ST0453 Level 3 Water treatment technician assessment plan

Introduction

This Apprenticeship Assessment Plan (AAP) sets out the requirements for the assessment of the Level 3 Water treatment technician apprenticeship. It should be read in conjunction with the General Requirements for Apprenticeship Assessment. Where there is conflict between this AAP and the General Requirements, this AAP takes precedence. Assessment organisations must also comply with the relevant regulatory framework for apprenticeship assessment.

It is important that the assessment of apprentices is proportionate, valid, and provides reliable evidence of an apprentice's attainment of the relevant knowledge and skills. As such, assessment organisations must design assessments to ensure:

- employers have confidence that the apprentice has reached the expected performance standard.
- apprentices are sufficiently secure in their knowledge and skills, so that they could demonstrate their competence in different contexts (for example, a different workplace).

Assessment Outcomes

The assessment outcomes group and summarise the knowledge and skills that must be demonstrated in assessments. All assessment outcomes must be assessed.

Knowledge and skills statements in **bold** are mandatory and must be assessed in every version of the assessment that is made available.

Core knowledge and skills

Assessment Outcome	Mapping
AO1: Health and safety compliance and risk management Understands and follows health and safety regulations and requirements to maintain a safe environment for themselves and others, ensuring safe access to water systems and handling of chemicals. Completes risk assessments and uses these to develop work plans and method statements for water treatment tasks.	**S1, S2, S3, S6***
AO2: Application of water treatment programmes Understands and applies chemical and microbiological theories to water treatment programmes and systems.	**K1*, K2, K3, K4, K5*, K6** **S11**

Assessment Outcome	Mapping
AO3: System performance assessment and problem solving Interprets test results and develops water treatment programme improvements and recommendations. Monitors water treatment programmes to identify, evaluate and resolve problems.	**K7*** S4, **S8*, S9*, S10*, S12*, S13**
AO4: Communication, resource management and professional development Selects, checks and uses resources and equipment effectively. Communicates technical information accurately to staff and site management. Maintains competence in their role by identifying and completing professional development.	**S5*, S7*,** S14, **S15*,** S16

OPTION ROUTE: Water treatment technician

Assessment Outcome	Mapping
AO5: Water system treatment programme performance options Uses knowledge of treatment options to assess water system performance and evaluate the suitability of alternative treatment programmes, providing recommendations for improvements.	K9, K10 **S18*, S20***
AO6: Treatment programme design, evaluation and presentation Understands water treatment requirements and designs, specifies and recommends water treatment programmes. Conducts meetings with customers, presenting and demonstrating recommendations.	K8 **S17*,** S19*, S21*

OPTION ROUTE: Water treatment equipment technician

Assessment Outcome	Mapping
AO7: Water treatment equipment design, installation and servicing Evaluates and designs water treatment equipment installations. Supervises a team installing, commissioning and servicing water	K12, K13 **S23, S24*, S26**

Assessment Outcome	Mapping
treatment equipment, ensuring health, safety and environmental compliance.	
AO8: System surveys and performance Conducts water system surveys and produces system diagrams. Uses knowledge of water treatment requirements to assess treatment programme performance.	K11* **S22*, S25***

OPTION ROUTE: Legionella risk assessor

Assessment Outcome	Mapping
AO9: Legionella risk assessment Applies the principles of risk assessment to assess the legionella risk posed by water systems. Identifies actions and reviews their implementation to minimise any risk**.**	**K14,** K15, K18 **S29, S30, S32***
AO10: Investigations Carries out site and system investigations and surveys and prepares water system diagrams and drawings. Prepares and presents findings to customers.	**K16,** K17 **S27*, S28,** S31*

OPTION ROUTE: Water treatment operations supervisor

Assessment Outcome	Mapping
AO11: Method statements, surveys and performance assessments Uses knowledge of risks, regulations and site to produce a method statement, system survey, system diagrams and control scheme for project direction and management. Assesses the performance and progress of the operation and makes adjustments as required.	K21, **K22** **S33*, S36*,** **S38***
AO12: Cleaning and disinfection programme implementation Applies chemical cleaning and disinfection programmes, installing, commissioning and servicing the equipment needed to complete the project. Supervises water treatment operatives and subcontractors.	K19, K20 **S34*, S35*, S37**

(*) Knowledge and skills statements which offer opportunities to develop functional English and maths are identified with an asterisk.

Assessment requirements

Assessment organisations must set apprenticeship assessments. Assessment organisations should consider how technology and digital tools can support innovation and efficiency.

Assessment organisations must design apprenticeship assessments to include an **observation**.

Any additional assessment(s) must be selected from the following list of methods to ensure the assessment outcomes are met in full:

- **knowledge test**
- **portfolio**
- **question and answer**

Assessment organisations must have due regard to any relevant frameworks, standards, guidance or other documents that may be published by industry regulators, professional bodies, and other representative groups.

Apprentices may be assessed at any appropriate point during their apprenticeship programme.

Assessments may be designed to allow a centre or training provider to mark assessments. The assessment organisation is responsible for ensuring all assessments are sufficiently reliable and valid, and for the accuracy of any centre or training provider marking.

Performance descriptors

Performance descriptors describe the level of performance required to achieve a pass or distinction grade. Assessment organisations must design assessments that align with these descriptions.

1. Core Knowledge & Skills (AOs 1–5)

Performance Category	Pass	Distinction
Applied Knowledge	Demonstrates sound application of factual, procedural and theoretical knowledge (for example water chemistry, microbiology, and treatment science) across	Applies a thorough understanding of factual, procedural and theoretical knowledge (for example water chemistry, microbiology, and treatment science) to

	routine and non-routine water treatment tasks to meet industry standards.	manage and resolve routine and non-routine water treatment tasks, meeting industry standards with discernment and skill.
Applied Skills	Identifies and applies appropriate skills, methods, and procedures to complete water treatment tasks and address challenges with a reasonable degree of autonomy and effectiveness.	Selects and integrates appropriate skills, methods and procedures proactively and resourcefully to complete water treatment tasks and address challenges effectively and with minimal oversight.
Regulatory and Procedural Awareness	Applies legislation, regulation, and guidance relevant to the role, without error, with some depth of insight and adaptability.	Demonstrates refined judgement in interpreting legislation, regulation, and guidance, confidently navigating nuanced issues in practice.
Communication and Collaboration	Participates effectively in team environments and demonstrates effective communication, presentation and water system demonstration skills to support task completion.	Communicates persuasively and adapts confidently to different audiences and team dynamics, taking initiative in delivering customer presentations, system demonstrations and colleague interactions.
Information Use and Decision Making	Accurately interprets and evaluates relevant information from a variety of sources to support practical and technical problem-solving in mostly familiar but sometimes complex water treatment contexts.	Evaluates diverse and sometimes conflicting information sources with critical insight, drawing informed conclusions that deliver efficiencies or water treatment programme improvements.
Responsibility and Autonomy	Takes responsibility for initiating and completing tasks within set parameters and contributes to guiding or supporting others.	Pre-empts the need for tasks to be initiated, within set parameters demonstrating accountability and responsiveness to emerging priorities or risks, and leading others to achieve team outcomes.