



Australian Government

PMAOPS309 Operate solids handling/storage facility

Release: 1

PMAOPS309 Operate solids handling/storage facility

Modification History

Release 1. Supersedes and is equivalent to PMAOPS309B Operate particulates handling/storage equipment

Application

This unit of competency covers the skills and knowledge required to manage a complex storage facility for particulate solids. A complex storage facility is one where, for example, there are:

- multiple storages which need to be managed
- significant logistics issues related to the transport and storage of the solids
- solids transport systems that allow for various routings of the solids
- possibilities of, or consequences from, contamination which are significant.

This unit of competency applies to operations technicians who are required to determine handling and storage requirements, utilise the storage capacity efficiently, monitor the quality and quantity of stock, set up routing and undertake transfers, undertake minor maintenance and identify and solve problems.

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.

This unit of competency applies to an individual working alone or as part of a team or group and working in liaison with other shift team members and the control room operator, as appropriate.

In a typical scenario the operations technician utilises the storage capacity efficiently, and ensures particulates are stored in the appropriate containers/areas/stock pile. The operations technician also needs to monitor the quality and quantity of stock held in each.

The operations technician would operate the systems transporting particulates into or out of storage. This means setting up the required routing and starting and stopping conveyors/transport systems and their feeder systems (if any) to move materials from one point to another, for example, between storage units, from or into storage.

During the process the operations technician would monitor the transfer operations, and take action to keep particulates moving correctly. This could include removing blockages and preventing rat holing or bridging in hoppers/silos or other storage problems.

The operations technician would also maintain the cleanliness of the facility, according to procedures, and documenting/reporting maintenance requirements and other issues affecting the operation of the facility. At this level, the operations technician would also recognise and solve problems with the transfer or storage processes. This includes recognising indications of potential problems and taking appropriate and timely remedial action to ensure minimal loss of production time.

This unit of competency also covers identifying and controlling hazards related to particulates handling equipment, storage facilities and surrounding areas.

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.

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| 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 handling and storage facility |
| | | 1.6 | Note any outstanding/incomplete work |
| | | 1.7 | Check operational status of handling and storage facility |
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| 2 | Prepare storage facilities | 2.1 | Identify contents of each storage unit/area in the facility |
| | | 2.2 | Recognise storage types for each product being stored |

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| | | 2.3 | Identify leakage and other problems with storage facility |
| | | 2.4 | Confirm safety systems are operational, where required |
| | | 2.5 | Carry out general housekeeping of facility to remove foreign matter or hazards |
| | | 2.6 | Record and/or communicate identified maintenance requirements |
| 3 | Operate conveyor/solids transport systems | 3.1 | Describe the type of handling and storage facility, the component plant items and their duties |
| | | 3.2 | Identify the storage required to supply or store particulates |
| | | 3.3 | Set up routing of transport systems to meet requirements |
| | | 3.4 | Complete routine checks, logs and paperwork taking appropriate action on unexpected readings |
| | | 3.5 | Adjust handling facility and its component plant items as appropriate to their type and duty to maximise performance |
| | | 3.6 | Convey correct material from and to correct location as required |
| 4 | Diagnose and take action on abnormal situations in accordance with procedures | 4.1 | Monitor handling and storage facility and its component plant items frequently and critically throughout shift using measured/indicated data and senses |
| | | 4.2 | Describe impacts of any changes upstream and downstream |
| | | 4.3 | Recognise actual and developing situations which may require action |
| | | 4.4 | Apply operational knowledge to resolve problems |
| | | 4.5 | Take other actions on abnormal situations which cannot be resolved during the shift to ensure safety and the resolution of the situation |
| | | 4.6 | Follow through items initiated until final resolution has occurred |

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| 5 | Manage particulates storage facility | 5.1 | Monitor quality and quantity of stored solids |
| | | 5.2 | Identify and deal with product contamination |
| | | 5.3 | Transfer stock into, out of or between storage units as required |
| | | 5.4 | Supply customers with correct quality and quantity in a timely manner |
| | | 5.5 | Make effective use of available storage capacity |
| | | 5.6 | Monitor storage facility for actual or potential problems likely to affect the efficient operation of the facility |
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| 6 | Isolate and de-isolate handling and storage facility/equipment | 6.1 | Complete any required pre-start checks |
| | | 6.2 | Start up/shut down handling and storage facility according to the handling and storage facility type and duty in liaison with other personnel |
| | | 6.3 | Start up/shut down/changeover component plant items within unit according to their type and duty in liaison with other personnel |
| | | 6.4 | Isolate entire handling and storage facility and/or any component plant item |
| | | 6.5 | Make safe for required work |
| | | 6.6 | Check handling and storage facility/plant item is ready to be returned to service |
| | | 6.7 | De-isolate and prepare handling and storage facility/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:

- solids falling from conveyors
- electricity
- 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)
- working at heights, in restricted or confined spaces, or in environments subjected to heat, 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

Situations requiring action	Situations requiring action include one or more of the following: • damage to particulates • damage to conveyors/storage • contamination of stored stock • rat holing and bridging in silos/hoppers • routing issues, and so on • storage vessel/area capacities
Non-routine problems	Non-routine problems are unexpected problems, or variations of previous problems and 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 Operational knowledge includes one or more of the following: • procedures • training • technical information, such as journals and engineering specifications • remembered experience • relevant knowledge obtained from appropriate people
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 other conditions/situations 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

Equipment Equipments includes, as appropriate to the site, one or more of the following:

- mechanical conveyors/feeders (including belt, vibrating, screw and flight; and feeders, such as screw, star, slide, volumetric and weight)
- pneumatic conveyors (including aspects such as dense phase, disperse phase, pressure and vacuum)
- storage facilities (e.g. silos, hoppers, stock piles and including purging hoppers)
- ancillary equipment, such as drive motors, hydraulics, coolers, fans/blowers, safety equipment and instrumentation

Operate Operate is to monitor, adjust/make change to the production unit and/or its component items to meet specifications, by one or both 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.

Unit Mapping Information

Release 1. Supersedes and is equivalent to PMAOPS309B Operate particulates handling/storage equipment

Links

Companion Volume implementation guides are found in VETNet -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=9fc2cf53-e570-4e9f-ad6a-b228ffdb6875>