



Australian Government

NWPTRT023 Monitor and operate ultraviolet processes

Release: 1

NWPTRT023 Monitor and operate ultraviolet processes

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 monitor and operate ultraviolet (UV) processes.

It includes preparing and maintaining UV irradiation disinfection processes and reporting on microbiological quality control.

This unit applies to operational staff with specific responsibility for ensuring UV irradiation disinfection systems comply with workplace requirements. 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

Treatment

Unit Sector

Not applicable.

Elements and Performance Criteria

ELEMENTS

Elements describe the essential outcomes.

1 Prepare for work

PERFORMANCE CRITERIA

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

1.1 Determine work requirements from job specifications and plans

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|--|------------|--|
| | 1.2 | Select and check equipment required to meet safety requirements of task and worksite |
| | 1.3 | Select, fit and use required safety equipment including, personal protective equipment (PPE) |
| 2 Monitor processes | 2.1 | Monitor UV irradiation disinfection processes according to workplace procedures |
| | 2.2 | Collect process samples and conduct standard tests according to workplace procedures |
| | 2.3 | Make process adjustments to maintain effectiveness of UV irradiation disinfection processes |
| | 2.4 | Monitor the parameter set points for critical control points and operational control points |
| 3 Maintain and operate UV irradiation disinfection system | 3.1 | Perform routine inspections of system components |
| | 3.2 | Clean and replace system components according to workplace procedures |
| | 3.3 | Operate UV lamp sequencing according to manufacturer instructions |
| 4 Complete documentation | 4.1 | Maintain information relating to UV processes |
| | 4.2 | Collect, record and complete process data according to workplace procedures and process requirements |
| | 4.3 | Identify data outside of normal operational parameters and report to relevant personnel for further action |

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 NWPTRT053 Operate and control UV processes.

Links

Companion Volume implementation guides are found in VETNet -

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

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Assessment Requirements for NWPTRT023 Monitor and operate ultraviolet processes

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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:

- collecting and reporting process data
- identifying and responding to process faults
- identifying hazards
- interpreting and following safety data sheets
- maintaining and operating ultraviolet (UV) irradiation disinfection systems
- monitoring, operating and reporting on UV irradiation disinfection systems
- performing calculations to determine ultraviolet generation requirements
- performing at least one of the following standard tests:
 - hardness
 - iron
 - lamp intensity
 - suspended solids
 - total organic carbon
 - turbidity
 - ultraviolet transmittance (UVT)
- selecting and using appropriate tools and equipment including personal protective equipment
- using cleaning chemicals, safely

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:

- effects of weather and conditions on operation of worksite or plant
- lockout procedures for mechanical and electrical installations
- microbiological water quality guidelines
- risk factors and potential hazards associated with UV irradiation systems
- safe use of cleaning chemicals and prevention of associated hazards
- safety data sheets

- UV irradiation disinfection systems including:
 - components
 - layout
 - maintenance
 - operation
 - properties
- UV irradiation generation equipment operation, capacity and limitations
- workplace policies and procedures, legislation and industry codes of practice

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.

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