



Australian Government

Department of Education, Employment and Workplace Relations

NWP548B Develop and review wastewater treatment management plan

Revision Number: 2

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Modification History

NWP548B Release 2: Layout adjusted. No changes to content.

NWP548B Release 1: Primary release.

Unit Descriptor

This unit of competency describes the outcomes required to develop and monitor policies and plans for the treatment of wastewater.

Application of the Unit

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

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 <i>bold italicised</i> text is used, further information is detailed in the range statement. Assessment of performance is to be consistent with the evidence guide.
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Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1 Plan and prepare for wastewater treatment.	<ul style="list-style-type: none">1.1 Identify and interpret wastewater treatment plant management requirements including <i>legislative</i> and enterprise policies.1.2 Access, review and interpret historic information relevant to the treatment of wastewater.1.3 Identify and interpret issues that impact on the treatment of wastewater.1.4 Identify and interpret stakeholder and <i>customer</i> requirements that impact on the discharge environment.1.5 Identify and interpret wastewater catchment impacts.
2 Develop a wastewater treatment management plan.	<ul style="list-style-type: none">2.1 Identify and interpret wastewater quality and quantity requirements according to legislative and enterprise requirements.2.2 Identify and assess <i>environmental factors</i> that impact on the treatment of wastewater.2.3 Identify and assess <i>testing</i> and <i>monitoring</i> processes and incorporate into the plan's development.2.4 Monitor information that impacts on the planning process according to enterprise procedures.2.5 Identify, quantify and define available resources.2.6 Prepare and present the wastewater treatment management plan.
3 Review and refine wastewater treatment management plan.	<ul style="list-style-type: none">3.1 Identify deviations from the management plan.3.2 Identify and evaluate system changes to meet the requirements of the treatment management plan.3.3 Identify and evaluate changes to the management plan required due to legislative, organisational, community and stakeholder requirements.3.4 Report and recommend changes to the management plan according to legislative and organisational requirements.3.5 Incorporate accepted recommendations into the updated and modified wastewater treatment management plan.3.6 Implement changes to the management plan.

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
- use data to inform planning processes
- coordinate operations and maintenance activities

Required knowledge:

- relevant legislation
- relevant enterprise policies
- range of appropriate measuring and testing procedures
- investigation procedures
- 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 develop and monitor policies and plans for the treatment of wastewater including:

- gathering, interpreting and synthesising information (including historical system data, current legislation and standards, stakeholder views and monitoring results) to underpin the sound development of the wastewater treatment management plan
- consulting widely and effectively
- developing effective wastewater treatment management plans that address the water organisation's objectives and requirements
- using data from monitoring arrangements to track the performance of the wastewater treatment management plan and inform the review of the plan
- preparing reports and recommendations for changes to the objectives of the management plan and its implementation

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.

Legislative requirements may include:

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

Customer may include:

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

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
- community activities and attitudes
- natural events (e.g. floods, fires)
- industry activities and attitudes
- micro-organisms
- odour dispersion

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

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

Unit Sector(s)

Not applicable.

Competency field

Treatment.