



Australian Government

MSS015010 Conduct a sustainable water use audit

Release: 1

MSS015010 Conduct a sustainable water use audit

Modification History

Release 1. Supersedes and is equivalent to MSS015010A Conduct a sustainable water use audit.

Application

This unit of competency covers conducting an audit for the specific resource of water in a manufacturing organisation, or part or all of a value chain.

This unit applies inside organisations and their value chains. The unit has been developed with manufacturing operations as a focus. However, because of the range of organisations in a typical manufacturing value chain it may also be applied to other types of organisations.

The water use audit may be conducted to assist in regulatory compliance or as part of a strategy to improve the sustainability of operations. The emphasis in the unit is on informing decision making in regards to water use.

A manager or technical specialist who has a major responsibility for sustainability as part of a broader work role would typically undertake this, or sustainability may be their primary work responsibility. The manager or technical specialist may undertake this alone or as part of a team.

The technical measurement of operational performance or measurement of emissions or other environmental impact is not covered by this unit.

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

Pre-requisite Unit

Nil

Competency Field

Sustainable operations

Unit Sector

Not applicable

Elements and Performance Criteria

Elements describe the essential outcomes.

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

- | | | | |
|---|---------------------|-----|---|
| 1 | Identify all | 1.1 | Identify and categorise by quality all sources of water |
|---|---------------------|-----|---|

	sources and uses of water in process		external to the site.
		1.2	Identify and categorise by quality all sources of water within the site.
		1.3	Identify all uses of water by process and category.
		1.4	Identify water quality required by each process unit.
2	Calculate theoretical use of water	2.1	Calculate theoretical net use of water for each process unit.
		2.2	Calculate overall water balance for process/site.
		2.3	Evaluate the need for water consumption and water quality by process and units within the process compared to alternative processes/units.
3	Measure actual use of water	3.1	Determine actual net water use for overall process/site.
		3.2	Determine actual net water use for each process unit.
		3.3	Calculate difference between theoretical and actual water use by unit and overall.
		3.4	Identify actual water quality used by each process unit.
4	Develop strategies for reducing the use of water	4.1	Rank units by difference between theoretical and actual water use.
		4.2	Rank units by actual water use.
		4.3	Identify units using higher quality water than required.
		4.4	Develop strategies to reduce water consumption and/or use lower quality water.
5	Prepare a recommendation for a water use reduction	5.1	Consult with key stakeholders.
		5.2	Identify strategies required to meet regulatory or similar requirements.

- | | |
|-----------------|---|
| strategy | 5.3 Rank strategies by benefit/cost ratio. |
| | 5.4 Short-list preferred water reduction strategies. |
| | 5.5 Prepare recommendation for improving water usage. |

Foundation Skills

This section describes those required skills (language, literacy and numeracy) that are essential to performance.

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

Range of Conditions

This field allows for different work environments and conditions that may affect performance. Essential operating conditions that may be present (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) are included.

Sources within the site include one or more of	• water generated by process • rain water • other natural water sources.
---	--

Water quality categorisation includes one or more of	• deionised/highly treated (e.g. high pressure boiler feed) • potable water • groundwater • waterway/reservoir • recycled water • grey water • black water • wastewater.
---	--

Unit Mapping Information

Release 1. Supersedes and is equivalent to MSS015010A Conduct a sustainable water use audit.

Links

Companion Volume implementation guides are found in VETNet -

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

Assessment Requirements for MSS015010 Conduct a sustainable water use audit

Modification History

Release 1. Supersedes and is equivalent to MSS015010A Conduct a sustainable water use audit.

Performance Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy the requirements of the elements and performance criteria and include the ability, for one or more processes/value chains, to:

- identify the range of water quality
- calculate theoretical and actual water use by water quality
- match water quality to site or value chain needs
- consider benefit/cost arguments for different water strategies.

Knowledge Evidence

Must provide evidence that demonstrates sufficient knowledge to interact with relevant personnel and be able to conduct a water use audit including knowledge of:

- characteristics of water of different qualities
- typical water usage on a site
- specific water usages within production or operational processes undertaken by the organisation
- 'grades' of water and typical applications for water of different qualities
- strategies and methodologies for determining water quality
- strategies and sources of advice for determining impact of changes to water usage or quality with products or processes.

Assessment Conditions

- The unit should be assessed holistically and the judgement of competence shall be based on a holistic assessment of the evidence.
- The collection of performance evidence is best done from a report and/or folio of evidence drawn from:
 - a single project which provides sufficient evidence of the requirements of all the elements and performance criteria
 - multiple smaller projects which together provide sufficient evidence of the requirements of all the elements and performance criteria.
- A third party report, or similar, may be needed to testify to the work done by the individual, particularly when the project has been done as part of a project team.

- Assessment should use a real project where a sustainable water use audit is conducted for an operational workplace.
- Knowledge evidence may be collected concurrently with performance evidence or through an independent process such as workbooks, written assessments or interviews (provided a record is kept).
- 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.
- Conditions for assessment must include access to all tools, equipment, materials and documentation required including relevant workplace procedures, product and manufacturing specifications associated with this unit.
- Foundation skills are integral to competent performance of the unit and should not be assessed separately.
- Assessors must satisfy the assessor competency requirements that are in place at the time of the assessment as set by the VET regulator.
- The assessor must demonstrate both technical competency and currency.
- Technical competence can be demonstrated through:
 - relevant VET or other qualification/Statement of Attainment AND/OR
 - relevant workplace experience
- Currency can be demonstrated through:
 - performing the competency being assessed as part of current employment OR
 - having consulted with an organisation providing relevant environmental monitoring, management or technology services about performing the competency being assessed within the last twelve months.

Links

Companion Volume implementation guides are found in VETNet -

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