



Australian Government

PMAOPS433 Manage wells and gathering systems

Release: 1

PMAOPS433 Manage wells and gathering systems

Modification History

Release 1. Supersedes and is equivalent to PMAOPS433A Manage wells and gathering systems

Application

This unit of competency covers the skills and knowledge required to manage a group of wells and gathering systems so as to optimise the output from all the wells. The management is of the technical aspects of well/system operation, and while this person may also manage well operating personnel, that is not part of this competency.

This unit of competency applies to senior operators, field technicians and those in similar roles who are required to apply in-depth knowledge of process and plant in order to examine data and make and/or recommend changes to optimise the output of the group of wells, prioritise and coordinate the work of the team, and undertake investigations and solve well and operating problems which are beyond the ability of the well operator.

This unit of competency includes all such items of equipment and unit operations which form part of the well/system. A unit comprises two or more components of plant/equipment that are operated together to produce product, including as appropriate to the facility:

- wellheads
- chokes and control valves
- meters
- flow lines
- high point vents
- low point drains
- valves, including non-return and pressure/vacuum relief
- pumps and their prime movers
- product separation units
- instrumentation and control systems (variable speed drive (VSD) and proportional integral derivative (PID))
- testing equipment
- power units
- drive heads
- flares
- fuel gas systems
- chemical injection equipment
- field flares
- storage tanks.

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 wells and gathering systems |
| | | 1.6 | Note any outstanding/incomplete work |
| | | 1.7 | Check operational status of wells and gathering systems |
| | | 1.8 | Determine appropriate schedule and priorities for work |
| | | | |
| 2 | Operate site, well/system and equipment | 2.1 | Complete site checks |
| | | 2.2 | Use well control systems |
| | | 2.3 | Take required reading |
| | | 2.4 | Operate plant. |
| | | 2.5 | Start up/shut down well/system |
| | | 2.6 | Isolate/de-isolate an item of, or an entire well/system |

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|---|---|--|
| 3 | Optimise wells and gathering systems | 3.1 Analyse network |
| | | 3.2 Interpret network communication |
| | | 3.3 Determine processing plant requirements and the impact of this on well and system operation |
| | | 3.4 Investigate status of individual wells |
| | | 3.5 Advise well operator of needed adjustments |
| | | 3.6 Recommend well stimulation or other required action |
| | | 3.7 Ensure flows from wells and systems meet plant and organisation needs |
| | | 3.8 Complete logs and reports as required |
| | | |
| 4 | Prioritise and organise work | 4.1 Ensure required maintenance work has been requested |
| | | 4.2 Prioritise maintenance work in liaison with appropriate personnel |
| | | 4.3 Organise well shutdowns to suit production requirements where practical |
| | | 4.4 Coordinate field operators to ensure their work and priorities match plant and organisation requirements |
| | | |
| 5 | Solve problems | 5.1 Provide guidance to operators for shutdown/start-up as required |
| | | 5.2 Develop the technical problem-solving capability of well operators |
| | | 5.3 Analyse data from wells and systems to identify systemic or recurring problems |
| | | 5.4 Take action to solve problems |
| | | |
| 6 | Finalise shift | 6.1 Complete shift tasks as appropriate |

activities

- 6.2 Ensure identified faults are correctly logged/reported for action
- 6.3 Ensure incomplete tasks are scheduled for follow-up
- 6.4 Ensure all logs and reporting are complete and understood
- 6.5 Check operators have completed required tasks

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)
- 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

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

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

- leakage
- solids (formation fines)
- vibration
- loss of control of pressure and/or flow
- hydrate formation and blockages

- liquid slugging
- corrosion
- erosion
- sulphate reducing bacteria
- scale formation
- equipment failure
- change in product parameters (e.g. temperature, flow, pressure and level)
- fouling or contamination

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

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

Logs and reports Logs and reports include one or more of the following:

- paper or electronic-based logs and reports
- verbal/radio reports
- reporting items found which require action

Lease maintenance

Lease maintenance areas requiring action include one or more of the

areas requiring action

following:

- land erosion
- fence and gate integrity
- weeds and other growth
- actions of feral or other fauna
- other required items

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>