

# Water Treatment Technician

## Unit WTTC08 Control Treated Water Storage Points

This training specification has been developed from the water process technician standard. The specification details the **minimum** training specification, as agreed by industry employers, to deliver the skills and knowledge required to control treated water storage points in the water sector.

The specification details the critical requirement of the activity to carry out the work outlined and does not preclude employers from adding to the skills and knowledge detailed by the specification in their own training programmes.

All work must be carried out to approved procedures and practices and in accordance with statutory health, safety and environmental requirements.

### **What does this specification look like?**

Water treatment technicians need to be able to:

- CTWS1 Control treated water storage points to ensure an adequate supply of water
- CTWS2 Optimise the volume of water stored in treated water storage points on the basis efficiency targets, test results and analysis of trends
- CTWS3 Restore the treated water storage points to normal operation through identification of the root cause of faults arising with the storage point

### **What do I need to take this module?**

Candidates to be assessed as competent in this skill area should have completed the modules shown below or have evidence demonstrating an equivalent level of competence.

1. COSHH
2. National Water Hygiene Scheme

## Performance Criteria

To achieve this unit, you will need to be able to:

### General Requirements

- P1. Identify the work area to be accessed using company documentation, systems and work instructions
- P2. Select, inspect and wear required PPE in line with company procedures
- P3. Carry out a site specific risk assessment of the work area, identifying the hazards and control measures required
- P4. Maintain accurate and up to date records
- P5. Report information and data to the designated person

### Task Specific – Control Treated Water Storage Points

- P6. Identify all mechanical, electrical and instrumentation assets associated with the treated water storage points
- P7. Identify set-points applicable to the treated water storage points
- P8. Identify the range of alarms associated with the treated water storage points
- P9. Control treated water storage points to meet efficiency targets
- P10. Monitor and check treated water storage points on their works, completing associated calculations, or utilising look-up tables, as appropriate. These must include disinfection, retention and turnover
- P11. Evaluate trend data from their SCADA and / or test results to identify:
  - a) Normal trends or cycles for the works, and
  - b) Atypical trends or changes and the underlying or root causes for the change
- P12. Instigate corrective action to return the treated water storage points to normal operation, taking account of process lag time
- P13. Carry out isolation procedures and valving operations related to the treated water storage point or points

## Knowledge and Understanding

To achieve this unit, you will need to know and understand:

### General Requirements

- K1. The principles of Health, Safety and Environmental legislation in relation when working with water treatment processes
- K2. The organisation's safety rules, policies and procedures relating to working with

water treatment processes

- K3. The hazards associated when working with water treatment processes and the correct way to respond to them
- K4. How to select, inspect and use PPE when working with water treatment processes
- K5. How to carry out a site specific risk assessment and identify workplace hazards
- K6. How to respond in the event of an emergency situation in the workplace environment
- K7. How to leave the work area in a safe and secure condition
- K8. The company recording and reporting process

### Task Specific – Control Treated Water Storage Points

- K9. The objectives of treated water storage points operation and consequences of sub-optimal performance
- K10. Key parameters and variables associated with treated water storage points, examples including the influence and causes of variable water quality, design limitations of works, network operations and demands
- K11. The operating and maintenance cycles for treated water storage points, routine and any statutory inspections
- K12. The operation and control of treated water storage points on water treatment works, including any associated pumping regimes
- K13. Water quality and sampling requirements
- K14. The need to maintain reservoir integrity and how this can be compromised
- K15. The consequences of sub-optimal treated water storage points control and performance on water networks and customers
- K16. How to interrogate the SCADA system to:
  - a) Identify and control items of mechanical, electrical and instrumentation equipment
  - b) Evaluate trend data differentiating normal operational cycles from developing fault conditions
- K17. How to confirm the configuration, operation and performance of the actual treated water storage points plant corresponds to the SCADA based system
- K18. The impact of variable water quality and quantity on set-points
- K19. Security requirements and arrangements for treated water storage points, including requirements of directives and regulations
- K20. The range of instrumentation used to monitor and control the treated water storage points and their calibration requirements
- K21. How levels and flows are controlled to maximise efficiency
- K22. Disinfection standards, operations and requirements to include calculations for using Hypochlorite dosing
- K23. Alarms, action levels, authorisation levels and consequences associated with treated water storage points

- K24. How to identify the root cause of treated water storage point problems and the sequence of actions required to restore the process to normal operating conditions, taking account of all process variables, seasonal effects and process lag times
- K25. Data collection, recording, reporting and maintenance requirements

### How will it be assessed?

To achieve this unit, you will need to be able to provide evidence of the performance criteria and the knowledge and understanding requirements listed above.

Assessment types:

1. External assessment – an external accrediting body will assess against a national minimum standard
2. Internal assessment process – a company led on-going assessment against requirements
3. End-point assessment – see assessment plan for further details here (will be Energy & Utility Skills defined)

### What type of evidence will be expected?

To achieve this unit, you will need to be able to provide evidence of the performance criteria and the knowledge and understanding requirements listed above.

Evidence types:

1. On-going local assessments
  - a) Assessment plan, review, feedback, standard assessment sheets
2. Knowledge based learning
  - a) Classroom, exams, assignments, Q&A sessions, e-learning modules
3. Evidence portfolios
  - a) Learning logs, photos, observation sheets

### Assessment types and process

