



Australian Government

Assessment Requirements for MSS017010

Determine process loss through mass or energy balancing

Release: 1

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Modification History

Release 1. Updated unit code. Changes to elements and performance criteria. Range of conditions removed. Assessment requirements amended. Equivalent outcome.

Performance Evidence

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

- undertaken a mass and an energy balance (which may be on different systems) or a combined mass and energy balance for 1 or more systems, each of which contains 5 or more subsystems or plant units.

Knowledge Evidence

There must be evidence the candidate has knowledge of:

- process and changes which occur at each step in selected value chain
- principles of sustainability
- root cause analysis
- sustainability legislation, regulation and protocols, government incentives and initiatives
- first law of thermodynamics
- defining boundaries for systems subject to mass and energy balancing
- required data, sources of data from process, and use of data proxies
- mass balancing as an analysis technique which allows for the calculation of mass flows and consumption through a process and losses of mass from the system or product
- energy balancing as an analysis technique which allows for the calculation of energy flows and consumption through a process and the losses of energy from the system or product
- mass balancing techniques
- energy balancing techniques, including the use of tables of thermodynamic properties (steam tables), and the use of specific heat capacity and specific latent heat
- combined mass and energy balancing techniques, including the use of heats and reaction and dissolution
- methods of reducing resource losses for process and equipment.

Assessment Conditions

Skills must have been demonstrated in the workplace or in a simulated environment that reflects workplace conditions, contingencies, facilities, equipment and resources.

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

Links

The MSS Sustainability Companion Volume implementation Guides are available from VETNet: -

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