



Australian Government

PMAOPS322 Undertake well management

Release: 1

PMAOPS322 Undertake well management

Modification History

Release 1. Unit code and Application changed. Performance Criteria changed. Range of Conditions removed. Assessment Requirements changed. Supersedes and is equivalent to PMAOPS321 Undertake well management.

Application

This unit describes the skills and knowledge required to operate and manage a well at:

- onshore and offshore production facilities
- oil or gas production sites.

This unit applies to autonomous operators who are required to demonstrate a significant understanding of the process and the equipment operation in a plant with local control, or in liaison with the control-room operator in a plant with a centralised control panel. In the case of a large, complex plant, the operations technician would be part of a team during startup and shutdown procedures.

This unit 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. It does not require the operation of a central control panel.

No licensing or certification requirements exist at the time of publication. Relevant legislation, industry standards and codes of practice within Australia must be applied.

Pre-requisite Unit

Nil

Competency Field

Operations

Elements and Performance Criteria

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<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>

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1. Operate well system according to procedures	1.1 Receive and give shift handover 1.2 Communicate with personnel to identify and coordinate work requirements 1.3 Identify, control and report process system hazards 1.4 Check for recent work undertaken on well and address outstanding and incomplete work 1.5 Check operational status of process system 1.6 Perform routine checks, and complete logs and paperwork, taking action on unexpected readings 1.7 Adjust process system according to agreed operational parameters
2. Identify and respond to abnormal situations during operation	2.1 Monitor well system frequently and critically throughout shift using own senses and measured and indicated data 2.2 Monitor field data and instrumentation to ensure that product remains on specification 2.3 Identify impacts of changes upstream and downstream 2.4 Identify actual and developing situations that may require action 2.5 Take action to remedy abnormal situations according to operating procedures 2.6 Complete required documents outlining abnormal situation management and corrective action taken
3. Shut down and prepare well system for maintenance	3.1 Prepare process system to be shut down according to operating procedures 3.2 Complete pre-shutdown checks according to operating procedures 3.3 Shut down process system according to operating procedures 3.4 Identify, control and report shutdown hazards 3.5 Monitor shutdown and identify abnormal situations which may require action 3.6 Take action to remedy abnormal situations according to operating procedures 3.7 Shut down and changeover duty and standby equipment according to operating procedures 3.8 Isolate process system from energy sources

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
4. Prepare and start up well system	4.1 De-isolate and prepare process system to be returned to standby or service 4.2 Complete pre-start checks according to operating procedures 4.3 Start up process system according to operating procedures 4.4 Identify, control and report startup hazards 4.5 Monitor startup and identify abnormal situations that may require action 4.6 Take action to remedy abnormal situations according to operating procedures

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential to performance.

- Learning skills to follow instructions, monitor process and select appropriate procedure.
- Reading skills to follow written procedures and documentation.
- Writing skills to complete workplace documentation.
- Oral communication skills to liaise and coordinate with team members, the control-room operator, contractors and other service providers.
- Numeracy skills to conduct flow measurements, monitor field data, instrumentation and process parameters.

Other foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

Unit Mapping Information

Release 1. Supersedes and is equivalent to PMAOPS321 Undertake well management.

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 PMAOPS322 Undertake well management

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Performance Evidence

There must be evidence the candidate has completed the tasks outlined in the elements and performance criteria of this unit:

- at least 2 times, each in a separate work context.

Knowledge Evidence

Evidence must be provided that demonstrates knowledge of:

- principles of:
 - operation of plant and equipment
 - well design and construction
 - pumping
 - gas flow
 - gas and water separation
 - equalisation
 - fluid dynamics and statics
- all items on a schematic of the well system, including:
 - types of wells
 - interactions between plant items and processes
 - operating parameters and integrity limits; product specifications and tolerances; flange, pressure and temperature ratings; product temperature, pressure and flow
 - impact of external factors, including variations in weather and feed
 - procedures for starting, stopping, operating, controlling and isolating system
 - emergency shutdown procedures
 - functions of major components and troubleshooting techniques
 - well operations requirements, arrangements and constraints
- well services handover and intervention procedures
- reservoir management, hydraulics, hydrates, hydrate inhibition, subsea as appropriate
- natural gas and oil characteristics
- physics and chemistry to the level of being able to provide an overview of the science of the well management process, including static electricity principles, corrosion control and chemical handling, environmental aspects and conditions, and hydrate formation

- basis of the process used in the well operation
- mathematical formulae and formats to calculate product volumes
- well system abnormal situations and required action, including but not limited to:
 - leakage
 - vibration
 - loss of control of pressure and/or flow
 - hydrates/blockages
 - liquid slugging
 - corrosion
 - scale formation
 - erosion
- hierarchy of control
- well management hazards:
 - possible causes
 - potential consequences
 - appropriate risk controls
 - reporting and escalation procedures.

Assessment Conditions

Skills must have been demonstrated in the workplace or in a simulated environment that reflects workplace conditions and contingencies. The following conditions must be met for this unit:

- use of suitable facilities, equipment and resources, including:
 - well system
 - operating procedures
- abnormal situations must be relevant to well systems.

Assessors must satisfy the NVR/AQTF mandatory competency requirements for assessors.

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