



Australian Government

PMAOPS402 Respond to abnormal process situations

Release: 1

PMAOPS402 Respond to abnormal process situations

Modification History

Release 1. Supersedes and is equivalent to PMAOPS402A Respond to abnormal process situations

Application

This unit of competency covers the skills and knowledge required to recognise and resolve abnormal process situations that are complex and/or not solvable by direct observation. The problem would normally impact an entire plant system or process. Examples include damage to/wear of tower trays, internal leaks of heat exchangers and collapse of/channelling in tower/column/vessel packing.

This unit of competency applies to senior technicians, para-professionals or those in similar roles who are required to apply in depth knowledge of process and plant in order to methodically investigate process, plant and technical problems, determine the cause and initiate corrective action.

This role is often performed using a small, usually ad hoc group, however, the person will take a lead technical role.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

MSMSUP390 Use structured problem-solving tools

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	Recognise there is a problem	1.1	Compare current performance with expected/historic performance
		1.2	Identify plant/process areas with poor performance

- 1.3 Check the impact of routine adjustments to improve performance
- 1.4 Identify problems not solved by the routine solutions
- 2 **Define the problem**
 - 2.1 Apply problem isolation techniques to isolate problem to a small part of the plant/process
 - 2.2 Quantify the effect of the problem in operational terms
 - 2.3 Postulate possible causes of the problem
 - 2.4 Identify types of evidence of each possible cause
 - 2.5 Investigate problem to accumulate evidence of cause type
 - 2.6 Analyse data to confirm cause of problem
 - 2.7 Determine the level of severity of the problem and priority of any required action
- 3 **Develop solution**
 - 3.1 Discuss possible solutions to cause with stakeholders and technical experts
 - 3.2 Determine whether a quick fix is needed
 - 3.3 Arrange for implementation of quick fix if required
 - 3.4 Check effectiveness of quick fix and take action to maintain stable, safe operation
 - 3.5 Agree required final solution with stakeholders and technical experts
 - 3.6 Arrange for required solution to be undertaken in appropriate timeframe
 - 3.7 Follow items initiated through until final resolution has occurred
 - 3.8 Check effectiveness of solution and take action to maintain or improve outcome
 - 3.9 Complete reports to procedure

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, 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

Problem isolation

Problem isolation uses techniques to isolate the cause of the problem to a specific part of the process or unit operation and uses techniques including one or more of the following:

- flow charts
- process logic/process requirements
- cause and effect diagrams/charts
- divide and conquer
- control charts, run charts (Shewhart charts)
- similarity/difference analysis
- other structured processes defined by the organisation

Problem analysis

Problem analysis identifies possible causes and examines the evidence for each cause and uses techniques including one or more of the following:

- Ishikawa/fishbone diagrams/
- logic tree
- histograms/Pareto analysis
- scatter grams
- brainstorming
- control charts, run charts (Shewhart charts)
- 6 Hats (Edward de Bono)
- other structured processes defined by the organisation

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>