



Australian Government

Department of Education, Employment and Workplace Relations

SUGPWWT2A Operate a waste water treatment system

Revision Number: 1

SUGPWWT2A Operate a waste water treatment system

Modification History

Not applicable.

Unit Descriptor

Unit descriptor

This is a Specialist unit. It covers the skills and knowledge required to operate waste water treatment systems to comply with workplace requirements, trade waste agreements and site environmental authority.

Application of the Unit

Not applicable.

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Not applicable.

Employability Skills Information

Not applicable.

Elements and Performance Criteria Pre-Content

Not applicable.

Elements and Performance Criteria

Element	Performance criteria
1. Prepare the waste water treatment process for operation	1.1 Chemicals and test equipment are available and ready for use 1.2 Services are confirmed as available and ready for operation 1.3 Pre-operational checks are conducted 1.4 Instrumentation and test equipment is calibrated to manufacturer's specifications to meet workplace requirements 1.5 Health and safety hazards / maintenance requirements are identified and reported to appropriate personnel according to workplace reporting procedures
2. Operate and monitor the waste water treatment process	2.1 The waste water system is started up according to company procedures 2.2 Plant is operated within limits of manufacturer's specifications to meet workplace requirements 2.3 Equipment is monitored to confirm operating condition 2.4 Waste water quality is monitored, tested and adjusted as required to meet water standards as defined by site licence 2.5 First flush systems are operated during rainfall events 2.6 The workplace meets housekeeping standards
3. Analyse and respond to abnormal performance	3.1 Water condition and plant operating conditions are analysed to identify causes of abnormal performance 3.2 Corrective action is taken in accordance with workplace procedures in response to Hazards, out-of-specification test results and/or plant performance 3.3 Emergency procedures are implemented as required according to workplace procedures and manufacturer's recommendations
4. Handover waste water treatment system	4.1 Workplace records are maintained in accordance with statutory requirements and workplace procedures 4.2 Handover is carried out according to workplace procedure 4.3 Waste water treatment operators are aware of

Element	Performance criteria
5. Shutdown the waste water treatment system	system status and related equipment at completion of handover
	5.1 The waste water treatment system is shut down according to workplace procedures
	5.2 The waste water treatment system is prepared for storage in shut down mode
	5.3 Maintenance requirements are identified and reported according to workplace reporting procedure

Required Skills and Knowledge

Not applicable.

Evidence Guide

Evidence guide

The assessment process must address all of the following items of evidence.

Ability to:

1. Access workplace information to identify waste treatment requirements
2. Select, fit and use personal protective clothing and/or equipment
3. Confirm services are available and equipment is clean and ready for operation
4. Handle chemicals safely. This includes following correct preparation, handling and storage procedures and use of appropriate protective clothing and equipment
5. Conduct pre-start checks
6. Liaise with other work areas as required
7. Demonstrate wastewater system operating procedures in both manual and automatic modes
8. Demonstrate first flush system operating procedures in both manual and automatic modes
9. Monitor waste water system operation. This typically includes monitoring:
 - chemical addition rates and residuals
 - temperatures
 - flow rates
 - equipment condition including calibration of instruments.
 - tests as required
 - dissolved oxygen levels
 - pH
 - levels
10. Conduct water quality tests
11. Take corrective action in response to out-of-specification results or non-compliance
12. Monitor supply and quality of waste water to and from the process
13. Report and/or record corrective action as required
14. Demonstrate emergency procedures to control chemical spills or other major incidents relevant to the workplace
15. Demonstrate shift handover procedure
16. Demonstrate an operational shut down procedure
17. Maintain workplace records to meet the requirements of the workplace and site environmental authority
18. Maintain work area to meet housekeeping standards

May include ability to:

19. Use process control systems

Knowledge of:

20. Relevant state OHS legislation, environmental acts and policies, standards and codes of practice relating to work responsibilities. This includes awareness of standards set out in site license arrangements
21. Safe work procedures including awareness of health and safety hazards related to waste water system operation and associated control measures. Hazards typically include handling chemicals, manual handling and flammable gases
22. Hierarchy of hazard control measures
23. Purpose and limitations of protective clothing and equipment

24. Methods used to render equipment safe to inspect, maintain and/or clean including lock-out, tag-out and isolation procedures
25. Water cycles for trade waste, storm water and sewerage including sources and flow patterns
26. Purpose and standards required by environmental agreements and responsibilities
27. Company policy relating to environmental performance
28. Consequences of non-conformance
29. Waste characteristics and treatment methods
30. Sampling and test procedures as appropriate
31. Purpose of chemicals used
32. Purpose of first flush systems and their relationship with the wastewater treatment system
33. Operating requirements and parameters
34. Water quality sampling and test procedures. This includes purpose of test and safe use, care and storage of relevant test equipment, interpretation and recording of results
35. Typical causes of non-conforming water quality and corrective action required
36. Equipment purpose and basic operating principles of waste water treatment equipment and methods
37. Requirements of both operational and long term shut down conditions to ensure the equipment is left in a safe state for the period of the shutdown and to minimise any delays in future start up
38. Housekeeping standards for the work area
39. Reporting and recording systems. This includes both statutory and workplace requirements

May include knowledge of:

40. Basic operating principles of process control where relevant. This includes the relationship between control panels and systems and the physical equipment

Relationship with other standards

Pre-requisite units

There are no pre-requisite units for this competency standard.

Co-assessment of related units

Other units of competency relevant to the work role should be assessed in conjunction with this unit. This may include:

- SUGZPCI2A Operate a process control interface

Resources required for assessment

Assessment must occur in a real or simulated workplace where the assessee has access to:

- Waste water treatment systems and related chemicals
- Test equipment
- Relevant advice on environmental agreements
- Operating procedures and related advice on equipment operation
- Personal protective clothing and equipment
- Communication systems and equipment
- Housekeeping standards and procedures
- Workplace information recording systems, requirements and procedures

Assessment requirements

For information on how to assess this competency standard and who can assess, refer to the Assessment Guidelines for this Training Package.

Range Statement

Range statement

The range statement indicates the context for demonstrating competence. This statement is a guide and unless otherwise indicated, items may or may not apply as required by the work context.

- Work is carried out in accordance with company policies and procedures, manufacturer's recommendations, legislative requirements, site licenses and trade waste service agreements and industrial awards and agreements. Legislation refers to environmental acts and regulations
- Workplace information can include Standard Operating Procedures (SOPs) and manufacturer's specifications
- Equipment may include screens, pH correction, oil/grease skimmers, settling and treatment ponds, aeration units, lagoons, first flush systems and wetlands, pumps and valves
- Confirming equipment status involves conducting relevant pre-start checks, confirming that cleaning and calibration standards are met, all safety guards are in place and equipment is operational
- Operation and monitoring of equipment and processes may require the use of control panels and systems
- Typical tests may include pH, solids, colour/turbidity, flow rate, settling rate, settled volume, DO and BOD/COD levels
- Work may require the ability to work within a team environment
- Information systems may be equipment-based or remote from the treatment plant
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Unit Sector(s)

Not applicable.