



Australian Government

PMASUP441 Decommission plant

Release: 1

PMASUP441 Decommission plant

Modification History

Release 1. Supersedes and is equivalent to PMASUP441C Decommission plant

Application

This unit of competency covers the skills and knowledge required to decommission an existing plant/pipeline or major plant area, and its associated equipment. It applies to plant/pipeline, such as on or offshore plant, wellheads, transmission pipelines or similar.

Decommissioning refers to the removal from service of plant/pipeline and equipment and its storage, 'mothballing' or disposal.

This unit of competency applies to senior technicians and those in similar roles who are required to apply in-depth knowledge of process and plant in order to plan and supervise the systematic shutdown, cleaning out and preparation for safe 'mothballing' of all of the plant and equipment.

The technician will have detailed operational and process knowledge but is not required to demonstrate 'hands on' operation of equipment as part of this competency.

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	Contribute to decommissioning planning	1.1	Apply process understanding to the planning process
		1.2	Identify the role and purpose of the plant and equipment
		1.3	Ensure the work is coordinated effectively with others involved on the work site

- 1.4 Identify process conditions and apply to hazard studies
 - 1.5 Undertake investigations following on from hazard studies
 - 1.6 Obtain materials necessary to complete the work and check against job requirements
 - 1.7 Obtain tools and equipment necessary to carry out the work and check for correct operation and safety
 - 1.8 Prepare plans to ensure that procedures are performed in the correct sequence
 - 1.9 Obtain approvals where necessary from appropriate authorities to ensure decommissioning process proceeds in accordance with the plan
 - 1.10 Complete all appropriate documentation
- 2 **Isolate and decontaminate equipment/unit according to procedures**
 - 2.1 Interpret and apply decommissioning plan
 - 2.2 Identify and use appropriate safety equipment and materials
 - 2.3 Isolate and decontaminate equipment components
 - 2.4 Dispose of contaminated materials or components
 - 2.5 Complete required documentation
- 3 **Inspect, test and notify completion of work**
 - 3.1 Select tools and equipment appropriate to the testing/inspection requirements and utilise in accordance with manufacturer specifications and legislative requirements
 - 3.2 Test/inspect in accordance with requirements
 - 3.3 Ensure compliance with work health and safety (WHS) legislative requirements for risk assessment prior to disposal
 - 3.4 Ensure any required additional work is undertaken/initiated
 - 3.5 Notify work completion

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.

Hazards

Hazards include one or more of the following:

- electricity
- gas
- gases and liquids under pressure
- structural hazards
- structural collapse
- equipment failures
- industrial (machinery, equipment and product)
- equipment or product mass
- noise, rotational equipment or vibration

- plant services (steam, condensate and cooling water)
- limited head spaces or overhangs
- working at heights, in restricted or confined spaces, or in environments subjected to heat, noise, dusts or vapours
- flammability and explosivity
- hazardous products and materials
- unauthorised personnel
- sharp edges, protrusions or obstructions
- slippery surfaces, spills or leaks
- extreme weather
- other hazards that might arise

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

Documentation Documentation includes one or more of the following:

- operating procedures
- WHS and environmental legislative requirements
- manufacturer specifications
- appropriate authority approvals (e.g. local councils, road authority, sewerage, stormwater, electricity, water and telephone)
- quality assurance inspection and test reports

Plant/pipeline systems This unit of competency includes all items of equipment and unit operations which form part of the pipeline system including, as relevant to a particular plant/pipeline:

- pipes
- valves
- operating units

- electrical and electronic components
- programmable logic controllers (PLCs)/distributed control systems DCS) or other plant controls
- cathodic protection (CP)
- pressure/flow/temperature, regulation and meters

Tools, materials and equipment

Tools, materials and equipment include one or more of the following:

- hand tools
- power operated tools
- plant
- emergency equipment
- electrical and electronic test equipment
- gas detectors
- air compressor
- water pump

Unit Mapping Information

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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 PMASUP441 Decommission plant

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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:
- plan, coordinate and monitor decommissioning activities
- arrange resources as required
- document the decommissioning and recommendations for safe storage/maintenance/disposal
- communicate effectively with stakeholders, including manufacturers, engineering personnel, designers, contractors and maintenance and other company personnel
- participate in hazard and operability studies (HAZOP), hazard analysis studies (HAZAN) or similar techniques

identify hazards and risks and apply risk control procedures complete written/electronic documentation.

Knowledge Evidence

Evidence must be provided that demonstrates knowledge of:

- all items on a schematic of the system and functions of each
- principles of operation of items of equipment in the system
- interactions between plant items/processes
- systems' operating parameters
- system integrity limits
- procedures for typical options/processes for removal of plant and equipment from service, including:
 - 'mothballing'
 - storage
 - disassembly
 - demolition
 - decontamination of equipment
 - disposal of equipment and waste
- safe disposal methods of materials and equipment
- decontamination processes
- science (e.g. physics, chemistry and biochemistry) relevant to process and materials processed or produced
- process parameters and limits (e.g. temperature, pressure, flow and pH)

- correct methods of starting, stopping, operating and controlling plant
- routine and non-routine problems that may arise, the range of possible causes and processes to develop solutions
- hierarchy of control.

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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