



Australian Government

Department of Education, Employment and Workplace Relations

NWP338B Perform infiltration and odour investigations

Revision Number: 2

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Modification History

NWP338B Release 2: Layout adjusted. No changes to content.

NWP338B Release 1: Primary release.

Unit Descriptor

This unit of competency describes the outcomes required to investigate and report on odour and infiltration problems in the wastewater collection and transfer systems. The ability to investigate and resolve wastewater system problems, operate technical equipment and prepare technical reports are essential to performance.

Application of the Unit

This unit supports the attainment of skills and knowledge required for field and operational staff with a specific responsibility for ensuring that odour and infiltration problems in wastewater collection and/or transfer systems are identified and remedied in a safe and timely manner.

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 investigation.	<p>1.1 Inspect and select <i>tools and equipment</i> according to <i>organisational and statutory requirements</i>.</p> <p>1.2 Schedule regular <i>inspections</i> according to organisational procedures.</p> <p>1.3 Correctly select, fit and use required safety equipment, including personal protective equipment.</p>
2 Investigate and correct odour problems.	<p>2.1 Collect and record wastewater samples according to organisational procedures.</p> <p>2.2 Investigate and report odour sources in the wastewater collection and transfer system according to organisational requirements.</p> <p>2.3 Integrate processes to improve system performance and correct odour problems according to organisational requirements.</p>
3 Investigate and address infiltration problems.	<p>3.1 Manage <i>flow regulations</i> and determine and undertake diversions and/or isolation of the site to facilitate investigation processes.</p> <p>3.2 Identify address and report illegal inflows or discharges of the wastewater collection and transfer flows according to organisational and statutory requirements.</p>
4 Compile reports and records.	<p>4.1 Review and action investigation results according to organisational and statutory requirements.</p> <p>4.2 Compile reports from wastewater collection and transfer flow data to meet organisational and statutory requirements.</p>

Required Skills and Knowledge

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

Required skills:

- identify and investigate the source of infiltration and inflows
- investigate illegal inflows and discharges
- investigate odour problems
- identify and correct operational problems
- produce reports, logs, etc.
- use safety equipment and personal protective equipment
- interpret plans, service diagrams, charts and specifications
- interpret policies, standard operating procedures and plumbing and drainage standards
- communicate with employees and customers
- manage system operations and processes
- use communication equipment
- give and receive instructions
- monitor inflows
- operate computerised equipment
- identify control system faults

Required knowledge:

- system hydraulics
- monitoring processes
- system layout
- system processes
- systems operation
- isolation procedures
- environmental aspects of wastewater collection systems and infrastructure
- infiltration and inflow sources
- illegal inflows and discharges
- safety procedures
- lock out procedures for mechanical and electrical installations
- policies, standard operating procedures and legislation
- relevant utilities and service bodies
- communication systems
- environment, landscape and ground structure of work area
- risk factors and potential hazards involved in wastewater collection systems equipment operation, capacity and limitations
- effects of weather and conditions on operation of collection infrastructure
- pipes and fittings
- pumping and valving systems

- gravity 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 investigate, and report on odour and infiltration problems in the wastewater collection and transfer systems including:

- inspecting and selecting tools and equipment
- scheduling inspections
- collecting and recording wastewater samples
- investigating and reporting odour sources
- integrating processes
- managing flow regulations, diversions and isolation of the site
- identifying, addressing and reporting illegal inflows or discharges
- reviewing and addressing investigation results
- completing required 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.

Tools and equipment may include:

- electronic monitoring and metering systems
- gas detection equipment
- sampling and testing equipment
- infiltration dye testing equipment
- smoke testing equipment
- closed circuit television
- manual chart recording systems
- on- and off-road vehicles
- communication equipment
- marine craft
- breathing apparatus
- atmosphere monitoring equipment
- rescue equipment
- appropriate personal protective equipment
- computerised equipment

Organisational and statutory requirements may include:

- by-laws and organisational policies
- standard operating procedures
- environment protection
- equal employment opportunity
- occupational health and safety
- plumbing and drainage standards
- Water Acts
- electrical and mechanical procedures
- hazardous substances and dangerous goods
- World Health Organisation and National Health and Medical Research Council (NHMRC) guidelines

Inspections may require:

- investigation of:
 - trade waste admission
 - on-site pre-treatment systems
 - air scrubbers
 - grease traps
 - separators and arresters
 - illegal connections
 - infiltration sources
- interaction and communication with other employees,

plumbing and drainage consultants, other authorities and the general public

- visual and electronic inspections
- condition monitoring of assets
- implementation of reporting procedures that may also include:
 - procedures for the implementation of by-laws
 - organisational policies
 - standard operating procedures
 - statutory requirements
- the adjustment of:
 - pumping systems
 - valving systems
 - electronic and manual control systems
 - gravity systems

Flow regulations may require:

Unit Sector(s)

Not applicable.

Competency field

Collection and distribution.