

# Wastewater Treatment Technician

## Unit WWTTO01 Odour Management and Control

This training specification is knowledge only and 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 understand wastewater odour management and control 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?

Wastewater treatment technicians need to be able to:

- OMC1 Control on site processes and odour control equipment operations on wastewater treatment works
- OMC2 Optimise processes to minimise odour generation, on the basis of process performance management, test results and analysis of trends, use of senses
- OMC3 Restore process plant / odour management / control equipment to normal operation through identification of the root cause of faults arising with the process

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

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

1. Process control systems
2. Wastewater compliance and performance monitoring
3. SHEA or equivalent

## 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 implementing the control measures required
- P4. Maintain accurate and up to date records
- P5. Report information and data to the designated person

### Task Specific - Odour Management and Control

- P6. Safely carry out operational and first line maintenance tasks relating to odour management equipment including removing blockages and fault finding
- P7. Identify all mechanical, electrical and instrumentation assets which monitor and control the odour management processes on the works **and** on the information system e.g. SCADA / HMI
- P8. Confirm the correct configuration, operation and performance of the odour management and control equipment and that it corresponds to the information system e.g. SCADA / HMI
- P9. Identify and maintain control parameters associated with odour management
- P10. Respond to alarms correctly
- P11. Instigate corrective actions to restore the odour management processes to compliant conditions, taking account of process lag time
- P12. Evaluate trend data from the SCADA / HMI system, tests and / or process performance 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
- P13. Optimise the odour management processes to efficiently achieve the required parameters
- P14. Identify any chemicals, storage, mixing and pumping plant used in odour management processes **and** on the information system e.g. SCADA / HMI
- P15. Monitor, check, record and report chemical dosing on their works
- P16. Complete the on-site monitoring to ensure the works process parameters are maintained
- P17. Carry out operations to minimise the risk to process performance

## 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 to working with wastewater
- K2. The organisation's safety rules, policies and procedures relating to working with wastewater
- K3. The hazards associated with working with wastewater and the correct way to respond to them
- K4. How to select, inspect and use PPE when working with wastewater
- 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 - Odour Management and Control

- K9. How to safely carry out operational and first line maintenance tasks taking into account any systems of work and operating procedures
- K10. The legal and company requirements for odour management including the regulatory bodies
- K11. Legislation and permit requirements controlling odour issues
- K12. The objectives of odour management processes and odour management plans, and the consequences of sub-optimal performance
- K13. The main generic different types of odour management equipment and associated ancillary equipment used and the design considerations associated with these e.g. the type of odour to be treated, media used, chemicals used, passive or active
- K14. Key process terminology, parameters and variables associated with odour management and be able to describe the relationship between these
- K15. The different sources and key points of odour generation from on-site processes and the control methods used at sensitive points on site
- K16. How to optimise on site processes to minimise odour generation
- K17. How to identify the root cause of odour problems. Evaluate and understand the sequence of actions required to restore the processes to steady-state conditions, taking account of all process variables and process lag times
- K18. The correct operation and design of odour management processes
- K19. The range of instrumentation used to monitor and control the process and their calibration requirements
- K20. How to interrogate the information system e.g. SCADA / HMI to:

- a) Identify and control Items of mechanical, electrical and instrumentation equipment
  - b) Evaluate trend data differentiating normal operational cycles from fault conditions
- K21. Alarms, action levels, authorisation levels and consequences associated with the process
- K22. The range of plant used to store, mix and pump chemicals and the methods of operation available (automatic or manual and calibration)
- K23. The parameters and tests required to monitor the process and why the analysis is important
- K24. How to complete odour monitoring to specification and any limitations
- K25. The tools used in first line maintenance tasks and their uses and limitations
- K26. 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

