



Australian Government

PMAOPS521 Plan plant shutdown

Release: 1

PMAOPS521 Plan plant shutdown

Modification History

Release 1. Supersedes and is equivalent to PMAOPS521C Plan plant shutdown

Application

This unit of competency covers the skills and knowledge required to develop a detailed plan for a planned, major shutdown.

A planned, major shutdown may be for whole plant/system, one plant area or one plant in an integrated complex and will typically occur to enable:

- regulatory vessel inspection (PVI)
- major maintenance
- upgrades or refits
- catalyst and/or column repacking
- other activities which are scheduled for the shutdown.

This unit of competency applies to senior technicians or those in similar roles who are required to apply in-depth knowledge of process and plant operations and problem solving in order to identify the type and purpose of the shutdown, identify required tasks and critical path, plan and schedule tasks, and monitor the shutdown against the plan.

Shutdown planning is usually a team activity and so this technician would also be working with technical (process) experts, maintenance experts, contractor representatives, and liaising with production and other management.

Generally this would be a seconded role of a senior plant technician who for the period of the shutdown, and for a significant period before the shutdown, would undertake this as their primary activity.

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 | Identify maintenance/project and plant requirements | 1.1 Analyse relevant company records to determine activities which have been scheduled for the shutdown
1.2 Obtain information on maintenance activities intended for the shutdown.
1.3 Obtain information on production activities intended for the shutdown
1.4 Obtain information on projects or construction activities intended for the shutdown
1.5 Compile a list of all activities intended for the shutdown, including sufficient detail to allow for shutdown planning
1.6 Negotiate conflicts between proposed activities |
| 2 | Identify tasks, timelines and resources | 2.1 Break down each agreed shutdown activity into required tasks
2.2 Determine time, people, material, other resources required and 'owner' for each task
2.3 Determine prerequisite tasks for each task
2.4 Identify conflicts between tasks arising from resources or other causes
2.5 Negotiate conflicts between tasks
2.6 Compile database of all tasks and their requirements |
| 3 | Develop schedule | 3.1 Develop draft shutdown schedule, including planning activities
3.2 Determine critical path or similar for shutdown tasks |

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| | | 3.3 | Analyse tasks on critical path to determine methods of reducing critical path |
| | | 3.4 | Develop revised schedule |
| | | 3.5 | Consult with all relevant stakeholders and analyse revised schedule for conflicts and possible savings |
| | | 3.6 | Negotiate conflicts |
| | | 3.7 | Develop final schedule and critical path or similar |
| 4 | Communicate with all relevant stakeholders | 4.1 | Contribute to shutdown planning meetings with stakeholders |
| | | 4.2 | Meet with stakeholders individually |
| | | 4.3 | Prepare reports and documents as required |
| | | 4.4 | Ensure all permissions required for tasks have been obtained |
| | | 4.5 | Liaise with suppliers and contractors to obtain parts, materials and services |
| 5 | Monitor shutdown | 5.1 | Establish systems to allow monitoring of shutdown to schedule |
| | | 5.2 | Monitor progress to schedule |
| | | 5.3 | Identify causes of not meeting schedule |
| | | 5.4 | Negotiate a solution to cause |
| | | 5.5 | Adjust schedule to meet changed circumstances but still meet overall timeline (if at all possible) |

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.

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

Scheduling Scheduling may be electronic or paper-based and include at least one more of the following:

- electronic databases, such as Access, DB and Oracle
- project management software (e.g. Project, Gantt charts, critical path method (CPM) and programmed evaluation and review technique (PERT))
- other electronic forms, such as spreadsheets

- card files
- other paper-based systems
- other specialised planning software
- paper techniques

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>