



Australian Government

PMAOPS300 Operate a production unit

Release: 1

PMAOPS300 Operate a production unit

Modification History

Release 1. Supersedes and is equivalent to PMAOPS300B Operate a production unit

Application

This unit of competency covers the skills and knowledge required to operate an enterprise-specific unit of a production plant, which is not otherwise described by other units in this Training Package. The production unit operation will integrate several plant items (single unit operations). For the operation of a single unit operation refer to the relevant PMAOPS2## unit of competency.

This unit of competency applies to operations technicians who are required to demonstrate a significant understanding of the process and the equipment operation in order to identify and rectify operational problems, predict the potential impact of the production unit output on the operation of the whole plant, and facilitate output changes.

Operation of the production unit includes the operation of other plant items which are integral to the operation of the production unit.

This unit of competency applies to an individual operating independently in a plant with local control, or in liaison with the control room operator in a plant with a centralised control panel, such as distributed control system (DCS) type controls. In the case of large complex plant, the operations technician would be part of a team during start-up and shutdown procedures.

The operations technician is expected to be capable of performing all parts of this unit of competency. At all times they would be liaising and cooperating with other members of the 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 essential outcomes.

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

- 1 **Prepare for work**
 - 1.1 Receive and give shift handover
 - 1.2 Identify work requirements
 - 1.3 Identify and control hazards
 - 1.4 Coordinate with appropriate personnel
 - 1.5 Check for recent work undertaken on the production unit
 - 1.6 Note any outstanding/incomplete work
 - 1.7 Check operational status of the production unit

- 2 **Operate production unit**
 - 2.1 Describe the type of production unit, the component plant items and their duties
 - 2.2 Complete routine checks, logs and paperwork taking appropriate action on unexpected readings
 - 2.3 Change rate, grade or specification smoothly as required
 - 2.4 Adjust the production unit and its component plant items as appropriate to their type and duty to maximise performance
 - 2.5 Charge/discharge the production unit as required

- 3 **Diagnose and take appropriate action on abnormal situations**
 - 3.1 Monitor the production unit and its component plant items frequently and critically throughout shift using measured/indicated data and senses as appropriate
 - 3.2 Describe impacts of any changes upstream and downstream
 - 3.3 Recognise actual and developing situations which may require action
 - 3.4 Apply operational knowledge to resolve problems
 - 3.5 Take other appropriate actions on abnormal situations which cannot be resolved during the shift to ensure safety and the resolution of the situation
 - 3.6 Follow through items initiated until final resolution has occurred

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| 4 Isolate and de-isolate production unit and its component plant items | 4.1 | Complete any required pre-start checks |
| | 4.2 | Start up/shut down production unit according to the production unit type and duty in liaison with other personnel |
| | 4.3 | Start up/shut down/changeover component plant items within the production unit according to their type and duty in liaison with other personnel |
| | 4.4 | Isolate entire production unit and/or any component plant item |
| | 4.5 | Make safe for required work |
| | 4.6 | Check production unit/plant item is ready to be returned to service |
| | 4.7 | De-isolate and prepare production unit/plant item for return to service |

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:

- smoke, darkness and heat
- heat, smoke, 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
- fire and explosion
- 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

Non-routine problems

Non-routine problems must be resolved by applying operational knowledge to develop new solutions, either individually or in collaboration with relevant experts, to:

- determine problems needing action
- determine possible fault causes
- develop solutions to problems which do not have a known solution
- follow through items initiated until final resolution has occurred
- report problems outside area of responsibility to designated person

Non-routine problems are unexpected problems, or variations of previous problems and include one or more of the following:

- recognising and acting on unstable/sub-optimal operation
- control of critical variables and outputs
- variations in feed rates, quality, and so on
- unstable process variables, such as pressure, temperature, level and/or flow
- loss of utilities
- production unit trip, the trip of one or more component plant items
- emergency situations

Start up/shut down Start up/shut down includes the following:

- start up and shut down to/from normal operating conditions
- start up and shut down to/from isolated, cold or empty
- start up and shut down to/from all other conditions experienced on the plant (i.e. from any condition to any condition experienced on the plant)

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

Operate Operate is to monitor, adjust/make change to the production unit and/or its component items to meet specifications, by one or more of the following:

- manually in the plant
- using local controller in the plant

This competency does not require the operation of a central control panel.

- Product** Product includes anything produced by a process step and so includes:
- intermediate products, such as the product from one process step, which then becomes the feed for another

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>