



Australian Government

NWPGEN021 Sample and test wastewater

Release: 1

NWPGEN021 Sample and test wastewater

Modification History

Release 1. This is the first release of this unit of competency in the NWP National Water Training Package.

Application

This unit involves the skills and knowledge required to sample and test wastewater.

It includes preparing for and conducting wastewater sampling and testing and finalising work. It also includes collecting and preparing wastewater samples and performing wastewater tests. This unit does not include off-site laboratory testing.

This unit applies to those working in field operations in industries. Those undertaking this unit would work under appropriate supervision, while performing routine tasks in a range of familiar contexts.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Not applicable.

Competency Field

General

Unit Sector

Not applicable.

Elements and Performance Criteria

ELEMENTS

Elements describe the essential outcomes.

1 Prepare for wastewater sampling and testing

PERFORMANCE CRITERIA

Performance criteria describe the performance needed to demonstrate achievement of the element.

1.1 Determine work requirements from standard operating procedures

1.2 Confirm and record samples, locations and tests to

- comply with requirements
- 1.3** Select and check and relevant equipment and tools to meet tasks and safety requirements
 - 1.4** Select and apply relevant sample preservation methods
 - 1.5** Select, fit and use personal protective equipment according to workplace procedures
- 2 Conduct wastewater sampling and testing**
- 2.1** Apply chain of custody principles according to workplace procedures
 - 2.2** Collect samples ensuring types, locations, times and labels comply with requirements and workplace procedures
 - 2.3** Prepare samples for off-site laboratory testing according to requirements
 - 2.4** Maintain integrity of samples during sampling and worksite testing
 - 2.5** Conduct worksite wastewater quality tests according to workplace procedures and record results
 - 2.6** Assess and report abnormal characteristics to relevant personnel
- 3 Finalise work**
- 3.1** Clear and restore work area according to workplace procedures
 - 3.2** Report observations or measurements requiring further action to relevant personnel
 - 3.3** Dispose of samples, clean and store test equipment according to workplace procedures

Foundation Skills

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

Range of Conditions

Range is restricted to essential operating conditions and any other variables essential to the work environment.

Non-essential conditions may be found in the Companion Volume Implementation Guide.

Unit Mapping Information

This unit replaces and is equivalent to NWPGEN008 Sample and test wastewater.

Links

Companion Volume implementation guides are found in VETNet -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=26336bc0-04e5-49d9-8c31-46c49b6a0037>

Companion Volume implementation guides are found in VETNet -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=26336bc0-04e5-49d9-8c31-46c49b6a0037>

Companion Volume implementation guides are found in VETNet -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=26336bc0-04e5-49d9-8c31-46c49b6a0037>

Assessment Requirements for NWPGEN021 Sample and test wastewater

Modification History

Release 1. This is the first release of this unit of competency in the NWP National Water Training Package.

Performance Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy all the requirements of the elements and performance criteria on at least one occasion and includes:

- assessing risks
- calibrating worksite testing equipment
- collecting samples from at least one of the following:
 - effluents
 - raw wastewater
 - reclaimed water
 - sludges
- disposing of waste and spent samples
- following sampling and testing procedures
- performing at least three of the following types of worksite tests on the collected samples:
 - dissolved oxygen
 - electrical conductivity
 - foaming
 - microscopic observations
 - odours
 - pH
 - redox potential
 - settleability
 - sludge blanket depth
 - temperature
 - visual observations
- planning and preparing for wastewater sampling tasks
- preparing, checking and using equipment
- preparing, collecting, labelling and preserving wastewater samples
- recording all required information

Knowledge Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy all the requirements of the elements and performance criteria and includes knowledge of:

- abnormal characteristics of wastewater samples and test results
- chain of custody
- effects of weather and conditions on work
- hazards associated with collection of wastewater samples
- maintenance and storage of reagents
- range and purpose of worksite wastewater testing and sampling
- requirements for maintaining sample integrity
- sample collection methods:
 - composite
 - grab
- sample types for the following tests:
 - chemical
 - microbial
 - physical
- wastewater sample preparation
- workplace policies and procedures

Assessment Conditions

Assessors must hold credentials specified within the Standards for Registered Training Organisations current at the time of assessment.

Assessment must satisfy the Principles of Assessment and Rules of Evidence and all regulatory requirements included within the Standards for Registered Training Organisations current at the time of assessment.

Assessment must occur in workplace operational situations where it is appropriate to do so; where this is not appropriate, assessment must occur in simulated workplace operational situations that replicate workplace conditions.

Assessment processes and techniques must be appropriate to the language, literacy and numeracy requirements of the work being performed and the needs of the candidate.

Resources for assessment must include access to:

- relevant and appropriate materials, tools, equipment and personal protective equipment currently used in industry
- applicable documentation including legislation, regulations, codes of practice, workplace procedures and operation manuals.

Links

Companion Volume implementation guides are found in VETNet -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=26336bc0-04e5-49d9-8c31-46c49b6a0037>

Companion Volume implementation guides are found in VETNet -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=26336bc0-04e5-49d9-8c31-46c49b6a0037>

Companion Volume implementation guides are found in VETNet -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=26336bc0-04e5-49d9-8c31-46c49b6a0037>