



**Australian Government**

# **PMAOPS234 Monitor and operate low pressure compressors**

**Release: 1**

# **PMAOPS234 Monitor and operate low pressure compressors**

## **Modification History**

Release 1. Supersedes and is equivalent to PMAOPS234A Monitor and operate low pressure compressors

## **Application**

This unit of competency covers the skills and knowledge required to operate low pressure compressors.

The compressor may be technically sophisticated and/or have sophisticated controls built in, but its operation is relatively simple. It may have essential ancillary equipment but the operation of this ancillary equipment is largely integrated with the normal operation of the compressor unit itself.

The compressors will typically be used to provide suction or a moderately low pressure only. One example is the operation of a low pressure, low volume screw compressor in a coal seam gas (CSG) gathering system.

This unit of competency applies to operators who are required to start up and shut down the equipment, complete routine checks, monitor its performance and make adjustments, identify problems and take appropriate action, and maintain records.

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.

- |   |                         |     |                                 |
|---|-------------------------|-----|---------------------------------|
| 1 | <b>Prepare for work</b> | 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 compressor and ancillary equipment                                  |
|   |   | 1.6 | Note any outstanding/incomplete work  |
|   |   | 1.7 | Check operational status of compressor and ancillary equipment  |
| 2 | <b>Operate compressor in accordance with procedures</b>             | 2.1 | Identify type of compressor and its duty  |
|   |   | 2.2 | Complete routine checks, reads and logs   |
|   |   | 2.3 | Make adjustments required   |
|   |   | 2.4 | Identify problems and take action   |
|   |   | 2.5 | Complete logs and reports   |
| 3 | <b>Recognise and take appropriate action on abnormal situations</b> | 3.1 | Monitor compressor frequently and critically throughout shift using measured/indicated data and senses  |
|   |   | 3.2 | Identify impacts of any changes upstream and downstream   |
|   |   | 3.3 | Recognise situations which may require action   |
|   |   | 3.4 | Resolve routine problems  |
|   |   | 3.5 | Take actions on other abnormal situations to make safe and have the situation resolved                  |
| 4 | <b>Isolate and de-isolate compressor</b>                            | 4.1 | Complete any required pre-start checks  |
|   |   | 4.2 | Start up and shut down compressor according to compressor type and duty in liaison with other personnel |
|   |   | 4.3 | Isolate compressor  |

- 4.4 Make safe as required
- 4.5 Check compressor and ancillary equipment are ready to be returned to service
- 4.6 De-isolate and prepare plant for return to service

## 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)
- limited head spaces or overhangs
- 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
- vibration
- loss of control of pressure and/or flow
- blockages
- equipment failure
- lack of water removal from gas
- high differential pressure on lube oil filters

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.

**Routine check reads and logs** Routine check reads and logs include, as appropriate to the plant, one or more of the following:

- lubricating oil levels
- temperatures (inlet and outlet)
- pressures (inlet and outlet)
- speed

**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

**Action on abnormal situations** Action on abnormal situations includes the following:

- determining problems needing action
- determining possible fault causes
- rectifying problem using appropriate solution within area of responsibility
- following through items initiated until final resolution has occurred
- reporting problems outside area of responsibility to designated person

In this unit problem solving is restricted to routine problems only.

**Operate** Operate is to monitor, adjust/change the plant item/unit/system to meet specifications, by one or more of the following:

- manually in the plant
- using local controller in the plant
- using the process control system in the control room

**Start up/shut down as required**

Start up/shut down as required includes the following:

- start up and shut down to/from normal operating conditions
- start up and shut down to/from isolated, cold or empty
- start up and shut down to/from other conditions/situations experienced on the plant

## Unit Mapping Information

Release 1. Supersedes and is equivalent to PMAOPS234A Monitor and operate low pressure compressors

## Links

Companion Volume implementation guides are found in VETNet -

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