



Australian Government

NWPTRT033 Operate and control DAF processes

Release: 1

NWPTRT033 Operate and control DAF processes

Modification History

Release	Comments
1	This unit was released in NWP Water Training Package release 1.0 and meets the Standards for Training Packages. • New unit, created drawing upon information from deleted units NWP352B and NWP407A

Application

This unit describes the skills required to operate and control the dissolved air flotation (DAF) process and to measure and report on system performance and process quality control. The ability to identify faults and determine and apply technical adjustments is essential to performance.

This unit applies to those working as operational staff with a specific responsibility for dissolved air flotation (DAF) processes.

The skills and knowledge described in this unit must be applied within the legislative, regulatory and policy environment in which they are carried out. Organisational policies and procedures must be consulted and adhered to.

Those undertaking this unit would work under supervision, while performing routine tasks, within a familiar context.

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

Competency Field

Treatment

Elements and Performance Criteria

ELEMENTS	PERFORMANCE CRITERIA
Elements describe the essential outcomes	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the range of conditions section.
1. Plan and prepare for	1.1 Determine work requirements from job specifications and plans. 1.2 Select and check equipment to meet safety requirements of task

work	and site. 1.3 Select, fit and use personal protective equipment.
2. Operate and control process	2.1 Carry out routine inspection on assets. 2.2 Collect process samples. 2.3 Carry out routine tests. 2.4 Identify and report process faults and operational condition of assets. 2.5 Carry out basic process adjustments to enhance process performance. 2.6 Monitor processes to maintain parameters of operation.
3. Complete documentation	3.1 Collect, record and complete process data. 3.2 Identify data that falls outside normal parameters and report for further action.

Foundation Skills

The foundation skills demands of this unit have been mapped for alignment with the Australian Core Skills Framework (ACSF). The following tables outline the performance levels indicated for successful attainment of the unit.

ACSF levels indicative of performance:

1	2	3	4	5	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
Learning					Reading					Writing					Oral communication					Numeracy				

Performance variables:

1	2	3	4	5	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
Support					Context					Text complexity					Task complexity				

Further information on ACSF and the foundation skills underpinning this unit can be found in the Foundation Skills Guide on the GSA website.

Range of Conditions

DAF process applications include:	- for drinking water - clarification - combined filtration and clarification (DAFF) - for wastewater
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	• sludge thickening • for industrial water • fat, oils and grease removal • metal separation
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Unit Mapping Information

No equivalent unit.

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 NWPTRT033 Operate and control DAF processes

Modification History

Release	Comments
1	These Assessment Requirements were released in NWP Water Training Package release 1.0 and meet the Standards for Training Packages.

Performance Evidence

Evidence required to demonstrate competence must satisfy all of the requirements of the elements and performance criteria. The candidate must be assessed in at least one of the DAF processes listed in the Range of Conditions. If not otherwise specified the candidate must demonstrate evidence of performance of the following on least one occasion.

- identifying reporting faults
- completing logs
- performing process calculations including:
 - recycle ratio
 - hydraulic loading rate
- preparing and applying chemical dosing
- monitoring test results and processes
- conducting routine plant inspections
- taking samples, adjusting dosing and performing basic tests, including at least one of:
 - pH
 - flotation tests
 - colour
 - turbidity
 - solids
 - jar testing
- making basic process adjustments according to instructions, including at least one of:
 - saturator pressure
 - water level and flow rate

Knowledge Evidence

Evidence required to demonstrate competence must satisfy all of the requirements of the elements and performance criteria. If not otherwise specified the depth of knowledge demonstrated must be appropriate to the job context of the candidate.

- features and components of dissolved air flotation systems, including:
 - valves
 - recycle pumps
 - compressor
 - saturator
 - float removal mechanism
 - dispersion valves
 - cutting sprays
- making basic process adjustments according to instructions, including:
 - air loading
 - recycle flow rates
 - saturated pressure
 - detention time
 - float removal frequency
 - intended plant configuration
- water quality impacts or mixed liquor characteristics, including:
 - turbidity
 - colour
 - presence of algae
 - temperature
 - suspended solids
- types of dissolved air flotation processes, including:
 - dissolved air flotation
 - dissolved air flotation filtration (DAFF)
 - dissolved air flotation sludge thickening
- range of appropriate measuring and testing procedures, including:
 - turbidity
 - true colour
 - float solids content
- chemicals used for coagulation and flocculation or thickening
- theory of process operations, including:
 - dissolved air flotation/clarification
 - dissolved air flotation/filtration
 - dissolved air flotation/sludge thickening

Candidate should demonstrate basic knowledge of all processes listed in Range of Conditions.

Assessment Conditions

Competency should be assessed in an actual workplace or in a simulated environment, with access to equipment and infrastructure appropriate to the outcome. Competency should be demonstrated over time to ensure the candidate is assessed across a variety of situations.

Assessors must satisfy the NVR/AQTF mandatory competency requirements for assessors.

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