedback to the apprentice. We recommend a period of two weeks or more, depending on the circumstances Assess apprentices in relation to the Apprenticeship Standard option they are completing (Water treatment process technician, Wastewater treatment process technician) Clarify points or discuss in more detail any evidence presented in the portfolio Record the depth and breadth of the apprentice's responses using the Interview template (see Supporting Documents, Appendix G)
Starting the practice interview	At the start of the practice interview the person in the role of the assessor should: • introduce themselves as an assessor • confirm their role

	• provide information on the format of the interview, including the timescales
	• ask the apprentice to
	  ○ give their full name
	  ○ their date of birth
	  ○ their employer name
	  ○ show their identification
	  ○ confirm they are prepared and can continue with the interview
	  ○ confirm that the portfolio evidence relates to the KSB's that will be assessed during the interview
	  ○ switch off their mobile
	• confirm that notes will be taken
	If the practice interview is being done remotely, the assessor should ask the apprentice to
	• confirm their location and that no one else is present in the room
	• pan the camera 360º

After the practice interview	Provide feedback to the apprentice with guidance on what to do to improve their performance

Preparing for the Multiple-choice Test

While on-programme, the employer and or training provider should brief the apprentice on the areas to be assessed by the multiple-choice test, as detailed in Section 2. It is good practice to identify the areas within the learning programme where the relevant knowledge is delivered and ensuring that apprentices are aware that elements from each of these criteria might come up in the test.

The multiple-choice test is aligned to the standard rather than a specific job role that the apprentice may be doing. The questions have been written to reflect the relevant water industry network technician core and pathway as a whole and are not focussed on specific plant, machinery, or employer-specific processes.

In readiness for end-point assessment, the apprentice should complete a practice test, which is signposted in the appendices. This should be undertaken in advance of the live multiple-choice test, with enough time to mark the assessment, and provide feedback to the apprentice.

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

Section 6: Authenticity and security of apprentice work

The apprentices must be advised by their training provider and employer that copying of any work (whether it is from another apprentice or from internal, external documents or source) and presenting it as their own will be deemed as malpractice and will lead to their work being disqualified. Apprentices must not share their work or allow any person to copy their work as this is not allowed and would also be deemed as malpractice.

In signing off the portfolio, training providers and employers must be satisfied that the evidence in the portfolio is:

- **adequate**: evidence must cover all relevant KSBs within the assessment plan. Adequate does not mean a large quantity of evidence. The evidence should focus on quality rather than quantity
- **authentic**: apprentices must be able to confirm and talk about the evidence that they submit with the independent assessor, appointed by Energy & Environment Awards. It is vitally important apprentices only submit evidence relating to them
- **appropriate**: all evidence must be relevant to the KSBs assessed during the technical interview
- **recent and up to date**: all evidence must be linked to KSBs must be recent and current which demonstrate the apprentice's competence. The independent assessors, appointed by Energy & Environment Awards will assess current competencies, and the apprentice must map the evidence to demonstrate the relevant work to the KSB. Apprentices must gather the evidence during their on-programme training