



Australian Government

PMAOPS204 Select and use utilities and services

Release: 1

PMAOPS204 Select and use utilities and services

Modification History

Release 1. Supersedes and is equivalent to PMAOPS204B Use utilities and services

Application

This unit of competency covers skills and knowledge required to select and use a range of utilities and services in the plant.

This unit of competency applies to operators who are required to select the appropriate utility/service from those provided to the plant and recognise and respond to operational problems.

This unit of competency applies to an individual who may work alone although under routine direction and supervision. They may work as part of a team or group and will work in liaison with other shift team members and the control room operator, as appropriate.

In a typical scenario an operator will be able to identify and select utilities and services used on a day-to-day basis. These will be provided to a process plant and will consist of instrument and plant air, nitrogen, plant water, steam, flushing oil and other utilities/services required for a particular process. The operator uses these utilities/services as required. The correct use and application of these substances is essential to plant and operator safety and the continued performance of the process.

This unit of competency applies to any/all service utilities which form part of the utility system for the plant, typically:

- steam (saturated and superheated)
- air (process, instrument and breathable)
- water (cooling, boiler feed, plant and waste)
- inert atmosphere (nitrogen and carbon dioxide)
- flushing oil.

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 essential outcomes.

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

1	Prepare for work	1.1	Identify work requirements
		1.2	Identify and control hazards
		1.3	Coordinate with appropriate personnel
2	Select and use utilities and services	2.1	Identify utilities and services available in the plant
		2.2	Identify key properties, applications and limitations of each utility and service
		2.3	Select appropriate utility/service for the required duty
		2.4	Use selected utility/service to procedures
3	Respond to problems	3.1	Monitor use of utility/service frequently and critically throughout shift using measured/indicated data and smell, sight, sound and feel as appropriate.
		3.2	Recognise operational problems
		3.3	Analyse cause of operational problems within scope of skill level
		3.4	Take action to remedy operational problems in accordance with 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

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.

Service utilities Service utilities include one or more of the following:

- steam (saturated and superheated)
- air (process, instrument and breathable)
- water (cooling, boiler feed, plant and waste)
- inert atmosphere (nitrogen and carbon dioxide)
- flushing oil

Routine problems Routine problems must be resolved by applying known solutions.

Routine problems are predictable and include one or more of the following:

- non-supply of products and elements
- variation in product and element feed rates
- variations in temperature, pressure and flow
- blockages or leakage

Known solutions are drawn from one or more of the following:

- procedures
- training

- remembered experience

Non-routine problems must be reported according to according to relevant procedures.

Operate Operate is to monitor, adjust/change the plant item/unit/system to meet specifications, by one or more of the following:

- manually in the plant
- using local controller in the plant
- using the process control system in the control room

Action Action in accordance with procedures includes the following:

- determining problems needing action
- determining possible fault causes
- rectifying problem using appropriate solution within area of responsibility
- following through items initiated until final resolution has occurred
- reporting problems outside area of responsibility to designated person

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:

- 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

Hazards Hazards include one or more of the following:

- smoke, darkness and heat
- dust or other atmospheric hazards
- 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 or other atmospheric hazards
- 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

Unit Mapping Information

Release 1. Supersedes and is equivalent to PMAOPS204B Use utilities and services

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 PMAOPS204 Select and use utilities and services

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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:

- select the required utility/service
- recognise early warning signs of equipment/processes needing attention or with potential problems
- determine the most likely cause of routine problems
- take appropriate action to ensure a timely return to full performance
- isolate the causes of problems to an item of equipment within the production system and to distinguish between causes of problems/alarm/fault indications, such as:
 - instrument failure/malfunction
 - electrical failure/malfunction
 - mechanical failure/malfunction
 - variations in product parameters (temperature, flows, pressure and levels)
- identify hazards and apply hazard control procedures.

Knowledge Evidence

Evidence must be provided that demonstrates knowledge of:

- all items on a schematic of the utilities system and the function of each
- differences between grades/types of services (e.g. grades of steam, air and nitrogen)
- differences in use and methods between each service and utility
- hazards that may arise in the job/work environment, and:
 - their possible causes
 - potential consequences
 - appropriate risk controls
- physics and chemistry relevant to the utility and its use
- process parameters and limits, including temperature, pressure, flow and pH
- routine problems, faults and their resolution
- relevant alarms and actions
- types and causes of utility problems within operator's scope of skill level and responsibility.

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:
 - should occur over a range of situations which include typical disruptions to normal, smooth operation of an operating plant
 - will typically include a supervisor/third-party report or other evidence, focusing on consistent performance and problem recognition and solving. A supervisor/third-party report must be prepared by someone who has a direct, relevant, current relationship with the person being assessed and who is in a position to form a judgement on workplace performance relevant to the unit of competency
 - must include the use of an appropriate industrial item of equipment requiring selection and use of utilities and services and responding to problems
 - may use industry-based simulation for part only of the unit where safety, lack of opportunity or significant cost is an issue.
- Assessment should occur in operational workplace situations. Where this is not possible, or where personal safety or environmental damage are limiting factors, assessment must occur in 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.
- Assessment in a simulated environment should use evidence collected from one or more of:
 - walk-throughs
 - pilot plant operation
 - demonstration of skills
 - industry-based case studies/scenarios
 - 'what ifs'.
- Knowledge evidence may be collected concurrently with performance evidence (provided a record is kept) 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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