



Australian Government

Department of Education, Employment and Workplace Relations

NWP311B Monitor and operate wastewater collection and transfer systems

Revision Number: 2

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Modification History

NWP311B Release 2: Layout adjusted. No changes to content.

NWP311B Release 1: Primary release.

Unit Descriptor

This unit of competency describes the outcomes required to monitor and coordinate the operation of wastewater collection and/or wastewater transfer systems and to measure and report on the operation of the system. The ability to interpret technical documentation, identify and investigate operational problems and to collect and analyse technical information are essential to performance.

Application of the Unit

This unit supports the attainment of skills and knowledge required for field staff and operators with a specific responsibility for inspecting and measuring the performance of wastewater collection and/or wastewater transfer systems and for ensuring that flows are regulated according to organisational specifications and system demands.

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 Monitor system performance and usage.	1.1 Select and check <i>equipment</i> required for monitoring system performance. 1.2 Schedule and conduct routine inspections and report <i>faults</i> according to <i>organisational procedures and statutory requirements</i> 1.3 Collect, analyse and report system performance and usage data according to organisational requirements. 1.4 <i>Monitor and coordinate</i> sample collection and records according to organisational procedures.
2 Regulate flows.	2.1 Inspect and adjust <i>flow regulating systems</i> according to organisational procedures. 2.2 Monitor volumes and make adjustments to meet system requirements. 2.3 Monitor flows and diversions required for repair or emergency activities.
3 Operate and control processes.	3.1 Control and improve <i>processes</i> to maintain operating parameters. 3.2 Carry out wastewater flow measurements according to organisational procedures. 3.3 Identify, address and report <i>process faults</i> according to organisational and statutory requirements. 3.4 Optimise process performance according to organisational and statutory requirements.
4 Compile process records.	4.1 Compile reports from system data to meet organisational and statutory requirements. 4.2 Record the condition of equipment and report faults or anticipated problems according to organisational and statutory requirements.

Required Skills and Knowledge

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

Required skills:

- communicate effectively and appropriately with colleagues and contractors
- respond to and correct operational problems
- produce reports and logs
- use safety equipment and personal protective equipment
- identify and investigate operational problems
- collect and analyse data
- interpret plans, charts, service search diagrams and instructions and specifications
- interpret policies, standard operating procedures and standards
- communicate with employees and customers
- use communication systems
- give and receive instructions
- control system operations
- identify control system faults

Required knowledge:

- system hydraulics
- coordination and control of processes
- system layout
- system processes
- environmental aspects of wastewater collection and transfer systems
- infiltration and inflow sources
- illegal inflows
- discharges
- disinfection and chemical use
- safety procedures
- lock out procedures for mechanical and electrical installations
- policies, standard operating procedures and legislation
- relevant utilities and service bodies
- communication systems
- risk factors and potential hazards involved with wastewater pressures and flows
- equipment operation, capacity and limitations
- effects of weather and conditions on operation of collection and transfer systems
- pipes and fittings
- gravity systems
- pumping and valving systems
- control systems

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 and coordinate the operation of wastewater collection and/or wastewater transfer systems including:

- preparing equipment for monitoring and inspections
- monitoring the system and collecting, analysing and reporting data according to organisational procedures
- reviewing samples and records
- adjusting flow regulating systems
- monitoring volumes and flows
- controlling, integrating and optimising processes
- identifying and reporting process faults
- measuring wastewater flows
- completing relevant workplace documentation

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 only taken at the point 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.

Equipment used may include:

- electronic monitoring, telemetry and metering systems
- manual chart recording systems
- on- and off-road vehicles
- disinfection equipment
- testing and sampling equipment
- communication equipment
- personal protective equipment
- atmosphere monitoring equipment
- breathing apparatus
- rescue equipment
- pumping systems
- valving systems
- gravity systems
- computerised equipment

Faults may involve:

- illegal inflows
- discharges
- odours
- surcharges

Organisational procedures and statutory requirements may include:

- by-laws and organisational policies
- standard operating procedures
- environment protection
- hazardous substances
- occupational health and safety, including the use of personal protective equipment
- relevant Australian Standards
- manufacturer's standards and specifications
- World Health Organisation guidelines

Monitor and coordinate may require:

- interaction and communication with other employees, other authorities and the general public
- visual observation
- implementation of reporting procedures that may also include lock out for electrical and mechanical installations and procedures for the implementation of by-laws, organisational policies, standard operating procedures and statutory requirements

Adjustment of ***flow***

- the adjustment of pumping systems

regulating systems may require:

- valving systems
- gravity flow systems
- service reservoirs
- electronic and manual control systems

Processes may include:

- monitoring infiltration and exfiltration of wastewater collections systems
- monitoring volume of transfer systems
- attending to and recording problems such as odour or discharge

Process faults may include:

- grit drop out in pipe work
- exfiltration tracking/ CCTV survey records
- infiltration tracking/ smoke testing/ CCTV survey records
- emergency release

Unit Sector(s)

Not applicable.

Competency field

Collection and distribution.