



Australian Government

PMAOPS434 Commission wells and gathering systems

Release: 1

PMAOPS434 Commission wells and gathering systems

Modification History

Release 1. Supersedes and is equivalent to PMAOPS434A Commission wells and gathering systems

Application

This unit of competency covers the skills and knowledge required to commission a well, its gathering system and their associated systems. It applies to operational commissioning which takes place after pre-commissioning of equipment and systems; pre-commissioning is typically performed by a contractor or projects team.

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 bring a new (or worked over/rejuvenated) well and its gathering system on line, make adjustments to ensure it is in steady operation and delivering at the required rate, balance the impact of the new well on the entire system, and ensure the system is ready to be handed over to a field operator for normal operation.

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.

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 well and its gathering system is ready for commissioning
		1.6	Determine appropriate schedule and priorities for work
2	Accept handover of well and gathering system	2.1	Ensure documents and other records provided match 'as is' plant and equipment
		2.2	Check all issues have been satisfactorily resolved
		2.3	Confirm status of individual items being handed over
		2.4	Ensure plant and equipment are operationally sound and in accordance with contract
		2.5	Accept handover when appropriate
		2.6	Complete logs and reports in accordance with procedures

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| 3 | Commission well in accordance with procedures | 3.1 | Commission support systems |
| | | 3.2 | Commission wellhead and components |
| | | 3.3 | Make adjustments to bring well to stable operation |
| 4 | Commission gathering system in accordance with procedures | 4.1 | Commission support systems |
| | | 4.2 | Introduce product to gathering system |
| | | 4.3 | Check all equipment is operating correctly |
| | | 4.4 | Take action to solve problems |
| 5 | Monitor and adjust well and gathering system to meet production requirements | 5.1 | Take required readings |
| | | 5.2 | Ensure telemetry and controls are functional |
| | | 5.3 | Adjust downhole pump speed to maintain correct liquid level |
| | | 5.4 | Monitor nearby wells for impact of new well |
| | | 5.5 | Complete other site checks |
| | | 5.6 | Liaise with relevant operational personnel as required |
| | | 5.7 | Make appropriate adjustments to ensure new well is performing as required |
| | | 5.8 | Adjust new well and gathering system to balance the overall production to meet requirements |
| 6 | Finalise commissioning activities | 6.1 | Complete commissioning 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 reporting are complete and understood |

- 6.5 Check all systems are operational and all relevant personnel are informed

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, 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

Support systems and equipment

Support systems and equipment include as appropriate to the well system:

- fuel gas
- lubricating oil
- check valves
- control valves
- remote terminal unit
- telemetry (communications to base)
- control systems
- distributed control systems (DCS) screens
- other systems and equipment

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

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>