



Australian Government

Department of Education, Employment and Workplace Relations

PMAOPS402A Respond to abnormal process situations

Revision Number: 1

PMAOPS402A Respond to abnormal process situations

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit applies an in depth knowledge of process and plant to the recognition and solving of more complex/less obvious process/plant/ technical problems.
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Application of the Unit

Application of the unit	<p>In a typical scenario, a senior technician or para-professional investigates a plant unit/part of the process which is not performing as well as it has/as expected. They methodically investigate this technical problem, come to a conclusion as to the cause and then initiate appropriate corrective action. The corrective action may well be beyond the scope of competency and responsibility of the person to implement. This unit applies to problems which are not solvable by direct observation and require systematic investigation:</p> <ul style="list-style-type: none"> • damage to/wear of tower trays • internal leaks of heat exchangers • collapse of/channelling in tower/column/vessel packing <p>The technician would:</p> <ul style="list-style-type: none"> • clarify the problem • analyse problem cause(s) • recommend a solution to the problem. <p>Generally the technician would work alone for this unit, although the ability to communicate with all internal and external stakeholders is vital.</p>
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Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units	<i>MSAPMSUP390A</i>	<i>Use structured problem solving tools</i>
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Employability Skills Information

Employability skills	This unit contains employability skills.
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Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
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Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
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 for 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, priority of any required action.
3. Develop solution.	3.1. Discuss possible solutions to cause with relevant people 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 appropriate action 3.5. Agree required solution with appropriate people 3.6. Arrange for required solution to be undertaken in appropriate time frame 3.7. Follow items initiated through until final resolution has occurred 3.8. Check effectiveness of solution and take appropriate action 3.9. Complete reports to procedure.

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This describes the essential skills and knowledge and their level, required for this unit.

Required skills

This unit requires skills of:

- analysis
- problem solving
- negotiation
- communication
- basic mathematics

Required knowledge

Competence includes a deep understanding of:

- plant equipment, its characteristics and limitations
- impact of variations in plant/process and the distinctive signs of each variation
- process chemistry, physics and biochemistry as relevant, eg to the extent of writing chemical equations and identifying factors controlling reaction rate and yield or equivalent
- problem isolation techniques
- problem analysis techniques
- organisation approval processes

Evidence Guide

EVIDENCE GUIDE

The Evidence Guide provides advice on assessment and must be read in conjunction with the Performance Criteria, Required Skills and Knowledge, the Range Statement and the Assessment Guidelines for the Training Package.

Overview of assessment

Assessment of this unit should include demonstrated competence on actual plant and equipment in a work environment. 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 a range of problems, problem causes and environments.

Simulation may be required to allow for assessment of parts of this unit. Simulation should be based on the actual problems and should include the use of case studies/scenarios and role plays.

This unit of competency requires a significant body of knowledge which will be assessed through questioning and the use of what-if scenarios.

Critical aspects for assessment and evidence required to demonstrate competency in this unit

Competence must be demonstrated in the ability to define and analyse the problem as well as deal with the stakeholders. The stakeholders should be satisfied with the solution, as well as the solution being technically sound.

Consistent performance should be demonstrated. In particular look to see that:

- different types of problems can be analysed and resolved
- different types of stakeholders can be satisfied
- the range of possible causes can be identified and analysed and the most likely cause determined
- appropriate action is taken.

These aspects may be best assessed using a range of scenarios/case studies/what-ifs. These assessment activities should include a range of problems, including new, unusual and improbable situations which may have been generated from the past history and similar sources.

Context of and specific resources for

Assessment will require a suitable method of

EVIDENCE GUIDE	
assessment	gathering evidence of problem solving 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.
Method of assessment	In all plants it may be appropriate to assess this unit concurrently with relevant teamwork and communication units.
Guidance information for assessment	Assessment processes and techniques must be culturally appropriate and appropriate to the oracy, language and literacy capacity of the assessee and the work being performed.

Range Statement

RANGE STATEMENT	
<p>The Range Statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the Performance Criteria, is detailed below. Add any essential operating conditions that may be present with training and assessment depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts.</p>	
Codes of practice/ standards	Where reference is made to industry codes of practice, and/or Australian/international standards, the latest version must be used.
Context	This unit of competency includes problems in the plant, plant equipment or process which may make itself evident through lower quality, lower rates, greater variability or greater difficulty in control.
Health, safety and environment (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.

Unit Sector(s)

Unit sector	Operational/technical
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Competency field

Competency field	
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Co-requisite units

Co-requisite units		
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