



Australian Government

PMC557001 Manage trials

Release: 1

PMC557001 Manage trials

Modification History

Release 1. Supersedes and is equivalent to PMC557001A Manage trials

Application

This unit of competency covers the skills and knowledge required to manage trialling of new/modified materials, process, methods, equipment and/or plant. Trialling is typically used to determine suitability or check performance. Examples include:

- the scale-up and other development steps required to take a new product or process from its design/laboratory trials to full commercial operation on a plant
- direct trialling of a proposed new material, method, process, plant or equipment
- large scale pilot plant, demonstration plant or full scale plant trials.

This unit of competency applies to operators who are required to define the purpose, processes and metrics of the trial, coordinate the work, critically evaluate the trial outcomes and recommend action to be taken.

This unit of competency applies to senior technicians or those in similar roles who are required to analyse and synthesise advanced theoretical and technical knowledge and apply independent judgement to high-level technical issues and complex problems. The individual may be the sole manager of the trial or a co-manager with a defined scope of responsibility.

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

Pre-requisite Unit

Nil

Competency Field

Technical

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.

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| 1 | Determine | 1.1 | Analyse documentation available on trial |
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| | purpose of trial | 1.2 | Consult with trial proponent and other stakeholders |
| | | 1.3 | Define purposes of trial |
| | | 1.4 | Confirm trial purpose with all stakeholders |
| | | 1.5 | Identify health, safety and environment (HSE) and other risks from the trial |
| | | 1.6 | Negotiate conflicts in trial purpose |
| | | 1.7 | Promulgate agreed trial purpose |
| 2 | Determine trial metrics | 2.1 | Determine information required from trial |
| | | 2.2 | Identify relevant data which is available or which could be made available |
| | | 2.3 | Identify gaps in data and negotiate suitable proxies for data |
| | | 2.4 | Arrange for data to be collected |
| | | 2.5 | Ensure there is appropriate capability for required data manipulation |
| | | 2.6 | Ensure the availability of appropriate procedures/protocols for collection and manipulation of data |
| 3 | Coordinate trial | 3.1 | Develop procedures required for trial |
| | | 3.2 | Check procedures to ensure appropriate risk management is included |
| | | 3.3 | Draft trial plans |
| | | 3.4 | Confirm trial plans with all relevant personnel |
| | | 3.5 | Negotiate conflicts as required |
| | | 3.6 | Promulgate agreed trial plans |
| | | 3.7 | Arrange for the required resources to be available when required by plan |

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| | 3.8 | Coordinate the implementation of the trial plan |
| | 3.9 | Recognise indications of developing problems and take appropriate action |
| | 3.10 | Monitor the progress to plan and take appropriate action to achieve required outcomes |
| | 3.11 | Conclude trial when appropriate |
| 4 | Interpret trial results | |
| | 4.1 | Ensure all data is collated and manipulated as required |
| | 4.2 | Interpret data in terms of trial purpose |
| | 4.3 | Analyse data for unexpected outcomes |
| | 4.4 | Determine trial outcomes |
| | 4.5 | Draft trial report, including recommendations |
| | 4.6 | Discuss report with relevant stakeholders as appropriate |
| | 4.7 | Publish final report and 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.

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.

Applicable legislation, regulations, standards and codes of practice include:

- HSE legislation, regulations and codes of practice relevant to the

- workplace, equipment and production processes and hazardous materials
- Australian/international standards relevant to the materials being used and products being made
- any relevant licence and certification requirements.

All operations to which this unit applies are subject to stringent 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 such requirements the legislative requirements take precedence.

HSE and other risks

Identification of HSE and other risks includes consideration of:

- health and safety risks
- sustainability risks
- regulatory risks
- business risks.

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 any combination of:

- job cards
- 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

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Links

Companion Volume implementation guides are found in VETNet -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=45a7f1d5-61a5-447a-9688-7abbd7e1a5c7>

Assessment Requirements for PMC557001 Manage trials

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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 demonstrate the ability to:

- read and interpret test results, technical information, technical specifications, instruments/control panels and drawings/schematics
- define purpose of trial and confirm with stakeholders
- determine information requirements, relevant sources of data and data collection methods
- develop detailed plan/s for implementing the trial
- coordinate and monitor implementation of trial
- analyse trial data to determine outcomes of the trial and recommend whether to:
 - adopt the trial as standard
 - perform another trial with some changes
 - stay with the status quo
 - take other action which is outside the initial scope but which is consistent with the results of the trial
- communicate and negotiate agreements with internal and external stakeholders, including one or more of:
 - customer representatives
 - technical experts
 - regulators
 - management
 - designers
- recognise and respond to potential and actual problems
- recognise and interpret unexpected results
- communicate technical information verbally and in writing
- apply complex and/or theoretical mathematical calculations, statistics
- solve complex problems within or arising from the trials.

Knowledge Evidence

Must provide evidence that demonstrates knowledge relevant to their job sufficient to fulfil their job role, including knowledge of:

- problem/trial purpose definition techniques
- risk management protocols and procedures
- indicators of problems that may arise in trialling and possible responses, including:

- immediately ceasing the trial
- modifications to trial
- modifications to monitoring/data collection
- calculations and statistics relevant to the trial
- project/trial planning and management
- production/trial scheduling
- identifying trial resource requirements, including:
 - materials
 - plant and equipment
 - required utilities
 - waste disposal/emission control and similar
 - time allocation
 - personnel
 - competencies of personnel
 - space
 - data manipulation hardware/software
- communication protocols and methods of achieving them
- data analysis/interpretation methods
- protocols and regulatory limits on discussions of results and recommendations
- regulatory framework
- hierarchy of control
- hazards that may arise in the job/work environment and:
 - their possible causes
 - potential consequences
 - appropriate risk controls.

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 is best done from a report and/or folio of evidence drawn from:
 - a single project which provides sufficient evidence of the requirements of all the elements and performance criteria
 - multiple smaller projects which together provide sufficient evidence of the requirements of all the elements and performance criteria.
- A third-party report, or similar, may be needed to testify to the work done by the individual, particularly when the project has been done as part of a project team.

- Assessment should use a real project in an operational workplace. Where this is not possible or where personal safety or environmental damage are limiting factors assessment must occur using a sufficiently rigorous simulated environment that reflects realistic operational workplace conditions. This must cover all aspects of workplace performance, including environment, task skills, task management skills, contingency management skills and job role environment skills.
- Assessment in a simulated environment should use evidence collected from demonstration of skills and one or more of:
 - walk-throughs
 - pilot plant operation
 - industry-based case studies/scenarios
 - 'what ifs'.
- Knowledge evidence may be collected concurrently with performance evidence or through an independent process, such as workbooks, written assessments or interviews.
- 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.
- The regulatory framework will be reflected in workplace policies and procedures and is not required to be independently assessed.
- 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.
- In addition the assessor or anyone acting in subject matter expert role in assessment shall demonstrate both technical competency and currency. If the assessor cannot demonstrate technical competency and currency they shall assess with a subject matter expert who does meet these requirements.
- Technical competence can be demonstrated through one or more of:
 - relevant VET or other qualification/Statement of Attainment
 - appropriate workplace experience undertaking the type of work being assessed under routine and non-routine conditions
 - appropriate workplace experience supervising/evaluating the type of work being assessed under routine and non-routine conditions
- Currency can be demonstrated through one or more of:
 - being currently employed undertaking the type of work being assessed
 - being employed by the organisation undertaking the type of work being assessed and having maintained currency in accordance with that organisation's policies and procedures
 - having consulted/had contact with an organisation undertaking the type of work being assessed within the last twelve months, the consultation/contact being related to assessment
 - conducting on the job training/assessments of the type of work being assessed

- being an active member of a relevant professional body and participating in activities relevant to the assessment of this type of work.

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