



Australian Government

Department of Education, Employment and Workplace Relations

NWP547B Implement and manage wastewater treatment processes monitoring program

Revision Number: 2

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Modification History

NWP547B Release 2: Layout adjusted. No changes to content.

NWP547B Release 1: Primary release.

Unit Descriptor

This unit of competency describes the outcomes required to implement and manage the treatment management plan for wastewater treatment activities.

Application of the Unit

This unit supports the attainment of skills and knowledge required for managers in water organisations with responsibility for the implementation of wastewater treatment management plans.

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Not applicable.

Employability Skills Information

This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.

Performance criteria describe the required performance needed to demonstrate achievement of the element. Where ***bold italicised*** text is used, further information is detailed in the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
<p>1 Implement and coordinate wastewater treatment process monitoring program.</p>	<p>1.1 Confirm performance measures for the wastewater treatment management plan.</p> <p>1.2 Develop the implementation plan in conformance with <i>legislation</i>, organisational requirements and <i>environmental factors</i>.</p> <p>1.3 Design and implement the <i>monitoring</i> and <i>testing</i> programs according to the objectives of the wastewater treatment management plan.</p> <p>1.4 Analyse, interpret and report testing results according to legislative and enterprise requirements.</p> <p>1.5 Identify and investigate problems and/or potential problems and report results and recommendations according to legislative and enterprise requirements.</p> <p>1.6 Store results and reports according to legislative and enterprise requirements.</p>
<p>2 Monitor and optimise the process and production.</p>	<p>2.1 Monitor treatment process resource usage according to the wastewater treatment management plan.</p> <p>2.2 Implement emergency action plans according to the wastewater treatment management plan.</p> <p>2.3 Identify, report and recommend opportunities for process performance improvements according to the wastewater treatment management plan.</p> <p>2.4 Provide advice and guidance to effluent/sludge <i>customers</i> and stakeholders according to legislative and enterprise requirements.</p> <p>2.5 Review, interpret and action stakeholder and customer requirements according to the wastewater treatment management plan.</p> <p>2.6 Identify and investigate breaches of the wastewater treatment management plan provisions with the results and/or recommendations reported and actioned according to legislative and enterprise requirements.</p>
<p>3 Report on implementation and monitoring of the plan.</p>	<p>3.1 Identify, investigate and report deviations from planned treatment parameters and quality and management plan requirements.</p> <p>3.2 Review objectives of the management plan.</p> <p>3.3 Make recommendations for changes to plan objectives and operational procedures.</p>

Required Skills and Knowledge

This describes the essential skills and knowledge and their level, required for this unit.

Required skills:

- communicate effectively
- plan effectively
- prepare reports
- interpret and apply legislation and policies
- coordinate measuring and testing activities
- use mathematical and scientific techniques to interpret test results
- conduct investigations
- assess environmental impacts
- coordinate operation and maintenance activities

Required knowledge:

- relevant legislation
- relevant enterprise policies
- range of appropriate measuring and testing procedures
- investigation procedures
- risk management principles
- customer expectations and requirements
- enterprise financial systems and key performance indicators
- environmental legislation
- occupational health and safety legislation

Evidence Guide

The evidence guide provides advice on assessment and must be read in conjunction with the Performance Criteria, Required Skills and Knowledge, the Range Statement and the Assessment Guidelines for the Training Package.

Critical aspects for assessment and evidence required to demonstrate competency in this unit

The candidate should demonstrate the ability to implement and manage the treatment management plan for wastewater treatment activities including:

- gathering, interpreting and synthesising information (including historical data, current legislation and standards, stakeholder views and the results of wastewater treatment testing and monitoring) to underpin the implementation of the wastewater treatment processes management plan
- planning and implementing testing processes and programs
- monitoring and evaluating the outcomes of the wastewater treatment processes management plan
- providing advice and communicating with stakeholders and users
- preparing reports and recommendations for future action

Context of and specific resources for assessment

Access to the workplace and resources including:

- documentation that should normally be available in a water industry organisation
- relevant codes, standards, and government regulations

Where applicable, physical resources should include equipment modified for people with disabilities.

Access must be provided to appropriate learning and/or assessment support when required.

Assessment processes and techniques must be culturally appropriate, and appropriate to the language and literacy capacity of the candidate and the work being performed.

Validity and sufficiency of evidence requires that:

- competency will need to be demonstrated over a period of time reflecting the scope of the role and the practical requirements of the workplace
- where the assessment is part of a structured learning experience the evidence collected must relate to a number of performances assessed at different points in time and separated by further learning and practice
- a decision of competence should only be made when the assessor has complete confidence in the person's competence over time and in various contexts
- all assessment that is part of a structured learning

experience must include a combination of direct, indirect and supplementary evidence

- where assessment is for the purpose of recognition (RCC/RPL), the evidence provided will need to be authenticated and show that it represents competency demonstrated over a period of time
- assessment can be through simulated project-based activity and must include evidence relating to each of the elements in this unit

In all cases where practical assessment is used it will be combined with targeted questioning to assess the underpinning knowledge. Questioning will be undertaken in a manner appropriate to the skill levels of the operator, any cultural issues that may affect responses to the questions, and reflecting the requirements of the competency and the work being performed.

Range Statement

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. ***Bold italicised*** wording, if used in the Performance Criteria, is detailed below. Add any essential operating conditions that may be present with training and assessment depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts.

Legislation may include:

- relevant federal legislation
- relevant state or territory legislation
- relevant local government by-laws
- Australian Standards

Environmental factors that impact on the treatment process may include:

- Flora
- Fauna
- organic and inorganic chemicals
- sediment impacts in discharge environment
- nutrients
- oils and greases
- pesticides
- trade waste
- communities activities and attitudes
- natural events (e.g. floods, fires)
- industry activities and attitudes
- micro-organisms
- odour dispersion

Monitoring may include:

- process control monitoring
- mechanical and electrical maintenance schedules
- mechanical and electrical equipment condition
- licensing requirements
- legislative requirements
- chemical, physical, biological and microbiological quality

Testing may include but not be limited by:

- physical analysis of wastewater:
 - pH
 - conductivity
 - suspended solids
 - chemical analysis of wastewater
 - chlorine
 - nutrients
 - chemical oxygen demand
 - heavy metals
- microbiological analyses:

- coliforms
- plate counts
- algae identification and counts
- physical measures:
 - power
 - chemicals
 - wastewater flows
 - sludge volumes
- mechanical testing:
 - vibration
 - noise
 - temperature

Customers may include:

- individual consumers
- regulators
- suppliers
- government
- community or specific enterprises
- industry

Unit Sector(s)

Not applicable.

Competency field

Treatment.