



Australian Government

PMAOPS101 Read dials and indicators

Release: 1

PMAOPS101 Read dials and indicators

Modification History

Release 1. Supersedes and is equivalent to PMAOPS101C Read dials and indicators

Application

This unit of competency covers the skills and knowledge required to make readings and/or take measurements using common types of plant instrumentation.

This unit of competency applies to operators who are required to identify the units and scales to use, perform the measurements and record the results in prescribed format, level of detail and according to procedures.

This unit of competency applies to reading process instrumentation in any plant or related situation. Readings may need to be made at heights, in wet or restricted conditions, or close to hot or moving equipment and across sites and plants.

In a typical scenario an operator patrols the plant taking a range of readings to complete logs and check on the operation of the plant. The operator needs to interpret the display on the instrument and record the appropriate reading. As part of this process, they will need to check that the instrument is within calibration (where appropriate) and make a judgement as to whether the reading is 'reasonable' or whether some action needs to be taken.

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	Contribute to controlling hazards in work area	1.1	Identify hazards in work area
		1.2	Take appropriate action to control risks according to procedures

2	Identify appropriate measuring device readings	2.1	Confirm the calibration of the measuring device, where appropriate
		2.2	Select appropriate units on the measuring device
		2.3	Select appropriate scales on the measuring device
3	Perform measurements	3.1	Identify the range of results that could be obtained
		3.2	Identify and take account of relevant external factors
		3.3	Perform measurements using appropriate techniques
		3.4	Identify measurements outside the range of expected results
		3.5	Take action on measurements outside expected range according to procedures
4	Record results	4.1	Record readings accurately in the appropriate format
		4.2	Record the results to the appropriate level of detail

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:
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- 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

Hazards

Hazards include one or more of the following:

- smoke, darkness and heat
- dust or other atmospheric hazards
- 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, smoke, vapours or other atmospheric hazards
- 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

Dials and indicators

Dials and indicators include one or more of the following:

- analogue dials, such as:
 - pressure gauge
 - rev counter
 - temperature dial
- digital readouts, such as:
 - pH meter
 - temperature probe
 - ammeter
 - flow meter

- weigh scales

Calibration checks

Calibration checks include one or more of the following:

- checking the date that the next calibration is required (e.g. weigh scale and pressure gauge)
- using a calibration button on the instrument (e.g. zero button on an ammeter and calibration button on an electronic meter)

Problems

Problems must be reported and corrective action taken according to relevant procedures.

Problems include one or more of the following:

- measuring instrument not fit for use (e.g. not within calibration)
- appropriate measuring device not available
- deviations from normal range of readings
- effect of temperature on material properties

Corrective actions include one or more of the following:

- reporting to an appropriate person
- taking action specified in the procedure

Appropriate personnel

Appropriate personnel include one or more of the following:

- supervisor
- more senior operator
- other designated personnel

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

Unit Mapping Information

Release 1. Supersedes and is equivalent to PMAOPS101C Read dials and indicators

Links

Companion Volume implementation guides are found in VETNet -

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