



Australian Government

PMASUP420 Minimise environmental impact of process

Release: 1

PMASUP420 Minimise environmental impact of process

Modification History

Release 1. Supersedes and is equivalent to PMASUP420B Minimise environmental impact of process

Application

This unit of competency covers the skills and knowledge required to minimise the environmental impact of a plant and/or process. It applies to all resources used and products made by the plant, capital projects and improvements brought about by changes in work practices and procedures.

This unit of competency applies to experienced operators or those in similar roles who are required to apply in-depth knowledge of process and plant to in order to develop practices or procedures for conserving resources and minimising pollution and waste that will deliver the most benefits.

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

Pre-requisite Unit

Nil

Competency Field

Support

Unit Sector

Elements and Performance Criteria

Elements describe the essential outcomes.

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

1	Develop resource conservation practices and/or procedures	1.1	Identify the nature of resources used in the plant/process
		1.2	Identify the primary source of these resources
		1.3	Determine the impact of the depletion of these resources on the environment and society
		1.4	Determine which resources will yield a greater benefit from their conservation

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| | | 1.5 | Develop methods to reduce the consumption of these resources |
| | | 1.6 | Complete required documentation to implement change |
| 2 | Develop pollution minimisation practices and/or procedures | 2.1 | Identify the nature of pollutants produced by the plant/process |
| | | 2.2 | Determine the sources of these pollutants within the plant/process |
| | | 2.3 | Determine the impact of these pollutants on the environment and society |
| | | 2.4 | Determine which pollutant will yield a greater benefit from their reduction |
| | | 2.5 | Develop methods to reduce the production of this pollutant |
| | | 2.6 | Complete required documentation to implement change |
| 3 | Develop waste minimisation practices and/or procedures | 3.1 | Identify the nature of wastes produced by the plant/process |
| | | 3.2 | Determine the sources of these wastes within the plant/process |
| | | 3.3 | Identify the impact of these wastes on the environment and society |
| | | 3.4 | Determine which wastes will yield a greater benefit from their reduction |
| | | 3.5 | Develop methods to reduce the production of this waste |
| | | 3.6 | Complete required documentation to implement change |

Foundation Skills

This section describes those language, literacy, numeracy and employment skills 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.

- Regulatory framework** The latest version of all legislation, regulations, industry codes of practice and Australian/international standards, or the version specified by the local regulatory authority, must be used, and include one or more of the following:
- legislative requirements, including work health and safety (WHS)
 - industry codes of practice and guidelines
 - environmental regulations and guidelines
 - Australian and other standards
 - licence and certification requirements

All operations to which this unit applies are subject to stringent health, safety and environment (HSE) requirements, which may be imposed through state/territory or federal legislation, and these must not be compromised at any time. Where there is an apparent conflict between performance criteria and HSE requirements, the HSE requirements take precedence.

- Procedures** All operations must be performed in accordance with relevant procedures.

Procedures are written, verbal, visual, computer-based or in some other form, include one or more of the following:

- emergency procedures
- work instructions
- standard operating procedures (SOPs)
- safe work method statements (SWMS)
- formulas/recipes
- batch sheets
- temporary instructions
- any similar instructions provided for the smooth running of the plant.

Unit Mapping Information

Release 1. Supersedes and is equivalent to PMASUP420B Minimise environmental impact of process

Links

Companion Volume implementation guides are found in VETNet -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=9fc2cf53-e570-4e9f-ad6a-b228ffdb6875>

Assessment Requirements for PMASUP420 Minimise environmental impact of process

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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 to:

- examine plant records, data and operating procedures and practices to determine options for:
 - maximisation of product yield from raw materials
 - reduction in volume of pollutants made and/or reduction in concentration/intensity of pollutants made and/or reduction in emissions
 - minimisation of wastes
- determine relative benefits of the options and develop processes/procedures to achieve preferred options
- document preferred options and complete written and/or electronic records.

Knowledge Evidence

Evidence must be provided that demonstrates knowledge of:

- resources used by the plant and the impact on the environment and society of using resources
- nature and source of pollutants and waste materials produced by the plant
- nature and severity of the effect the pollutants and waste materials can have on the environment and society
- types of local conditions that can make environmental threats more ‘sensitive’
- pathways of entry to the environment from the plant
- process parameters and limits
- product specifications and tolerances
- principles of operation of plant/equipment
- science (e.g. physics, chemistry and biochemistry) relevant to the process, its materials and eco impacts
- regulatory framework
- organisation procedures, including those covering:
 - environmental management
 - safety, emergency and hazard control
 - procurement.

Assessment Conditions

- The unit should be assessed holistically and the judgement of competence 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 in an operational workplace. Where this is not possible or practical, assessment must occur using a sufficiently rigorous simulated environment reflecting realistic operational workplace conditions. This must cover all aspects of workplace performance, including environment, task skills, task management skills, contingency management skills and job role environment skills.
- 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.
- The regulatory framework will be reflected in workplace policies and procedures and is not required to be independently assessed.
- 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.
- In addition, the assessor or anyone acting in subject matter expert role in assessment must demonstrate both technical competency and currency. If the assessor cannot demonstrate technical competency and currency they must assess with a subject matter expert who does meet these requirements.
- Technical competence can be demonstrated through one or more of:
 - relevant VET or other qualification/Statement of Attainment
 - appropriate workplace experience undertaking the type of work being assessed under routine and non-routine conditions
 - appropriate workplace experience supervising/evaluating the type of work being assessed under routine and non-routine conditions
- Currency can be demonstrated through one or more of:
 - being currently employed undertaking the type of work being assessed

- being employed by the organisation undertaking the type of work being assessed and having maintained currency in accordance with that organisation's policies and procedures
- having consulted/had contact with an organisation undertaking the type of work being assessed within the last twelve months, the consultation/contact being related to assessment
- conducting on-the-job training/assessments of the type of work being assessed
- being an active member of a relevant professional body and participating in activities relevant to the assessment of this type of work.

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