



Australian Government

Department of Education, Employment and Workplace Relations

NWP264B Monitor, operate and report wastewater pre-treatment processes

Revision Number: 2

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Modification History

NWP264B Release 2: Layout adjusted. No changes to content.

NWP264B Release 1: Primary release.

Unit Descriptor

This unit of competency describes the outcomes required to monitor, operate and report on wastewater pre-treatment processes, including separation processes such as screens and grit removal, used in industrial or domestic wastewater treatment plants prior to biological treatments.

Application of the Unit

This unit supports the attainment of skills and knowledge required for operational staff with specific responsibility for ensuring that pre-treatment processes comply with legislative and organisational requirements.

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
1 Plan and prepare for work.	1.1 Determine work requirements from specifications and instructions. 1.2 Identify and report potential risks to self, other employees, public and environment. 1.3 Select and check work site <i>equipment, tools and safety materials</i> as appropriate to meet task and safety specifications. 1.4 Select, fit and use personal protective equipment according to <i>organisational requirements</i>.
2 Monitor pre-treatment processes.	2.1 Carry out <i>routine plant inspections</i> according to standard operating procedures. 2.2 Monitor <i>processes</i> to maintain parameters of operation. 2.3 Collect process samples and conduct standard <i>tests</i>. 2.4 Collect, record and report process data according to organisational and plant requirements. 2.5 Identify and report process faults and operational condition of plant according to organisational requirements.
3 Operate pre-treatment processes.	3.1 Operate pre-treatment processes according to specifications and organisational procedures. 3.2 Initiate <i>system adjustments</i> to enhance system performance according to system specifications and organisational procedures. 3.3 Handle, use, store and dose chemicals according to organisational procedures.
4 Review, report and record work.	4.1 Check, maintain and store equipment, tools and materials according to manufacturer guidelines and environmental and organisational procedures. 4.2 Compile <i>reports</i> from plant and system data to meet organisational requirements. 4.3 Report observations outside defined parameters for further action.

Required Skills and Knowledge

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

Required skills:

- identify and report operational problems
- produce reports and logs
- use safety and personal protective equipment
- follow plans, charts, specifications and instructions
- sample and test process stream
- perform work-related calculations
- apply procedures and standards
- communicate with employees and customers
- work effectively as part of a team
- use communication equipment
- give and receive instructions
- identify control system faults
- use literacy skills in regard to verbal and written communication in the workplace
- sample and test products

Required knowledge:

- principles of and need for effective pre-treatment
- system layout
- lock-out procedures for mechanical and electrical installations
- policies, procedures and legislation applied to wastewater pre-treatment processes
- relevant utilities and service bodies
- communication systems
- work-related calculations
- chemicals for odour or pH control
- hazardous materials handling
- environment, landscape and ground structure of work area
- risk factors and potential hazards related to water or wastewater treatment
- chemical dosing processes
- equipment operation, capacity and limitations
- pumping and valving systems
- control systems
- impacts of hydraulic loads on processes

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 monitor, operate and report on wastewater pre-treatment processes including:

- planning and preparing for work
- collecting and labelling samples and performing tests
- inspecting plant and monitoring processes
- collecting and recording data
- operating and adjusting processes
- recording all required information

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 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 and cultural issues that may affect responses to the questions, and will reflect 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.

- Equipment, tools and safety materials*** may include:
- electronic monitoring and metering systems
 - recording systems
 - basic hand and power tools
 - sampling and laboratory testing and equipment
 - computerised equipment
 - communication equipment
 - personal protective equipment
- Organisational requirements*** may include:
- codes of practice, associated standards and guidance material
 - documented organisational policies, manuals and induction programs which may refer to legislation and/or regulations
 - relevant community planning and development agreements, such as land care agreements
- Routine plant inspections*** may include:
- interaction and communication with other employees, other authorities and general public
 - visual observation
 - identification of corrosion damage
- Processes*** may include:
- screening
 - gravity and aerated grit chambers
 - gross pollution traps
 - removal and disposal of screenings
 - shredding
 - odour removal
 - oily water separators
 - riffle plate separators
- Tests*** may include:
- settling tests
 - pH
 - dissolved oxygen
 - suspended solids
 - chemical oxygen demand
- System adjustments*** may include:
- pH correction
 - dissolved oxygen levels
 - flow control
 - screen rotation frequency
 - solids removal

- Reports** may include:
- chemical additions
 - plant performance data
 - chemical usage

Unit Sector(s)

Not applicable.

Competency field

Treatment.