



**Australian Government**

**MEM234037A Perform  
maintenance-related integrated logistic  
support management activities**

Release: 1

# **MEM234037A Perform maintenance-related integrated logistic support management activities**

## **Modification History**

Release 1 (MEM05v9)

## **Unit Descriptor**

This unit of competency covers the skills and knowledge required to perform a range of maintenance-related integrated logistic support (ILS) activities at a managerial level for any complex system or product where ILS has been selected as the through-life management system.

## **Application of the Unit**

This unit requires application of competencies relating to ILS elements and related data management and analysis tools in the maintenance-related management and support of systems/products throughout their life of type.

Applications include the planning and support of maintenance on any complex system or product where ILS has been selected as the through-life management system and also includes the application of data produced through the configuration management (CM) process where that process has been selected to establish and maintain the design baseline of a system or product. Application of the CM process is covered by unit MEM234036A Apply configuration management procedures in engineering project management.

## **Licensing/Regulatory Information**

Not applicable.

## **Pre-Requisites**

MEM23003A	Operate and program computers and/or controllers in engineering situations
MEM234028A	Produce and manage technical documentation
MEM234029A	Produce and manage technical publications

## Employability Skills Information

This unit contains employability skills.

## 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.

## Elements and Performance Criteria

1	Assist to develop and maintain logistic support analysis plans	1.1	Draft technical content for logistic support analysis plans
		1.2	Review the technical content of logistic support analysis plans in line with trends in system supportability and affordability and with changes in the design baseline
		1.3	Propose revisions to logistic support analysis plans
2	Perform life cycle cost analysis	2.1	Identify actual and anticipated costs through to life of type
		2.2	Analyse cost data
3	Establish and maintain baselines for reliability, availability and maintainability	3.1	Gather data on in-service reliability, availability and maintainability (RAM) and establish baselines
		3.2	Review data against established baselines and initiate action to deal with deviations from the established baselines
4	Develop and maintain a maintenance plan and identify associated requirements	4.1	Perform a level of repair analysis (LORA)
		4.2	Specify maintenance activities and timelines
		4.3	Identify and document support and test equipment requirements
		4.4	Identify and document skills and maintenance manpower requirements

- 4.5 Identify and document requirements for maintenance facilities
  - 4.6 Identify and document technical documentation requirements
  - 4.7 Provide data for initial spares assessment
  - 4.8 Revise the maintenance plan and applicable associated requirements when required by baseline changes
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- 5 Revise technical logistic support analysis record data
    - 5.1 Analyse logistic support analysis parameters using current data
    - 5.2 Enter analysis results in the logistic support analysis record
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- 6 Manage data
    - 6.1 Develop and manage a technical data management system in accordance with contractual and regulatory requirements
    - 6.2 Monitor the relevance of technical data and initiate amendment action, where necessary
    - 6.3 Apply and support logistic support management information systems

## Required Skills and Knowledge

This section describes the skills and knowledge required for this unit.

### Required skills

Required skills include:

- effectively using all forms of oral and written communication
- populating and extracting data from databases
- applying data from design sources, such as CM data
- performing task analysis
- applying ILS principles

### Required knowledge

Required knowledge includes:

- ILS management and support philosophy and practice
- logistic support analysis concepts and methods, including:
  - preparation of logistic support analysis plans
  - management and conduct of logistic support analysis programs
  - supportability analysis
  - task analysis
  - logistic support analysis record population
- RAM determination and application, including:
  - baseline determination and application
  - RAM modelling
  - reliability and maintainability apportionment
- performance of LORA and development of maintenance plans and associated requirements
- data management concepts and methods

## Evidence Guide

The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.

<p><b>Critical aspects for assessment and evidence required to demonstrate competency in this unit</b></p>	<p>Assessors must be satisfied that the candidate can competently and consistently perform all elements of the unit as specified by the criteria, including required knowledge, and be capable of applying the competency in new and different situations and contexts for the maintenance-related application of ILS.</p>
<p><b>Context of and specific resources for assessment</b></p>	<ul style="list-style-type: none"> <li>• This unit may be assessed on the job, off the job or a combination of both on and off the job. Where assessment occurs off the job, that is, the candidate is not in productive work, then a simulated working environment must be used where the range of conditions reflects realistic workplace situations.</li> <li>• The competencies covered by this unit would be demonstrated by an individual working alone or as part of a team.</li> <li>• Where applicable, reasonable adjustment must be made to work environments and training situations to accommodate ethnicity, age, gender, demographics and disability.</li> <li>• Access must be provided to appropriate learning and/or assessment support when required. Where applicable, physical resources should include equipment modified for people with disabilities.</li> </ul>
<p><b>Method of assessment</b></p>	<ul style="list-style-type: none"> <li>• Assessment must satisfy the endorsed Assessment Guidelines of the MEM05 Metal and Engineering Training Package.</li> <li>• Assessment methods must confirm consistency and accuracy of performance (over time and in a range of workplace relevant contexts) together with application of underpinning knowledge.</li> <li>• Assessment methods must be by direct observation of tasks and include questioning on underpinning knowledge to ensure correct interpretation and application.</li> <li>• Assessment may be applied under project-related conditions (real or simulated) and require evidence of process.</li> <li>• Assessment must confirm a reasonable inference that competency is not only able to be satisfied under the particular circumstance, but is able to be transferred</li> </ul>

	<p>to other circumstances.</p> <ul style="list-style-type: none"><li>• Assessment may be in conjunction with assessment of other units of competency where required.</li></ul>
<b>Guidance information for assessment</b>	<p>Assessment processes and techniques must be culturally appropriate and appropriate to the language and literacy capacity of the candidate and the work being performed.</p>

## Range Statement

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. 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) may also be included.

<b>Technical data for logistics plans</b>	Technical data may be sourced from design data taken from CM data during the design and production phase and thereafter from maintenance records and data gathered to comply with organisational and/or regulatory requirements, plus the iteration of the CM process whenever modification action is required
<b>Life cycle cost analysis</b>	Life cycle cost analysis includes the systematic identification and analysis of all actual and anticipated costs associated with implementing and sustaining a system or product throughout its service life
<b>Costs through to life of type</b>	<p>Costs through to life of type may arise from:</p> <ul style="list-style-type: none"> <li>• operation</li> <li>• engineering support</li> <li>• maintenance support</li> <li>• supply support</li> <li>• facilities costs</li> <li>• personnel costs</li> </ul>
<b>Data analysis and review</b>	Data analysis and review may be performed using enterprise databases and analysis tools
<b>Analysis results</b>	<p>Analysis results may include:</p> <ul style="list-style-type: none"> <li>• in-service failure mode effects and criticality analysis</li> <li>• corrective maintenance analysis</li> <li>• reliability centred maintenance analysis</li> <li>• maintenance task analysis</li> <li>• repair level analysis</li> </ul>
<b>LORA</b>	LORA refers to an analytical methodology used to assist in the development of maintenance concepts and to establish the maintenance level at which components will be repaired, replaced or discarded on the basis of constraints (economic or other) and readiness requirements



<p><b>A technical data management system</b></p>	<p>A technical data management system should provide for:</p> <ul style="list-style-type: none"> <li>• maintenance of all applicable technical data</li> <li>• retention of original and back-up data in separate locations</li> <li>• storage in a manner that minimises the risk of data loss, theft or destruction</li> </ul>
<p><b>The relevance of technical data</b></p>	<p>The relevance of technical data may be determined through:</p> <ul style="list-style-type: none"> <li>• monitoring engineering, maintenance and supply support activities</li> <li>• utilising user feedback</li> </ul>
<p><b>ILS standards and references</b></p>	<p>ILS standards and references include:</p> <ul style="list-style-type: none"> <li>• Army Regulation 700-127 Integrated Logistic Support</li> <li>• Defence Standard 00-600 Integrated Logistic Support for MOD Projects</li> <li>• Defence Standard 00-40 Reliability and Maintainability Pt 1</li> <li>• Defence Standard 00-41 Reliability and Maintainability MOD Guide to Practices and Procedures</li> <li>• MIL-STD 1390D Level of Repair Analysis</li> <li>• NAVAIR 00 -25 403 Guidelines for the Naval Aviation Reliability-Centred Maintenance Process</li> <li>• Integrated Logistic Support Handbook, third edition</li> <li>• NASA Fault Tree Assessment Handbook</li> </ul>

## Unit Sector(s)

### Competency field

Unit sector            Engineering science

## Custom Content Section

Not applicable.