



**Australian Government**

**Department of Education, Employment and Workplace Relations**

# **PMASUP520B Review procedures to minimise environmental impact of process**

**Revision Number: 1**

## PMASUP520B Review procedures to minimise environmental impact of process

### Modification History

Not applicable.

### Unit Descriptor

<b>Unit descriptor</b>	This competency covers the minimisation of waste and environmental threat by a plant and/or a process. It covers all resources used and products made.
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### Application of the Unit

<b>Application of the unit</b>	
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### Licensing/Regulatory Information

Not applicable.

### Pre-Requisites

<b>Prerequisite units</b>		
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### Employability Skills Information

<b>Employability skills</b>	This unit contains employability skills.
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## Elements and Performance Criteria Pre-Content

<p>Elements describe the essential outcomes of a unit of competency.</p>	<p>Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.</p>
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## Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Establish procedures for environmental management.	1.1. Establish workplace procedures of proactive environmental management which include resource conservation, pollution and waste minimisation 1.2. Determine primary source of respective aspects 1.3. Describe the negative impact of these aspects on the environment and the society if they are mismanaged 1.4. Prioritise management options according to the greatest benefit to environment and the society 1.5. Develop management procedures 1.6. Complete required documentation of implement change.
2. Review procedures for environmental management.	2.1. Review the procedures on a regular basis by consulting various work groups for feedback. 2.2. Incorporate relevant feedback into the revised procedures in consultation with the relevant personnel 2.3. Inform relevant work groups of any changes and implement changes in the procedures.
3. Implement and review an environmental management training program.	3.1. Understand the workplace environmental management training program 3.2. Review the program on a regular basis by consulting various work groups for feedback 3.3. Incorporate relevant feedback into the revised program in consultation with the relevant personnel 3.4. Inform relevant work groups of any changes and implement changes in the training program.
4. Implement and review environmental management recording system.	4.1. Understand the workplace environmental management recording system. 4.2. Review the system on a regular basis by consulting various work groups for feedback. 4.3. Incorporate relevant feedback into the revised system in consultation with the relevant personnel 4.4. Inform relevant work groups of any changes and implement changes in the management of environmental records.

## Required Skills and Knowledge

### REQUIRED SKILLS AND KNOWLEDGE

This describes the essential skills and knowledge and their level, required for this unit.

#### Required skills

- completing plant records
- communication
- problem solving.

#### Required knowledge

Knowledge and understanding of the control of environmental incident process and the importance of critical parameters enough to establish and review environmental management procedures within an organisation.

Competence includes the ability to apply and explain:

- nature and severity of potential environmental hazards caused by the plant/process
- sensitivity of local environment to these environmental threats
- pathways of entry to the environment from the plant
- regulatory requirements such as:
  - environment protection regulations
    - OHS
    - HAZCHEM
    - duty of care
    - dangerous goods
- external licensing requirements such as:
  - EPA
  - water authorities
  - local councils
  - enterprise procedures and practices.

## Evidence Guide

<b>EVIDENCE GUIDE</b>	
<p>The Evidence Guide provides advice on assessment and must be read in conjunction with the Performance Criteria, Required Skills and Knowledge, the Range Statement and the Assessment Guidelines for the Training Package.</p>	
<p><b>Overview of assessment</b></p>	<p>Assessment of this unit should include demonstrated competence on actual plant and equipment in a work environment. The unit will be assessed in as holistic a manner as is practical and may be integrated with the assessment of other relevant units of competency. Assessment will occur over a range of situations which will include disruptions to normal, smooth operation.</p> <p>Simulation may be required to allow for assessment of parts of this unit. Simulation should be based on the actual plant and will include walk throughs of the relevant competency components. Simulations may also include the use of case studies/scenarios and role plays.</p> <p>This unit of competency requires a significant body of knowledge which will be assessed through questioning and the use of what-if scenarios both on the plant (during demonstration of normal operations and walk-throughs of abnormal operations) and off the plant.</p>
<p><b>Critical aspects for assessment and evidence required to demonstrate competency in this unit</b></p>	<p>Competence must be demonstrated in the ability to apply plant and process knowledge to identify and analyse environmental hazards, and establish and review procedures for environmental management. Consistent performance should be demonstrated. In particular look to see that:</p> <ul style="list-style-type: none"> <li>• a holistic 'clean production' approach to waste minimisation is taken</li> <li>• potential effects on the environment are understood</li> <li>• terms initiated are followed through until final resolution has occurred</li> <li>• the process/plant is understood and proposals are capable of implementation</li> <li>• training needs are addressed</li> <li>• records are kept.</li> </ul> <p>These aspects may be best assessed using a range of scenarios/case studies/what-ifs as the stimulus with a walk-through forming part of the response. These assessment activities should include a range of problems, including new, unusual and extreme situations that may have been generated from the past incident history of the plant, incidents on similar plants around the world, hazard analysis activities (eg HAZOP) and similar sources.</p>
<p><b>Context of and specific resources for assessment</b></p>	<p>Assessment will require access to an operating plant over an extended period of time, or a suitable method of gathering evidence of operating ability over a range of situations. A bank of scenarios/case</p>

<b>EVIDENCE GUIDE</b>	
	studies/what-ifs will be required as will a bank of questions which will be used to probe the reasoning behind the observable actions.
<b>Method of assessment</b>	In all plants it may be appropriate to assess this unit concurrently with relevant teamwork units, communication units and units relevant to the process equipment. In a major hazard facility, it may be appropriate to assess this unit concurrently with relevant OHS units.
<b>Guidance information for assessment</b>	Assessment processes and techniques must be culturally appropriate and appropriate to the oracy, language and literacy capacity of the assessee and the work being performed.

## Range Statement

### RANGE STATEMENT

The Range Statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the Performance Criteria, is detailed below. Add any essential operating conditions that may be present with training and assessment depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts.

<b>Codes of practice/ standards</b>	Where reference is made to industry codes of practice, and/or Australian/international standards, the latest version must be used.
<b>Context</b>	<p>This competency covers process manufacturing plants which may involve workplace hazards such as:</p> <ul style="list-style-type: none"> <li>• chemicals and hazardous materials</li> <li>• gases and liquids under pressure</li> <li>• materials handling.</li> </ul> <p>This competency includes:</p> <ul style="list-style-type: none"> <li>• legislation, codes and national standards relevant to the workplace which may include: <ul style="list-style-type: none"> <li>• award and enterprise agreements and relevant industrial instruments</li> <li>• relevant legislation from all levels of government that effects business operation, especially in regard to OHS, environmental issues and industrial relations</li> <li>• relevant industry codes of practice</li> </ul> </li> <li>• awareness of the environment and the effects on the environment of the organisation's: <ul style="list-style-type: none"> <li>• liquid waste</li> <li>• solid waste</li> <li>• gas/fume/vapour/smoke emissions, including fugitive emissions</li> <li>• hazardous materials</li> <li>• excessive energy and water use</li> <li>• excessive noise</li> </ul> </li> </ul> <p>and the workplace practices that can be used to minimise or prevent these effects.</p>
<b>Information</b>	<p>Information may include:</p> <ul style="list-style-type: none"> <li>• organisational policies and procedures</li> <li>• relevant environmental legislation/regulation requirements</li> <li>• licence conditions</li> <li>• environmental treaties, conventions and national policies and</li> </ul>



**RANGE STATEMENT**

	<p>strategies</p> <ul style="list-style-type: none"><li>• National Pollutant Inventory</li><li>• State of the Environment reports</li><li>• voluntary environmental agreements entered into with external organisations/authorities</li><li>• continuous improvement policies and processes for the organisation.</li></ul>
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<b>RANGE STATEMENT</b>	
<b>Work group</b>	<p>Work group may include:</p> <ul style="list-style-type: none"> <li>• formal or unstructured groups</li> <li>• two or more people.</li> </ul>
<b>Proactive environmental management</b>	<p>Proactive environmental management may include:</p> <ul style="list-style-type: none"> <li>• resource conservation and efficiency</li> <li>• minimisation of waste</li> <li>• recycling</li> <li>• reduction in use of non-renewable resources</li> <li>• maximisation of product yield from raw materials</li> <li>• reduction in volume of pollutants made</li> <li>• reduction in concentration/intensity of pollutants made</li> <li>• reduction in emissions.</li> </ul>
<b>Approaches to proactive environmental management</b>	<p>Some approaches to proactive environmental management may include:</p> <ul style="list-style-type: none"> <li>• preventing and minimising the production of pollution, eg discharges to air, land and water, hazardous waste</li> <li>• improving housekeeping, eg using a broom instead of a hose, using old rags for cleaning instead of toxic cleaners or water</li> <li>• substituting materials, eg replacing toxic solvent based coatings with water based ones</li> <li>• changing processes, eg mechanical cleaning, re-design of products/ procedures so that materials are used more efficiently.</li> </ul>
<b>Environmental management policies</b>	<p>Environmental management policies must be appropriate to the scope and scale of the enterprise and may include:</p> <ul style="list-style-type: none"> <li>• environmental load reduction and waste minimisation</li> <li>• tenders for the provision of goods and services that specify environmentally preferred selection criteria</li> <li>• protection of land and habitat</li> <li>• environmentally sustainable work practices.</li> </ul>
<b>Typical functions</b>	<p>Typical functions may include:</p> <ul style="list-style-type: none"> <li>• examining plant records</li> <li>• examining operating procedures and practices</li> <li>• liaising with a range of internal people</li> </ul>
<b>Health, safety and environment (HSE)</b>	<p>All operations to which this unit applies are subject to stringent health, safety and environment requirements, which may be imposed through State 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.</p>

**Unit Sector(s)**

<b>Unit sector</b>	Support/generic
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**Competency field**

<b>Competency field</b>	
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**Co-requisite units**

<b>Co-requisite units</b>		
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