Wastewater Treatment Technician
Unit WWTTC04 Screening & Grit Removal

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 carry out screenings and grit removal as used 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:

SGR1   Control the screening and grit removal processes on wastewater treatment works and dispose of by-products correctly

SGR2   Optimise the screening and grit removal processes on the basis of process performance and analysis of trends

SGR3   Restore the screening and grit removal processes 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.   SHEA water 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 the control measures required
P4. Maintain accurate and up to date records
P5. Report information and data to the designated person

Task Specific - Screening and Grit Removal

P6. Identify and locate the screening and grit removal plants and associated equipment on the works and on the information system e.g. SCADA / HMI
P7. Safely carry out operational and first line maintenance tasks relating to the screening and grit removal operations including removing blockages and fault finding
P8. Confirm the correct configuration, operation and performance of the actual screenings and grit removal plant corresponds to the information system e.g. SCADA / HMI
P9. Identify all mechanical, electrical and instrumentation assets which monitor and control the screening and grit removal processes on the works and on the information system e.g. SCADA / HMI
P10. Instigate corrective actions to restore the screening and grit removal processes to compliant conditions, taking account of process lag time
P11. Maintain control parameters associated with screening and grit removal processes on their works
P12. Identify set-points applicable to screening and grit removal operations and explain the impact of variable water quality and weather conditions on these
P13. Respond to alarms correctly
P14. Evaluate trend data from the information system e.g. SCADA / HMI and/or process
   a)   Normal trends or cycles for the works, and
   b)   Atypical trends or changes and the underlying or root causes for the   change
P15. Optimise the screenings and grit removal plant to efficiently achieve the required parameters
P16. Manage and dispose of screenings and grit in line with legal and company requirements

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 - Screening and Grit Removal

K9. How to safely carry out operational and first line maintenance tasks taking into account any systems of work and operating procedures
K10. The objectives of screening and grit removal processes and consequences of sub-optimal performance
K11. The consequences of sub-optimal screening performance or grit removal on the subsequent process streams
K12. Legislation and permit requirements controlling screenings and grit removal operations
K13. The different methods utilised in screening and grit removal operations and any limitations including any bypass arrangements
K14. The main generic different types of screening and grit removal processes used and the design considerations associated with these
K15. Key process parameters and variables associated with screening and grit removal and design limitations of works
K16. 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
K17. The range of instrumentation used to monitor and control the process and their calibration requirements
K18. Alarms, action levels, authorisation levels and consequences associated with the process
K19. How to identify the root cause of screening and grit removal process problems

K20. The sequence of actions required to restore the processes to compliant conditions, taking account of all process variables and process lag times

K21. The tools used in first line maintenance tasks and their uses and limitations

K22. 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

Local assessment	Assessment plan developed	Quarterly assessments	Portfolio reviewed	Feedback to learner
Workplace training	Theory based learning	Assignments	Observation and Q&A	Exams
End-point assessment	Portfolio submission	Industry Context trade tests	Knowledge exam	Observation