



**Australian Government**

# **MSMOPS601 Design equipment and system modifications**

**Release: 1**

# MSMOPS601 Design equipment and system modifications

## Modification History

Release 1. Supersedes and is equivalent to MSAPMOPS601A Design equipment and system modifications

## Application

This unit of competency covers the skills and knowledge required to design equipment and system modifications in a manufacturing situation. This unit is typically performed by high-level staff working as part of a design, development and implementation team and taking a lead technical role.

It does not include the design of equipment requiring specialist engineering skills or regulatory licensing, although it may include working with a person with this skill/licence.

This unit of competency applies to people who design modifications to equipment or systems, typically used for production. The modification may be to improve productivity, improve reliability, reduce waste (muda), reduce cost or other reasons. The competency can apply to the design of equipment/system modifications associated with product changes or improvements and/or establishment of a new production line/product. Typically it will be to meet a specified end use. This will involve working closely with a range of management and operations personnel and requires balancing the business, operational and technical sides of the modified equipment/system. This unit of competency applies to the technical expert. The competency is applied under limited guidance in line with a broad plan, budget or strategy. It will typically involve capital expenditure.

This unit competency is typically performed by senior technologists working in liaison with other technical experts, operations management, operators and other relevant people with whom they would work as part of a (possibly ad hoc) team.

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

## Pre-requisite Unit

Nil

## Competency Field

Operations

## Unit Sector

## Elements and Performance Criteria

Elements describe the      Performance criteria describe the performance needed to

essential outcomes		demonstrate achievement of the element	
1	Assess requirements	1.1	Establish modification or design requirement
		1.2	Establish design concepts
		1.3	Establish design limitations
		1.4	Consult with specialists/experts as required
2	Evaluate options	2.1	Define options
		2.2	Determine most appropriate modification
		2.3	Confirm selected option with appropriate personnel in accordance with workplace procedures
3	Design modifications	3.1	Design modification to meet end use specifications/standards and all legislative or regulatory requirements
		3.2	Verify design in accordance with enterprise procedures
		3.3	Check the modifications will not compromise health, safety and environment (HSE) performance
		3.4	Determine required outcome tests and results to establish conformance to requirements
4	Coordinate design implementation and testing in accordance with enterprise requirements	4.1	Initiate implementation of the design/modification
		4.2	Coordinate implementation of the design/modification
		4.3	Assess design outcome test results
		4.4	Assess any required variations to the design
		4.5	Prepare documentation to meet enterprise requirements
5	Maintain records	5.1	Maintain records of design and modification outcomes in accordance with enterprise procedures

## 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
- relevant Australian design standards
- workers' compensation legislation and regulation

## Procedures

All operations must be performed in accordance with relevant procedures.

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

- all work instructions
- standard operating procedures (SOPs)
- formulas/recipes
- batch sheets
- temporary instructions
- any similar instructions provided for the smooth running of the plant
- good operating practice as may be defined by industry codes of practice (e.g. Responsible Care)

<b>Modification/design requirements</b>	<p>Modification/design requirements include consideration of the following factors:</p> <ul style="list-style-type: none"><li>• production requirements</li><li>• facility requirements</li><li>• HSE requirements</li><li>• sustainability requirements</li><li>• other factors relevant to the job/work environment</li></ul>
<b>Design concepts</b>	<p>Design concepts include at a minimum:</p> <ul style="list-style-type: none"><li>• process</li><li>• material</li><li>• quantity</li><li>• cost</li><li>• outcome</li></ul>
<b>Design limitations</b>	<p>Design limitations will be determined through consideration of:</p> <ul style="list-style-type: none"><li>• codes</li><li>• regulations</li><li>• technical documentation</li><li>• other factors relevant to the job/work environment.</li></ul>
<b>Design</b>	<p>The design is to be for the modification of process plant/equipment.</p> <p>Design must include:</p> <ul style="list-style-type: none"><li>• design research and consultation with internal or external specialists</li><li>• assessment and evaluation of design concepts</li><li>• design implementation and testing of modifications</li></ul>

## Unit Mapping Information

Release 1. Supersedes and is equivalent to MSAPMOPS601A Design equipment and system modifications

## **Links**

Companion Volume implementation guides are found in VETNet -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=d1287d36-dff4-4e9f-ad2c-9d6270054027>