



Certified Technical Specialist in Asset Management (CTAM)

This document specifies the requirements for PEMAC's "Certified Technical Specialist in Asset Management". PEMAC CTAM certification has been accredited by the World Partners in Asset Management (WPIAM) which means that when you are assessed as having met the requirements for CTAM Certification by PEMAC your certification will be recognized globally where CTAM, and its equivalents are recognized.

In the specification elements below, where bold italicised text is used, further information is detailed in the "Range Statement" section of the document.

Certification Level	Certified Technical Specialist in Asset Management (CTAM)
Certification Level Descriptor	<p>The knowledge and comprehension of asset management (AM) to take responsibility for leading application and management of an element of a specific Domain within an Asset Management Framework (AMF) and thereby enhance the organizational effectiveness of the relevant Activities undertaken, requiring:</p> <ul style="list-style-type: none">• Awareness and understanding of the breadth of recognized Domains of AM, and their interdependency within an AMF.• Well-developed skills within an area of work responsibility in an operating Domain of AM.• Awareness and understanding of the key requirements of an integrated AMF; and• Awareness and understanding of core AM roles and responsibilities, their inter-dependency, and the key benefits of integrated application.
Application of the Certification	<p>No licensing, legislative, or regulatory requirements apply to the AM elements of this certification at the time of publication.</p> <p>This certification is applicable to persons that are Proficient in the application of specific and essential activities within a relevant Domain of AM required to deliver against the AM objectives of the organization. Relating to the area of their Proficiency, certificants will:</p> <ul style="list-style-type: none">• Inform aspects of the AMF; and



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- Lead a team in application or be recognized as a fully competent technical professional, technician, or tradesperson.

ELEMENT

Elements describe the essential outcomes of a certificant for this competency.

1 Plan efficient and effective implementation

2 Implement in a proficient manner

3 Timely and accurate reporting

4 Ongoing practice improvement

PERFORMANCE CRITERIA

Performance criteria describe the required performance needed to demonstrate achievement of the element. Assessment of performance is to be consistent with the evidence guide.

1.1 **Activities** in a **Domain** of AM are planned to be implemented in an efficient and effective manner in line with the relevant aspects of the organization's **AMF Documents and Artefacts**, AM Plans, and the resources made available.

1.2 Plans are prepared taking into consideration organization-wide AM objectives, decision-making criteria, roles, and responsibilities, and adopted **AM Processes and Procedures**.

2.1 **Activities** in a subject area of AM are implemented in a **Technically Proficient** manner, in line with relevant statutory, legal and/or regulatory requirements and industry recognized good practice, and in line with the relevant aspects of the organization's **AM Documents and Artefacts**, AM Plans, and the available resources.

2.2 Effectively use relevant information systems relating to the organization's AMF.

3.1 Data and information are collected, analysed, and managed in accordance with the relevant requirements of the organization's **AM Documents and Artefacts**, AM Plans, and the available resources.

3.2 **Activities** in a specific area of AM are reported in line with the relevant requirements of the organization's **AM Documents and Artefacts**, AM Plans, **Operational Plans**, and the available resources.

4.1 Needs and opportunities for ongoing improvement of AM practice in the **Domain** of AM responsibility are



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- identified and reported in line with the relevant processes in the organization's **AM Documents and Artefacts**, in consultation with relevant stakeholders, and in context of the benefits to the organization-wide AMF.
- 4.2 Solutions and implementation plans are identified in consultation with other stakeholders and specified decision making-criteria to address practice improvement needs in the specific area of AM responsibility, bearing in mind the context, implications, and benefits to the overall AMF. These are reported in line with the relevant processes in the organization's **AM Documents and Artefacts** and in consultation with relevant stakeholders.
- 4.3 Approved plans for implementation of practice improvement in the specific area of AM responsibility are implemented in consultation with other stakeholders.
- 5 Apply general management skills
- 5.1 Conduct leadership of a technical team where relevant or contribute as a subject matter expert (SME).
- 5.2 Apply technical judgement and awareness and understanding of industry practice in the chosen subject area (within a **Domain**) of AM.
- 5.3 Coordinate with other members of the organization's AM team as required in the adopted AM Processes and Procedures.
- 5.4 Demonstrate effective written and verbal communications.

REQUIRED SKILLS AND KNOWLEDGE

Required skills:

1. Recognition as a competent practitioner by a relevant professional body in a core discipline related to the role within an AM **Domain**; and
 2. Demonstrated successful application, relating to a significant asset portfolio (in terms of its nature, size, and risk exposure), of the following competencies, in a subject area of AM in line with recognized good practice:
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- a. Plan effective and efficient implementation.
- b. Implement in a proficient manner.
- c. Provide timely and accurate reports.
- d. Identify and implement ongoing practice improvement; and
- e. Apply general management skills.

Required knowledge:

1. A qualification in a core **Domain** discipline related to the role (or recognized equivalent knowledge developed in the workplace).
2. A minimum qualification or recognized training in asset management that meets the following level of cognition (thinking, learning and understanding, based on the 2001 revised version of Bloom's Taxonomy):
 - Cognitive dimension: applying;
 - Knowledge dimension: procedural; and
 - Matrix activity: classify, experiment, calculate, summarize, and interpret.
3. AM qualifications will be assessed for accreditation by WPIAM.

Note: The level of cognition (thinking, learning, and understanding) in the core Domain discipline is specific to that discipline and not necessarily the same as the AM level required. WPIAM and its partners will typically require applicants to submit a copy of their core discipline qualification, certification or licence issued by an appropriately accredited agency, training provider or government agency.

Required experience:

A minimum of 2 years' experience within an asset management environment. Depending on an asset management professional's roles and responsibilities over his/her working life, and the scale, complexity and criticality of the Activities of the organization(s) and the respective asset base, the time needed to build a portfolio of demonstrated successful application of asset management practice may require additional time, i.e. time served needs to be contextualized by varied application in a blended combination of the underpinning discipline and broader asset management practice.

RANGE STATEMENT



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The Range Statement relates to the certification level competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording 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.

- Domain-subject equivalence** In the Global Certification Scheme, a ‘Domain’ is considered equivalent to the reference to ‘subject’ (or group of subjects) in the Global Forum for Maintenance and Asset Management (GFMAM) Landscape. Domain may also refer to the tactical AM of specific asset types or classes, critical assets, or spatially discrete asset groupings such as facilities, networks, or process lines.
- Proficient** means: Holding technical and / or professional qualifications in the respective area of proficiency. Areas of proficiency could include: technicians, technologists, tradesperson or professionals in one of various disciplines such as maintenance, maintenance planning or scheduling, project management, accounting, engineering, architecture, spatial planning, or management sciences.
- Activities** comprise: Application of tools, processes and practices utilised by an organization to manage or make decisions with respect to:
- Legislative requirements;
 - Risk, performance, and financial management;
 - Asset performance, capacity, utilisation and criticality;
 - Asset availability, reliability, maintainability and supportability;
 - Asset acquisition, creation, operations, maintenance and disposal;
 - Environmental and social impacts;
 - Safety
 - Cost/affordability/willingness to pay;
 - Asset value and depreciation;
 - AMF performance;
 - Workplace resourcing, competency, and culture; and



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- Alternative technologies.

Data and Information means:

Relevant knowledge of asset characteristics, performance, condition and management processes or associated financial data to permit efficient and effective operation, maintenance and management of the asset in order to meet organizational objectives.

AM Processes and Procedures are:

The integrated operational processes, models, roles and responsibilities, and support systems adopted by the organization to give effect to its AM Policy, AM Objectives and AMPs.

The **AM Framework (AMF)** is:

The system of management adopted by an organization to implement AM, including AM Processes and Procedures, AM Policy, AM Objectives, SAMP, AMPs and strategic, tactical and operational management systems.

Operational Plans include:

The activities, operational procedures, and resources adopted by the organization to implement the respective activities within an Asset Management Framework.

EVIDENCE GUIDE

The evidence guide provides advice on assessment and must be read in conjunction with the Performance Criteria, Required Skills and Knowledge, and the Range Statement.

Critical aspects for assessment and evidence required to demonstrate competency include:

Evidence of the following:

- Summarized overview of the nature and duration of total work experience (minimum of 2 years of **Domain** experience within an AM environment).
Note: Depending on an AM professional's roles and responsibilities over his/her working life, and the scale, complexity and criticality of Activities of the organisation(s) and the respective asset, the time needed to build up a portfolio of demonstrated successful application of Domain experience in an AM environment may require additional time (for example for CTAM 2-10 years) i.e. time served



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*needs to be contextualized by application of the underpinning **Domain** discipline;*

- *Summarized overview of the nature, dates, and duration of AM work experience, including the nature, size and criticality of the asset portfolio, and respective AM roles.*
- *Corroboration of the experience and contribution / role of the applicant by a registered professional;*
- *Submission of key artefacts to support the competency assessment such as the following relating to the subject area: implementation plan; tasks and asset status reports; confirmation of compliance with stated management and asset performance requirements; practice improvement plan relating to the subject area; and*
- *Commitment to the Code of Ethics.*

Context of and specific resources for assessment

Assessment must ensure access to evidence of the nature, scale and criticality of the asset portfolio.

Method of assessment

A range of assessment methods are used to assess practical skills and knowledge. The following are appropriate to this designation:

- Review of artefacts submitted by the applicant, supported by a declaration by the applicant and reference to confirm the specific role of the applicant in the preparation of the document
- Review of the applicant's response to queries / clarifications requested by the assessors; and
- Interview (optional – where necessary to confirm or clarify competency).

Guidance information for assessment

Holistic assessment relevant to the industry sector, workplace and job role is recommended. In all cases where practical assessment is used it will be combined with targeted questioning to assess required knowledge.

Assessment processes and techniques must be appropriate to the language and literacy capacity of the candidate and the work being performed.



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Applicants may be operating within a mature AM environment or in a formative phase. The organizational maturity within which the applicant is operating will inevitably impact the way an applicant has undertaken their activities and hence evidence presented and therefore needs to be taken in to account. It is to be kept in mind that it is the applicant's competence that is being assessed, not the organization's maturity.

Country-specific interpretation of qualifications and, where necessary, other requirements stated in this specification, will be confirmed by WPIAM.