

# Water Treatment Technician

## Portfolio and Grading Guidance

### Overview

The portfolio is one of two assessment methods used in the Water Process Technician end-point assessment. The other method is a knowledge test.

The portfolio has two parts:

- Evidence of successful completion of the trade test, worth 44 points
  - These points are 'banked' when the apprentice passes the trade test
- The work log, scored out of a maximum 56 points

The work log may be in a paper and / or electronic format. It provides evidence of the range of water treatment experience and work carried out by the apprentice in the workplace, mapped to the requirements of the standard, as described in this guidance. Only include the evidence required for the Water Treatment Technician standard.

## Portfolio Grading Criteria within the Published Assessment Plan

The following table outlines the scoring criteria published in the WPT assessment plan. Detailed guidance is in the next section.

Fail Criteria	Pass Criteria	Distinction Criteria
Fail ≤69 Portfolio lacks sufficient evidence and structure to demonstrate knowledge, skills and competency through the work log, progress reviews and progressive authorisation assessments across the standard	Pass (70-84) Portfolio well-structured and contains sufficient and robust evidence to demonstrate knowledge, skills and competency across the standard through the work log, progress reviews and progressive authorisation assessments	Distinction (85-100) The portfolio demonstrates evidence which is over and above the requirements of the standard through the work log, progress reviews and progressive authorisation assessments
Fail in the final trade test	Pass in the final trade test	Pass in the final trade test
Poor application of knowledge in the work place	Good application of knowledge in the work place	Outstanding application of knowledge in the work place
Poor reasoning skills displayed on practical tasks	Good critical reasoning skills displayed on practical tasks	High level of critical reasoning skills displayed on practical tasks
Negative team working and interpersonal skills	Good team working and interpersonal skills and ability to respect the opinion of others	Outstanding team and interpersonal skills and the ability to respect the opinion of others
Subject to a company disciplinary procedure		

## Portfolio Evidence Requirement and Grading Guidance

Pass evidence can come from Work Log or Trade Test, **unless stated otherwise**.

Distinction evidence can only come from Work Log.

Whilst evidence is not required for every bullet point, in each section, it is best practice to ensure that there is depth and breadth of evidence which tells the story of completed jobs from start to finish.

- If the Trade Test has been passed, then **44 points** can be awarded towards the portfolio score
- Each portfolio evidence requirement should be awarded a points score in line with the portfolio grading guidance documentation/ guidance below
- Evidence for Section 4, 'Drive vehicles equipped with tools and materials to other sites as required' must be presented in the work log.
- 

The Work Log grading criteria are divided into 12 sections for knowledge and skills, and 5 sections for behaviours:

- Grading the Pass criteria:
  - If there is no evidence for any of the Pass criteria in any section, then 0 points should be awarded, **and a Pass cannot be achieved**
  - If there is a sufficient range of evidence to assess competence, 1 point will be awarded. Suggested minimum requirements are stated in each section
  - In a section where there is a range of points available AND if the apprentice has met the minimum requirements for that section, additional points can be awarded for evidence covering **additional** Pass statements. An additional point can be awarded for each additional statement met, up to the maximum points available for that section
  - **To achieve an overall pass, all sections must be awarded at least 1 point.**
- Grading the Distinction Criteria:
  - If there is no evidence for any of the Distinction criteria, then 0 points should be awarded
  - If there is evidence for at least one of the Distinction criteria, 1 point should be awarded
  - In a section where there is a range of points available, additional points can be awarded for evidence covering additional Distinction statements. An additional point can be awarded for each additional statement met, up to the maximum points available for that section.

IMPORTANT: the criteria listed in each section are indicative of the evidence that should be presented. Owing to variation in employer practises and operational conditions, the list of criteria is not exhaustive and other evidence may be presented that matches the section description. Providers should support apprentices in selecting evidence that matches the section description, and where necessary, cross-check with the relevant knowledge, skill or behaviour.

## Portfolio Grade Boundaries

Max Points	Minimum Points Required to Achieve a Pass	Minimum Points Required to Achieve Distinction
100 (44 from trade test)	70	85

## Referencing the Work Log

Providers should support apprentices to select evidence for their Work Log and to reference it so the assessor can find relevant sections easily. A Work Log Mapping Template is available from EUIAS at [www.euias.co.uk/end-point-assessment/epa-resources](http://www.euias.co.uk/end-point-assessment/epa-resources)

Each section is numbered, and each criterion is referenced with a letter. The combination of number and letter should be used to reference the evidence in the Work Log.

- For example, reference **3b** should be used in the Work Log to indicate evidence of testing and maintaining H&S equipment.

Evidence for Behaviours can come from company behavioural reviews typically from the last three months of training.

Section	Max Points	Grade	Portfolio Evidence Requirement from Work Log
1. Knowledge and application of relevant health and safety, environmental and industry standards and regulations, policies and procedures <b>K1, K3, S7, S8, S9 WTT9</b>	2	Pass	Minimum requirement to evidence at least 2 'Pass' examples, such as <ul style="list-style-type: none"> <li>a) Training / certificates / attendance at training courses relating to H&amp;S, environmental, regulatory and HR requirements (e.g. Toolbox talks, induction)</li> <li>b) Knowledge of where to access H&amp;S, environmental and industry information</li> <li>c) Reporting any faults, loss or issues with equipment</li> <li>d) Suggesting and implementing appropriate control measures</li> <li>e) Identifying changing situations in the workplace and taking the appropriate action</li> </ul>

Section	Max Points	Grade	Portfolio Evidence Requirement from Work Log
	3	Distinction	<ul style="list-style-type: none"> <li>f) Voluntarily engaging with employer to make contributions to health and safety improvements and initiatives</li> <li>g) Understanding of the wider ranging consequences of not following standards, regulations, policies and procedures</li> <li>h) Continuously updating knowledge regarding health, safety, environmental and industry standards and procedures</li> <li>i) Understanding of wider ranging consequences of not working safely and carrying out risk assessments</li> <li>j) Explaining the need to maintain and store PPE and other safety equipment</li> <li>k) Explaining the wider ranging consequences of not working appropriately with (including storage and disposal of) chemicals</li> <li>l) Monitoring safety equipment use and compliance in others</li> <li>m) Voluntarily taking an active role in completing safety compliance checks for others</li> </ul>

Section	Max Points	Grade	Portfolio Evidence Requirement from Work Log
2. Knowledge and application of water industry operations and maintenance practices, processes and procedures in water treatment K2, K4, S10	1	Pass	Minimum requirement to evidence at least 2 'Pass' examples, such as <ul style="list-style-type: none"> <li>a) Knowledge of company operations and maintenance policies and procedures and where to find them e.g. sampling procedures, flow monitoring</li> <li>b) Training / certificates / attendance at training courses relating to operations and maintenance practices, processes and procedures</li> </ul>
3. Use theory and principles to undertake fault finding, testing and analysis on specific equipment, instruments and IT systems and interpret the results to implement effective solutions K5, K6, S7, S12, S13	2	Pass	Minimum requirement to evidence at least 2 'Pass' examples, such as <ul style="list-style-type: none"> <li>a) Training / certificates / attendance at courses relating to specific equipment, instruments and IT systems</li> <li>b) Testing and maintaining H&amp;S equipment</li> <li>c) Knowledge and use of the operation of flow monitoring equipment</li> <li>d) Identifying faults and alarms</li> <li>e) Understanding alarms, priorities, consequences and responses</li> <li>f) Consulting and working with others to investigate, identify and resolve the root cause of problems</li> <li>g) Verifying IT systems are working correctly</li> </ul>

Section	Max Points	Grade	Portfolio Evidence Requirement from Work Log
	3	Distinction	<ul style="list-style-type: none"> <li>h) Independently conducting fault or route cause analysis to successful conclusion without guidance</li> <li>i) Presenting and sharing findings in a logical and consistent manner</li> <li>j) Technical understanding of process equipment options and practical assessment and application of their suitability for use</li> <li>k) Suggesting improvements in alarm management</li> </ul>
4. Drive vehicles equipped with tools and materials to other sites as required S15	1	Pass	<p>Minimum requirement to evidence at least 1 example, such as</p> <ul style="list-style-type: none"> <li>a) Full driving licence</li> <li>b) Additional driving category training as required</li> <li>c) Complying with company driving policies and procedures on a regular basis e.g. vehicle checks completed</li> <li>d) Safe loading of vehicles</li> <li>e) Keeping company vehicles maintained and cleaned to a high standard</li> </ul>
5. Complete reports and ensure records are maintained for audit and reporting purposes S17	1	Pass	Completion of 4 different types of company records, specific to pathway, as required



Section	Max Points	Grade	Portfolio Evidence Requirement from Work Log
6. Work with focus and clear purpose in all weather conditions, covering 24/7 operations, sometimes working alone and safely adapt working methods to reflect changes in working environments S14, S18, SB6 WTT5	1	Pass	Minimum requirement to evidence at least 2 'Pass' examples, such as a) Completing planned work activities accurately and on time in all weather conditions b) Completion of tasks when on their own c) Completion of tasks out of hours d) Compliance with company working time directives
	2	Dist.	e) Consistent dynamic risk assessments on a variety of jobs f) Willingly assisting in emergency situations outside of normal working hours
7. Control and monitor the operations on your sites: a) using knowledge of design specifications b) to ensure Drinking Water Quality Standards are met c) to ensure compliance with H&S policies including work	2	Pass	Minimum requirement to evidence at least 2 'Pass' examples, such as a) Identifying trends and potential faults and treatment problems based on monitoring b) Implementing process changes and monitoring these for effectiveness c) Training in high risk environments including if applicable, confined spaces, permit to work, use of safety equipment, working at height, managing contractors d) Work with others to identify the root cause of problems and resolve issues

Section	Max Points	Grade	Portfolio Evidence Requirement from Work Log
in confined spaces, risk assessments and checking method statements WTT1, WTT6, WTT8	2	Distinction	<ul style="list-style-type: none"> <li>e) Linking design specifications to practical tasks and suggesting improvements</li> <li>f) Independent optimisation of processes showing opex savings or process efficiencies</li> <li>g) Independently solving problems via root cause analysis and resolving issues</li> <li>h) Checking and controlling the compliance of others on site e.g. contactors, colleagues and visitors to sites</li> <li>i) Willingness to upskill and take additional responsibility for the safety of others</li> </ul>

Section	Max Points	Grade	Portfolio Evidence Requirement from Work Log
8. Monitor and maintain water treatment processes e.g. chemical dosing, filtration and disinfection <b>WTT2</b>	3	Pass	<p>Minimum requirement to evidence at least 3 'Pass' examples, such as</p> <ul style="list-style-type: none"> <li>a) Knowledge of target operating regimes for different processes</li> <li>b) Understanding of site flow sheets and the interdependencies of the processes</li> <li>c) Identifying trends and faults and solving potential treatment problems based on monitoring</li> <li>d) Implementing and monitoring solutions for effectiveness</li> <li>e) Monitoring and maintaining treatment processes to company standards</li> <li>f) Demonstrating a clear understanding of the effects of their actions on other treatment processes upstream and downstream</li> <li>g) Work with others to identify the root cause of problems and resolve issues</li> <li>h) Making adjustments where necessary</li> </ul>
	2	Distinction	<ul style="list-style-type: none"> <li>i) Independent optimisation of processes showing opex or process efficiencies</li> <li>j) Independently solving problems via root cause analysis and resolving issues</li> <li>k) Long term trend analysis to consider future water quality issues e.g. plate counts on reservoir, raw water quality deterioration</li> <li>l) Instigating collaboration with other departments regarding process changes</li> </ul>

Section	Max Points	Grade	Portfolio Evidence Requirement from Work Log
9. Operate, control and maintain process control equipment and instrumentation <b>WTT3</b>	2	Pass	Minimum requirement to evidence at least 2 'Pass' examples, such as a) Identifying trends from data b) Maintaining and altering set points and interpreting alarms c) Identifying problems with monitoring equipment
	2	Distinction	d) Suggesting and implementing improvements to process control systems which contribute to opex or process improvements / efficiencies e) Long term trend analysis to consider future water quality issues e.g. plate counts on reservoir, raw water quality deterioration
10. Use water treatment theories and principles to ensure processes are maintained at optimum performance <b>WTT4, WTT7</b>	2	Pass	Minimum requirement to evidence at least 2 'Pass' examples, such as a) Knowledge of water treatment theories and principles for different processes b) Identifying trends and potential faults and treatment problems based on monitoring c) Application of knowledge to optimise treatment performance d) Work with others to identify the root cause of problems and resolve issues

Section	Max Points	Grade	Portfolio Evidence Requirement from Work Log
	2	Distinction	<p>e) Detailed knowledge of water treatment theories and principles e.g. hypochlorous acid production, chemistry of flocculation, influence of contaminants in raw water etc.</p> <p>f) Demonstrating good understanding by sharing knowledge with others e.g. carries out site tours, coaching etc.</p> <p>g) Suggesting and implementing improvements to processes which contribute to opex or process improvements / efficiencies</p>
11. Implements emergency procedures and carries out process stream and full treatment works shutdown as required by routine planned maintenance, other situations and emergencies <b>WTT10, WTT11</b>	2	Pass	<p>Minimum requirement to evidence at least 3 'Pass' examples, such as</p> <p>a) Isolation of process units and streams (and full treatment works if viable) following company procedures</p> <p>b) Isolation of process streams due to:</p> <ul style="list-style-type: none"> <li>• Emergencies</li> <li>• Maintenance</li> <li>• Refurbishment / long term shutdown</li> </ul> <p>c) Checking, observing, recording and reporting of isolations and shut downs</p> <p>d) Compliance with company reporting procedures relating to:</p> <ul style="list-style-type: none"> <li>• Water Quality</li> <li>• Environmental compliance</li> <li>• Health and Safety</li> </ul>

Section	Max Points	Grade	Portfolio Evidence Requirement from Work Log
	2	Distinction	<ul style="list-style-type: none"> <li>a) Involvement in decommissioning and / or recommissioning plant / process stream</li> <li>b) Active involvement with contractors regarding shut downs / upgrades</li> <li>c) Advising others of emergency procedures for the treatment works</li> <li>d) Taking on additional responsibility regarding emergency procedures and situations e.g. fire marshal, first aider etc.</li> </ul>
12. Organise and control maintenance operations on treatment works equipment <b>WTT12</b>	1	Pass	Minimum requirement to evidence at least 2 'Pass' examples, such as Identifying maintenance tasks Raise and prioritise work requests correctly based on known information Isolation and preparation of equipment for maintenance activities
	2	Dist.	Identifying and communicating additional and relevant information pertaining to faults identified e.g. part numbers, accessibility issues Implementing a contingency to ensure water quality compliance Identifying alternative solutions or improvements

Section	Max Points	Grade	Portfolio Evidence Requirement from <u>Work Log</u>
<b>13. Ownership, responsibility and customer focus.</b> Accepts ownership and responsibility for own work to accomplish, an activity safely and on time, whilst maintaining self-discipline working well with others delivering a polite, courteous, professional service B1, B2, B3	3	Pass	Minimum requirement to evidence at least 1 'Pass' example, such as a) Accomplishes an activity safely, correctly and on time b) Interacts well with customers, colleagues and members of the public c) Maintains self-discipline, motivation and always works in a professional manner
	1	Dist.	d) Consistently takes responsibility for own performance and strives to go beyond expectations
<b>14. Health and safety/risk awareness.</b> Takes responsibility for own and others health and safety, following procedures and policy to think things through whilst being aware of potential consequences, hazards, distractions and changing circumstances for an activity. B4	3	Pass	Minimum requirement to evidence at least 1 'Pass' example, such as a) Demonstrates strict compliance with operational procedures and processes b) Shows an awareness of the impact of changing circumstances on an activity c) Able to identify and deal appropriately with distractions to enable tasks to be achieved
	1	Dist.	d) Consistently monitors and checks information to see if changes to plans are required for an activity

Section	Max Points	Grade	Portfolio Evidence Requirement from <u>Work Log</u>
<p><b>15. Task management.</b> Possesses and enhances appropriate knowledge, skills and experience to perform the duties of the job. Accomplishes goals by</p> <ul style="list-style-type: none"> <li>• accepting and following instructions given by supervisor</li> <li>• responding to training</li> <li>• allocating and supervising technical and other required tasks</li> </ul> <p>B5, B8</p>	2	Pass	<p>Minimum requirement to evidence at least 1 'Pass' example, such as</p> <ol style="list-style-type: none"> <li>Enhances competency through seeking guidance to help accomplish a task. e.g. Guidance may be provided via operational handbook, digital resources or asking someone.</li> <li>Allocates and supervises technical and other required tasks to efficiently accomplish goals</li> </ol>
<p><b>16. Results driven.</b> Identifies, organises and effectively uses resources to complete tasks in a timely fashion, considering cost, quality, safety, security and environmental impact.</p> <p>B7</p>	3	Pass	<p>Minimum requirement to evidence at least 1 'Pass' example, such as</p> <ol style="list-style-type: none"> <li>Identifies, organises and uses resources effectively to complete tasks,</li> <li>Considers cost, quality, safety, security</li> <li>Considers environmental impact</li> </ol>



Section	Max Points	Grade	Portfolio Evidence Requirement from <u>Work Log</u>
<p><b>17. Sustainability and ethical behaviour.</b> Thinks and behaves ethically and undertakes work in a way that contributes to a positive corporate social responsibility. B9, B10, B11</p>	3	Pass	<p>Minimum requirement to evidence at least 1 'Pass' example, such as</p> <ul style="list-style-type: none"> <li>a) Attitude is respectful and positive, concerning the needs or concerns of others.</li> <li>b) Awareness of the needs and concerns of others especially where related to diversity and equality</li> <li>c) Maintains a positive approach to ethical requirements and undertakes work in a way that contributes to sustainable development.</li> </ul>

© Energy & Utility Skills

All rights reserved. No part of this publication may be reproduced, stored in a retrievable system, or transmitted in any form or by any means whatsoever without prior written permission from the copyright holder.

[www.euskills.co.uk](http://www.euskills.co.uk)