



Australian Government

PMAOPS333 Operate wells and gathering systems

Release: 1

PMAOPS333 Operate wells and gathering systems

Modification History

Release 1. Supersedes and is equivalent to PMAOPS333A Operate wells and gathering systems

Application

This unit of competency covers the skills and knowledge required to monitor and operate wells and associated equipment in the field.

This unit of competency applies to work undertaken in any location in the field, including wells, nominated areas in the gathering system and other locations.

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 (e.g. variable speed drive (VSD) and proportional integral derivative (PID) control)
- testing equipment
- power units
- drive heads
- flares
- fuel gas systems
- chemical injection equipment
- field flares
- storage tanks.

This unit of competency applies to field operators who are required to recognise, report and resolve problems, undertake readings and checks, and make adjustments to plant and equipment.

In a typical scenario, the operator will be driving alone, on and off roads between wells and also to and from the base site or plant. While at a site, they will be operating and monitoring well and equipment performance by taking readings, making checks of and adjustments to plant and equipment. They will record and report their findings in accordance with procedures. They will also be expected to identify hazards and actual and potential process and plant problems and take action.

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, or other senior operator, as appropriate.

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 well/gathering system |
| | | 1.6 | Note any outstanding/incomplete work |
| | | 1.7 | Check operational status of well/gathering system |
| | | 1.8 | Determine appropriate route/schedule for day's work |
| 2 | Monitor site, plant and equipment | 2.1 | Complete routine site and equipment checks, logs and paperwork taking action on readings in accordance with procedures |
| | | 2.2 | Use well control systems |
| | | 2.3 | Identify and complete required lease maintenance |
| 3 | Operate well/ system in accordance with | 3.1 | Read and interpret well/gathering system fluid levels |
| | | 3.2 | Adjust pump speed to meet required output |

	procedures	3.3	Check meter readings validity
		3.4	Complete any process-related calculations
		3.5	Recognise equipment/system faults and report
		3.6	Adjust well/gathering system to meet operational or other requirements
		3.7	Complete logs and reports as required
4	Start up well/system	4.1	Perform pre-start up checks
		4.2	Correctly sequence all required equipment/plant/systems
		4.3	Bring equipment/plant/systems into operation as required
		4.4	Monitor critical variables during start-up and make adjustments as required
		4.5	Bring to required steady operating conditions smoothly and in an appropriate time
5	Shut down well/system	5.1	Determine type of shutdown required
		5.2	Give advanced warning of shutdown where possible
		5.3	Shut down individual items and/or the entire well/system
		5.4	Shut down to standby condition if required
		5.5	Shut down in an emergency if required
		5.6	Reset trips and alarms after shutdown
		5.7	Leave plant in the required condition after shutdown
6	Isolate and de-isolate system or component plant item	6.1	Isolate system and/or any component plant item in accordance with procedures
		6.2	Make safe for required work
		6.3	Check system/plant item is ready to be returned to

service

6.4 De-isolate and prepare system for return to service.

7 **Finalise shift activities**

7.1 Complete shift tasks as appropriate

7.2 Ensure identified faults are correctly logged/reported for action

7.3 Ensure incomplete tasks are scheduled for follow-up

7.4 Ensure all logs and reporting are complete and understood

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
- working at heights, in restricted or confined spaces, or in environments subjected to heat, noise, 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

Routine problems

Routine problems are predictable, have 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

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

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 areas requiring action Lease maintenance areas requiring action include one or more of the following:

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

Levels Levels include one or more of the following:

- chemical storage levels
- lubricating oil levels
- water and gas levels
- battery levels
- drain levels
- other levels

Unit Mapping Information

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Links

MSA Training Package Implementation Guides - <http://mskills.org.au/training-packages/info/>