



Australian Government

PMAOPS233 Monitor wells and gathering systems

Release: 1

PMAOPS233 Monitor wells and gathering systems

Modification History

Release 1. Supersedes and is equivalent to PMAOPS233A Monitor wells and gathering systems

Application

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

This unit of competency applies to field operators who are required to take readings; undertake inspections; recognise, record and report problems; and identify and control hazards. The field operator is not required to rectify problems or make adjustments as part of this competency.

This unit of competency applies to field operators who are responsible for a number of wells and their associated systems. 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 monitoring well and equipment performance by taking readings, making checks, and recording and reporting their findings in accordance with procedures. They will also be expected to identify hazards and take appropriate action.

This unit of competency applies to an individual who may work alone although under routine direction and supervision. They may work as part of a team or group and will work in liaison with other shift team members and the control room 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 |
|---|-------------------------|-----|---------------------------------|

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|---|---|-----|---|
| | | 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/gathering systems |
| | | 1.6 | Note any outstanding/incomplete work |
| | | 1.7 | Check operational status of wells/gathering systems |
| | | 1.8 | Determine appropriate route/schedule for day's work |
| 2 | Complete site equipment checks | 2.1 | Check equipment condition and operation |
| | | 2.2 | Check required levels |
| | | 2.3 | Top up levels as required |
| | | 2.4 | Complete logs and reports as required |
| 3 | Use well control systems as required | 3.1 | Check well control systems validity |
| | | 3.2 | Perform other required well control system tasks |
| | | 3.3 | Complete logs and reports as required |
| 4 | Take required readings | 4.1 | Complete all required readings for site |
| | | 4.2 | Compare all read values with the desired range |
| | | 4.3 | Compare read values with previous log sheet values |
| | | 4.4 | Complete logs and reports as required |
| 5 | Complete required lease maintenance | 5.1 | Inspect lease area for items requiring action |
| | | 5.2 | Complete required lease maintenance actions |
| | | 5.3 | Complete logs and reports as required |

6	Finalise shift activities	6.1	Complete shift tasks as appropriate
		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 reports 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.

Procedures

All operations must be performed in accordance with relevant

procedures.

Procedures are written, verbal, visual, computer-based or in some other form, and 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

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

Routine problems Routine problems must be resolved by applying known solutions.

Routine problems are predictable 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

Known solutions are drawn from one or more of the following:

- procedures
- training
- remembered experience

Non-routine problems must be reported according to according to relevant procedures.

Site

Site includes one or more of the following:

- a well
- a nominated area in the gathering system
- another location where the operator is required to work

Site equipment

Site equipment includes one or more of the following:

- wellheads
- choke and control valves
- meters
- flow lines
- high point vents
- low point drains
- valves, including non-return and pressure/vacuum relief
- pumps, pump speed 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

- chemical injection equipment
- storage tanks/vessels
- autodumps
- leaks

Levels Levels include, as appropriate to the site, one or more of the following:

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

Lease maintenance areas requiring checking Lease maintenance areas requiring checking 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

Identified faults Identified faults include one or more of the following:

- instrumentation failure/malfunction
- electrical failure/malfunction
- mechanical failure/malfunction
- control system failure/malfunction
- mismatch between flow rates and system requirements
- wear, tear and corrosion of plant and equipment

Unit Mapping Information

Release 1. Supersedes and is equivalent to PMAOPS233A Monitor wells and gathering systems

Links

Companion Volume implementation guides are found in VETNet -

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

Assessment Requirements for PMAOPS233 Monitor wells and gathering systems

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Performance Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy the requirements of the elements and performance criteria, and include the ability to:

- undertake checks, inspections and readings according to procedures
- recognise early warning signs of equipment/processes needing attention or with potential problems
- convey information relevant to the operation clearly and effectively
- identify hazards and apply hazard control procedures
- complete workplace forms.

Knowledge Evidence

Evidence must be provided that demonstrates knowledge of:

- geology relevant to the wells (e.g. coal seam gas (CSG) formation, structure and completions, and coal type and structure)
- well design and construction
- physics and chemistry relevant to the unit and the processes used
- hydrate formation
- free flow and pumped wells
- pumping principles
- gas flow principles
- gas/water separation principles
- draining and venting requirements
- routine problems, faults and typical causes
- process parameters and limits (e.g. temperature, pressure and flow)
- static electricity and earthing
- relevant environmental and heritage requirements
- protective systems
- remote terminal unit, functions, operation and problems
- hierarchy of control
- hazards that may arise in the job/work environment, and:
 - their possible causes
 - potential consequences

- appropriate risk controls.

Assessment Conditions

- The unit should be assessed holistically and the judgement of competence based on a holistic assessment of the evidence.
- Co-assessment with the following unit should be considered:
 - PMASUP236 Operate vehicles in the field
- The collection of performance evidence:
 - should occur over a range of situations which include typical disruptions to normal, smooth operation of an operating plant
 - will typically include a supervisor/third-party report or other evidence, focusing on consistent performance and problem recognition and solving. A supervisor/third-party report must be prepared by someone who has a direct, relevant, current relationship with the person being assessed and who is in a position to form a judgement on workplace performance relevant to the unit of competency
 - must include the use of an appropriate industrial item of equipment requiring demonstration of monitoring and responding to problems
 - may use industry-based simulation for part only of the unit where safety, lack of opportunity or significant cost is an issue.
- Assessment should occur in operational workplace situations. Where this is not possible, or where personal safety or environmental damage are limiting factors, assessment must occur in a sufficiently rigorous simulated environment reflecting realistic operational workplace conditions. This must cover all aspects of workplace performance, including environment, task skills, task management skills, contingency management skills and job role environment skills.
- Assessment in a simulated environment should use evidence collected from one or more of:
 - walk-throughs
 - pilot plant operation
 - demonstration of skills
 - industrybased case studies/scenarios
 - ‘what ifs’.
- Knowledge evidence may be collected concurrently with performance evidence (provided a record is kept) or through an independent process, such as workbooks, written assessments or interviews (provided a record is kept).
- Assessment processes and techniques must be appropriate to the language, literacy and numeracy requirements of the work being performed and the needs of the candidate.
- Conditions for assessment must include access to all tools, equipment, materials and documentation required, including relevant workplace procedures, product and manufacturing specifications associated with this unit.
- The regulatory framework will be reflected in workplace policies and procedures and is not required to be independently assessed.

- Foundation skills are integral to competent performance of the unit and should not be assessed separately.
- Assessors must satisfy the assessor competency requirements that are in place at the time of the assessment as set by the VET regulator.
- In addition, the assessor or anyone acting in subject matter expert role in assessment must demonstrate both technical competency and currency. If the assessor cannot demonstrate technical competency and currency they must assess with a subject matter expert who does meet these requirements.
- Technical competence can be demonstrated through one or more of:
 - relevant VET or other qualification/Statement of Attainment
 - appropriate workplace experience undertaking the type of work being assessed under routine and non-routine conditions
 - appropriate workplace experience supervising/evaluating the type of work being assessed under routine and non-routine conditions
- Currency can be demonstrated through one or more of:
 - being currently employed undertaking the type of work being assessed
 - being employed by the organisation undertaking the type of work being assessed and having maintained currency in accordance with that organisation's policies and procedures
 - having consulted/had contact with an organisation undertaking the type of work being assessed within the last twelve months, the consultation/contact being related to assessment
 - conducting on-the-job training/assessments of the type of work being assessed
 - being an active member of a relevant professional body and participating in activities relevant to the assessment of this type of work

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