Australian Government

PMASUP440 Commission/recommission plant

Release: 1

PMASUP440 Commission/recommission plant

Modification History

Release 1. Supersedes and is equivalent to PMASUP440B Commission/recommission plant

Application

This unit of competency covers the skills and knowledge required to commission new plant/pipeline or recommission significantly modified plant/pipeline. It applies to plant/pipeline, such as on or offshore plant, wellheads, transmission pipelines or similar.

Commissioning refers to the start-up of a new plant or plant unit and the associated equipment for the first time. Recommissioning refers to the start-up of an existing plant following major modifications, rebuild or reconfiguration.

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 ensure design of new/modified plant meets safety and operability requirements, plan and coordinate commissioning/recommissioning, and complete required documentation. The technician would not normally have a ‘hands on’ operating role for all items of equipment, but may have a ‘hands on’ role for major items of equipment; however this is not required 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/review the design of plant/ equipment**	1.1	Apply process understanding to the design process
		1.2	Identify the role and purpose of the plant and equipment
		1.3	Ensure design meets the identified need

		1.4	Identify process conditions and apply to hazard and operability studies (HAZOP)
		1.5	Undertake investigations following hazard studies
		1.6	Record and report findings
2	**Take part in commissioning planning**	2.1	Ensure the work is coordinated effectively with others involved on the work site
		2.2	Obtain materials necessary to complete the work and check against job requirements
		2.3	Obtain tools and equipment necessary to carry out the work and check for correct operation and safety
		2.4	Prepare plans to ensure that procedures are performed in the correct sequence
		2.5	Obtain approvals, where necessary, from appropriate authorities
3	**Participate in acceptance of plant/ equipment**	3.1	Undertake pre-commissioning activities
		3.2	Complete safety acceptance documentation
		3.3	Identify, record and report problems or non-conformance
		3.4	Conduct trials/test runs
		3.5	Record and report performance data
4	**Commission system**	4.1	Bring the plant/plant systems/pipeline online
		4.2	Make and report adjustments
		4.3	Prepare reports in accordance with legislative and company requirements to maintain the historical record
5	**Evaluate results**	5.1	Identify modifications and improvements required

and identify modifications	5.2	Check specifications, procedures and training material match the final system/procedures
	5.3	Complete documentation and report to appropriate personnel

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
- work health and safety (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 system (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