



**Australian Government**

# **MSS402080 Undertake root cause analysis**

**Release: 1**

# MSS402080 Undertake root cause analysis

## Modification History

Release 1. Supersedes and is equivalent to MSS402080A Undertake root cause analysis

## Application

This unit of competency covers the skills and knowledge required to undertake root cause analysis (RCA). This unit also covers the competencies needed by operators to contribute to an advanced maintenance strategy using RCA coupled with diagrams and charts.

This unit applies to individuals working in an organisation that is applying competitive systems and practices strategies. The unit applies to the formal problem solving to root cause that the individual must undertake in their own work area or where the individual contributes to problem solving to root cause as part of a team.

This unit requires an ability to seek and apply information from a variety of sources in order to inform RCAs. Initiative and enterprise is also required to identify quick fix and permanent solutions to problems.

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

## Pre-requisite Unit

Nil

## Competency Field

Competitive systems and practices

## Unit Sector

Not applicable

## Elements and Performance Criteria

Elements describe the essential outcomes.

Performance criteria describe the performance needed to demonstrate achievement of the element.

- |                             |                                                                                |
|-----------------------------|--------------------------------------------------------------------------------|
| <b>1 Recognise problems</b> | <b>1.1</b> Identify features or occurrences indicative of a problem.           |
|                             | <b>1.2</b> Use appropriate tools, techniques and charts to define the problem. |

- |   |                                   |     |                                                                                                 |
|---|-----------------------------------|-----|-------------------------------------------------------------------------------------------------|
| 2 | <b>Implement quick fix</b>        | 2.1 | Recommend a quick fix within the scope of competency and authority.                             |
|   |                                   | 2.2 | Use technology or processes relevant to the problem to implement quick fix.                     |
|   |                                   |     |                                                                                                 |
| 3 | <b>Determine root cause</b>       | 3.1 | Identify a range of possible causes.                                                            |
|   |                                   | 3.2 | Gather data and other information to eliminate or confirm possible causes.                      |
|   |                                   | 3.3 | Use available data and information to link causes and effects.                                  |
|   |                                   | 3.4 | Seek assistance to obtain additional information if problem is beyond own competency/authority. |
|   |                                   | 3.5 | Identify root cause.                                                                            |
|   |                                   |     |                                                                                                 |
| 4 | <b>Develop permanent solution</b> | 4.1 | Identify a range of methods to eliminate the root cause or break the cause tree.                |
|   |                                   | 4.2 | Select the most appropriate solution.                                                           |
|   |                                   | 4.3 | Liaise with relevant people.                                                                    |
|   |                                   | 4.4 | Recommend or implement solution within the limits of competency and authority.                  |
|   |                                   | 4.5 | Monitor impact of solution and make further recommendations, as required.                       |

## Foundation Skills

This section describes those required skills (language, literacy and numeracy) 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.

**Competitive systems and practices include one or more of:**

- lean operations
- agile operations
- preventative and predictive maintenance approaches
- statistical process control systems, including six sigma and three sigma
- Just in Time (JIT), kanban and other pull-related operations control systems
- supply, value, and demand chain monitoring and analysis
- 5S
- continuous improvement (kaizen)
- breakthrough improvement (kaizen blitz)
- cause/effect diagrams
- overall equipment effectiveness (OEE)
- takt time
- process mapping
- problem solving
- run charts
- standard procedures
- current reality tree.

**Problems include one or more of:**

- variation to normal plant or equipment operation
- unplanned or non-conforming process or operations outcomes
- out of specification products
- excess scrap
- accidents and emergencies
- regulatory breaches
- customer returns and complaints
- reduction or loss of sales.

**Techniques/charts include one or more of:**

- control charts
- Pareto charts
- run charts
- flow charts
- cause and effect diagrams
- tree diagrams
- 5 Whys analysis
- organisation specified/mandated methods.

## Unit Mapping Information

Release 1. Supersedes and is equivalent to MSS402080A Undertake root cause analysis

## Links

Companion Volume implementation guides are found in VETNet -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5b04f318-804f-4dc0-9463-c3fb9a3fe998>

# Assessment Requirements for MSS402080 Undertake root cause analysis

## Modification History

Release 1. Supersedes and is equivalent to MSS402080A Undertake root cause analysis

## Performance Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy the requirements of the elements and performance criteria and include the ability, for one (1) or more problems, to:

- undertake problem identification
- use appropriate processes to achieve root cause identification
- recommend solutions and implementation procedures to problems within own area
- monitor implementation of solutions.

## Knowledge Evidence

Must provide evidence that demonstrates knowledge relevant to their job role sufficient to fulfil their job role under routine only supervision, including:

- methodology of root cause analysis, including:
  - difference between quick fix and root cause elimination
  - breaking of causal tree
- indicators of problems and variances to normal operation
- relevant analysis tools (e.g. Pareto charts, 5 Whys).

## Assessment Conditions

- The unit should be assessed holistically and the judgement of competence shall be based on a holistic assessment of the evidence.
- The collection of performance evidence:
  - should occur over a range of situations which include typical disruptions to normal, smooth operation of the workplace
  - will typically include a supervisor/third-party report focussing on consistent performance and problem recognition and solving. A supervisor/third-party report must be prepared by someone who has a direct, relevant, current relationship with the person being assessed and who is in a position to form a judgement on workplace performance relevant to the unit of competency
  - must include a root cause analysis in own workplace
  - will typically include the use of appropriate tools, equipment and safety gear requiring demonstration of preparation, operation, completion and responding to problems.
- Assessment should occur in operational workplace situations.

- Knowledge evidence may be collected concurrently with performance evidence (provided a record is kept) or through an independent process such as workbooks, written assessments or interviews (provided a record is kept).
- Assessment processes and techniques must be appropriate to the language, literacy and numeracy requirements of the work being performed and the needs of the candidate.
- Conditions for assessment must include access to all tools, equipment, materials and documentation required, including relevant workplace procedures, product and manufacturing specifications associated with this unit.
- Foundation skills are integral to competent performance of the unit and should not be assessed separately.
- Assessors must satisfy the assessor competency requirements that are in place at the time of the assessment as set by the VET regulator.
- The assessor must demonstrate both technical competency and currency.
- Technical competence can be demonstrated through:
  - relevant VET or other qualification/Statement of Attainment AND/OR
  - relevant workplace experience
- Currency can be demonstrated through:
  - performing the competency being assessed as part of current employment OR
  - having consulted with an organisation providing relevant environmental monitoring, management or technology services about performing the competency being assessed within the last twelve months.

## Links

Companion Volume implementation guides are found in VETNet -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5b04f318-804f-4dc0-9463-c3fb9a3fe998>