



Australian Government

Department of Education, Employment and Workplace Relations

PMAOPS101B Read dials and indicators

Release: 1

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Modification History

Not applicable.

Unit Descriptor

This competency covers making (or taking) readings/measurements in a variety of sites and locations, using common types of plant instrumentation. This competency unit also covers recording measurement results. This would typically be in a format according to **procedures**, with the appropriate level of detail included in all reports.

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 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.

Prerequisites

This unit **has no** prerequisites.

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Prerequisites

This unit **has no** prerequisites.

Application of the Unit

Not applicable.

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Not applicable.

Employability Skills Information

Not applicable.

Elements and Performance Criteria Pre-Content

Not applicable.

Elements and Performance Criteria

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Element	Performance Criteria
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 Explain the need for calibration and where appropriate, confirm the calibration of the measuring device. 2.2 Select appropriate units on the measuring device. 2.3 Select appropriate scale(s) 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.

Required Skills and Knowledge

Not applicable.

Evidence Guide

Assessment context and methods

Assessment for this unit of competency will be on an operating plant. The unit will be assessed in as holistic a manner as is practical and may be integrated with the assessment of other relevant units of competency. Assessment will occur over a range of situations which will include disruptions to normal, smooth operation.

Simulation or case study/scenarios may be required to allow for timely assessment of parts of this competency unit (e.g. those parts of element 2 referring to out of range readings).

Simulation should be based on the actual plant and will include walk-throughs of the relevant competency components. Simulations may also include the use of case studies/scenarios and role plays.

Critical aspects

Competence must be demonstrated in the ability to recognise situations requiring action and then in implementing appropriate corrective action. While it is not expected that the operator will understand the full implications of readings outside the normal range, there should be awareness of the safety implications and the appropriate priority for response for such readings.

Consistent performance should be demonstrated. In particular look to see that:
readings which are out of range or unusual/unexpected signs of problems or potential problems with the equipment/processes are recognised
appropriate action is taken in a timely manner

hazards are recognised and appropriate action is taken to control risks arising from such hazards.

These aspects may be best assessed using a range of scenarios/case studies/what ifs as the stimulus, with a walk-through forming part of the response. The assessment activities should include responding to a range of problems.

Resource implications

Assessment will require access to an operating plant over an extended period of time, or a suitable method of gathering evidence of operating ability over a range of situations. A bank of scenarios/case studies/what ifs will be required as will a bank of questions which will be used to probe the reasoning behind the observable actions.

Other assessment advice

In all plants it may be appropriate to assess this unit concurrently with relevant teamwork and communication units.

It may be appropriate to assess this unit concurrently with:

PMAOHS100B - Follow OHS procedures.

Essential knowledge

Demonstration of competence in this unit must include knowledge of the following:

basic units of measurement

measuring devices, including gauges, dip-sticks, thermometers and the like

graphs and scales

procedures related to this competency

typical problems with measuring equipment applicable to this competency

procedures for reporting or dealing with typical equipment problems and threats to safety.

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Range Statement

Context

Typical dials and indicators include (select relevant items):

analog dials:

pressure gauge

rev counter

temperature dial

digital readouts:

pH meter

temperature probe

ammeter

flow meter

weigh scales.

Calibration checks could include:

checking the date that the next calibration is required (e.g. weigh scale, pressure gauge)

using a calibration button on the instrument (e.g. zero button on an ammeter, calibration button on an electronic meter).

Resolution of equipment problems or non-conforming measurements/readings is restricted to responding in a routine, predetermined manner as specified in the **procedures** for your plant.

All operations are performed to **procedures**.

Readings may need to be made at heights, in wet or restricted conditions, or close to hot or moving equipment.

Taking action may be reporting.

HSE

All operations to which this unit applies are subject to stringent health, safety and environment requirements, which may be imposed through State 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.

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Unit Sector(s)

Not applicable.