



Australian Government

MSS015049 Conduct a sustainable water use audit

Release: 1

MSS015049 Conduct a sustainable water use audit

Modification History

Release 1. Unit code changed. Application changed. Elements changed. Performance Criteria changed. Foundation Skills populated. Assessment Requirements changed. Workplace outcome changed. Supersedes and is not equivalent to MSS015028 Conduct a sustainable water use audit.

Application

This unit describes the skills and knowledge required to conduct a water use audit for a 'process'. In this unit a process could be an organisation, a significant part of an organisation or part of the value chain.

This unit applies to managers, operational or technical experts or others who are required to quantify water use from all sources, compare actual with theoretical (optimal) usage and recommend improvement strategies.

This unit applies to any organisation.

No licensing or certification requirements exist at the time of publication. Relevant legislation, industry standards and codes of practice within Australia must be applied.

Competency Field

Sustainable operations

Elements and Performance Criteria

Elements	Performance Criteria
Elements describe the essential outcomes.	Performance criteria describe the performance needed to demonstrate achievement of the element.
1. Identify all sources and uses of water in process	1.1 Define the scope and parameters of process to be audited according to regulatory and/or organisational requirements 1.2 Identify all external and internal sources of water relevant to process and categorise by quality 1.3 Identify all uses of water by process steps and related plant and equipment and quality of water used
2. Calculate theoretical use of water	2.1 Calculate theoretical net use of water for each process step 2.2 Calculate overall water balance for process 2.3 Evaluate the need for water consumption and water quality by process compared to alternative processes

Elements	Performance Criteria
Elements describe the essential outcomes.	Performance criteria describe the performance needed to demonstrate achievement of the element.
3. Measure actual use of water	3.1 Calculate actual net water use for overall process 3.2 Calculate actual net water use for each process step 3.3 Calculate difference between theoretical and actual water use by process step and overall 3.4 Determine current and optimal water quality for each process step
4. Develop strategies for improving water usage	4.1 Rank process steps by difference between theoretical and actual water use 4.2 Rank process steps by actual water use 4.3 Identify process steps using higher quality water than required 4.4 Prioritise process steps with potential for significant water usage improvements 4.5 Develop strategies for improvements in priority process steps 4.6 Determine expected improvement in theoretical water consumption and/or water quality usage for each strategy
5. Recommend water usage improvements	5.1 Consult with key stakeholders to confirm or amend strategies 5.2 Identify strategies related to regulatory and/or organisational requirements 5.3 Rank strategies by cost-benefit ratio 5.4 Short-list preferred water usage improvement strategies 5.5 Write report to present audit outcomes and recommendations for improving water usage

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential to performance but not explicit in the performance criteria.

- Reading skills to interpret regulatory and organisational requirements
- Writing skills to present audit outcomes and recommendations
- Oral communication skills to consult with stakeholders
- Numeracy skills to calculate theoretical and actual water consumption, apply cost-benefit analysis.

Other foundation skills essential to performance are explicit in the performance criteria of this unit.

Unit Mapping Information

Release 1. No equivalent unit.

Links

Companion Volume Implementation Guides are available from VETNet - -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5b04f318-804f-4dc0-9463-c3fb9a3fe998>

Assessment Requirements for MSS015049 Conduct a sustainable water use audit

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Performance Evidence

There must be evidence the candidate has completed the tasks outlined in the elements and performance criteria of this unit, and demonstrated the ability to:

- conduct a water use audit for at least one organisation, a significant part of an organisation or part of the value chain
- develop at least 3 recommendations for improving water usage.
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Knowledge Evidence

There must be evidence the candidate has knowledge of:

- specific water usages within production or operational processes undertaken by the organisation
- external sources of water
- internal water sources including natural water sources, water capture and water generated by process
- characteristics of categories of water quality and applications relevant to the industry including:
 - deionised/highly treated
 - potable water
 - groundwater
 - waterway/reservoir
 - recycled water
 - grey water
 - black water
 - wastewater
- strategies and methodologies for determining water quality
- strategies and sources of advice for determining impact of changes to water usage or quality
- principles of circularity and/or closed loop
- circular approaches to reducing waste
- methods of cost-benefit analysis

- current and emerging approaches to quantifying and evaluating costs, benefits, impacts and risks in relation to sustainability, including direct, indirect and intangible factors
- sustainability-related regulatory and reporting requirements relevant to the industry
- sustainability-related voluntary standards, codes, reporting frameworks, certification and co-regulatory arrangements relevant to the industry.
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Assessment Conditions

Skills must have been demonstrated in the workplace or in a simulated environment that reflects workplace conditions and contingencies. The following conditions must be met for this unit:

- use of suitable facilities, equipment and resources, including:
 - access to data on water supply and usage
- modelling of industry operating conditions.

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

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