



Certified Fellow in Asset Management (CFAM)

This document specifies the requirements for PEMAC's "Certified Fellow in Asset Management". PEMAC CFAM certification has been accredited by the World Partners in Asset Management (WPIAM) www.wpiam.com which means that when you are assessed as having met the requirements for CFAM Certification by PEMAC your certification will be recognized globally where CFAM, 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 Fellow in Asset Management (CFAM)
Certification Level Descriptor	The knowledge and skills required to exercise the highest degree of independence and initiative to perform at a strategic technical leadership level in AM, requiring: • systemic and critical understanding of a substantial and complex body of knowledge at the frontier of asset management professional practice; - expert, meta-cognitive, technical and innovation skills in asset management to independently and systematically; - engage in critical reflection, synthesis and evaluation; - develop, adapt and implement research methodologies to extend and redefine existing knowledge or professional practice; - disseminate and promote new insights to peers and the community; - generate original knowledge and understanding to make a substantial contribution to asset management professional practice - contribute to organizational establishment of a culture which is appropriate to asset management and the sector. - ability to apply innovative and novel approaches to the management of personnel and processes in Asset Management for an organization



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- the ability to apply knowledge and skills to demonstrate authoritative judgement, autonomy, adaptability and responsibility as an expert and leading practitioner.
- Awareness and understanding of all the recognised **Domains** of Asset Management (AM), their inter dependency, and integration.
- Awareness and understanding of the key requirements for an integrated **AMF**.
- The ability to synthesise and integrate complex knowledge (including eliciting such knowledge from a range of **Domain** and Asset Management experts).
- Manage the integration/relationship of asset management with other organizational management systems and processes.

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

Application of the Certification

The CFAM designation relates to people that perform a strategic technical leadership role in AM. This can be in the form of contributing significant advances to the AM body of knowledge, generalist or specialist application in unique, complex and / or advanced environments, or in the provision of expert advice.

Roles at this level will require a critical understanding of Asset Management, typical operating sectors, their context and the factors affecting its adoption.

ELEMENT

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

- 1** Demonstrated knowledge and understanding

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 Can demonstrate knowledge of a critical overview of Asset Management, including critical understanding of the principal theories, concepts, and principles.
- 1.2 Can demonstrate a critical, detailed, and often leading knowledge and understanding at the forefront of Asset Management or asset groups/types and/or operating environments.
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	1.3	Demonstrates knowledge and understanding of Asset Management that is generated through personal research (and/or equivalent work) that makes a significant contribution to the development of Asset Management and its practice.
2 Demonstrate application of knowledge skill and understanding in Asset Management	2.1	Application and demonstration of asset management knowledge, skill and work experience across a broad range of assets, asset types, and/or operating environments and circumstances and through using a significant range of the principle professional skills, techniques, practices and/or materials associated with Asset Management.
	2.2	Application and enhancing of a range of complex skills, techniques, practices and/or materials that are at the forefront of Asset Management.
	2.3	Demonstrating a range of standard and specialized research and/or equivalent instruments and techniques of enquiry.
	2.4	Through designing and executing research, investigative or development projects in Asset Management to deal with new, emerging or infrequently encountered problems and issues.
	2.5	Showing originality and creativity in the development and application of new knowledge, understanding and practices in Asset Management.
	2.6	To practise Asset Management in the context of new problems and circumstances through innovation and continuous improvement.
3 Apply cognitive skills	3.1	Apply a constant and integrated approach to critical analysis, evaluation and synthesis of new and complex ideas, information and issues.
	3.2	Identify, conceptualise and offer original and creative insights into new, complex and abstract ideas, information and issues.
	3.3	Develop original and creative responses to problems and issues.



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	3.4	Deal with complex and/or new and emerging issues and make informed judgements in the absence of complete or consistent data/information.
4 Demonstrate a wide range of AM and communication skills	4.1	Communicate at an appropriate level to a range of audiences and adapt communication to the context and purpose of Asset Management.
	4.2	Communicate at the standard of published academic work and/or critical dialogue and review with peers and experts in other fields and/or industry sectors.
	4.3	Use a range of Information and Communication Technology (ICT) applications to support and enhance work at this level and specify software requirements to enhance work.
	4.4	Critically evaluate, analyse, synthesize and communicate complex numerical and graphical data and information.
5 Demonstrate autonomy, accountability and working with others in Asset Management	5.1	Demonstrate substantial authority and exercise a high level of autonomy and initiative in professional and equivalent activities .
	5.2	Take full responsibility for own work and/or significant responsibility for the work of others.
	5.3	Take significant responsibility for a range of resources.
	5.4	Demonstrate leadership and/or originality in implementing adoption of Asset Management in organizations and industries, and addressing and resolving problems and issues.
	5.5	Practise in ways which are reflective, self-critical and based on research/evidence.
	5.6	Manage complex ethical and professional issues and make informed judgements on new and emerging issues not addressed by current professional and/or ethical codes or practices.



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6	Demonstrate leadership, education and promotion of Asset Management to further expand and grow the discipline and practice of Asset Management	6.1	Show commitment to the profession through on-going (formal or informal) education, mentoring or leadership of other Asset Management practitioners
		6.2	On-going demonstration of marketing and promotion of Asset Management, benefits, and its practitioners, to external stakeholders such as other professions, professional peak bodies, community groups and recognised social and political leaders.

REQUIRED SKILLS AND KNOWLEDGE

Required skills:

Demonstrated successful application, in a line management, **Domain** expert, or consulting support role at a CSAM (or equivalent) recognised level, relating to a significant asset portfolio (in terms of its nature, size, complexity and risk exposure), of the following competencies, in line with recognised good practice:

- Provide AM leadership
- Align and integrate AM practice
- Lead the review and development of AM Policy.
- Lead the review and development a Strategic Asset Management Plan (SAMP).
- Lead the review and development of AM Plans (AMPs).
- Monitor the implementation of AM Plans.
- Lead the review and development of **AMF practices, processes and Artefacts**.
- Monitor, assure and/or validate implementation of the **AMF practices, processes and Artefacts**.
- Monitor, assure and/or validate implementation of an **AMF** Continuous Improvement Plan.

Ability to:



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- Address infrequently encountered issues and problems, outside those encompassed by standards and codes of practice for professional AM.
 - Engage with strategic asset management issues.
 - Engage with wide ranging AM issues and resolution of significant problems arising from interactions between such issues, including interaction with internal and external stakeholders and other AM disciplines.
 - Integrate all functional elements to form a complete and consistent system of management documented in an **AMF**; and
 - Conceptualise alternative approaches, comprehend and define the risks and benefits of each, use informed professional judgement.
 - Integrate change management practices into AM continuous improvement **activities**
 - Integrate local legislative and regulatory requirements into asset management recommendations

Required knowledge:

1. A minimum qualification in a **Domain** discipline equivalent to a Bachelor degree related to the role.
2. A minimum university qualification or recognised advanced training provider qualification that has meaningful and relevant content in asset management at a level equivalent to a Masters level, or a recognised Masters level qualification in a relevant **Domain** that includes a significant portion of AM content, or equivalent competency that meets or demonstrates the following level of cognition (thinking, learning, and understanding, based on the 2001 revised version of Bloom's Taxonomy):
 - Cognitive dimension: analysing.
 - Knowledge dimension: **Meta-cognitive**; and
 - Matrix activity: order, explain, differentiate, achieve, classify, experiment, calculate, summarise, and interpret.
3. Sufficient experience to acquire contextualized knowledge in the application of AM **activities** (see Required Experience below)
4. A pass mark in the Certified Asset Management Assessor (CAMA) examination (set by the WPIAM) or recognised equivalent (as agreed by WPIAM).

Note 1: While the qualifications referenced in 1. and 2. above are explicitly noted as being formal qualifications, and will typically be a university or recognised advanced training provider qualification, it is possible, that an equivalence of competence in progressive leadership and asset management may be assessed to be equivalent.



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NOTE 2: Qualifications not formally recognized as a Master degree in Asset Management may be assessed for compliance by WPiAM.

Required experience:

A minimum of a total twelve (12) years in AM, at least and the last three (3) of which are performance at the CFAM level in the, i.e. ongoing education, education, and asset management leadership. (see 6.1 and 6.2 Element performance criteria) (i.e. demonstration of currency is needed). Depending on an AM professional's roles and responsibilities over their working life, and the scale, complexity and criticality of the organization's **activities** and respective asset base, the time needed to build a portfolio of demonstrated successful application of AM practice and leadership may require additional time, i.e. time served needs to be contextualised by varied application in a blended combination of the underpinning discipline and broader AM practice.

RANGE STATEMENT

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.
Reporting Obligations include:	Risk, financial and performance management, and are in line with the organization's AM Processes and Procedures.
Personal research means	the independent pursuit of knowledge, skills and innovation outside of a formal work or research



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	environment. i.e. not reliant on another person's creation, thinking or ownership.
ICT means	Information and Communication Technology
Financial Management Aspects include:	Asset accounting, funding strategy, cost management, revenue optimisation, cost/benefit analysis, Net Present Value (NPV) assessment, Rate of Return (RoR) determination, regulated or public sector Pricing and Level of Service (LOS) determinations and similar techniques.
AM Processes and Procedures are:	The integrated financial, risk and performance management models and techniques, operational management processes; lifecycle and data management models; roles and responsibilities; formats and support systems adopted by the organization to give effect to its AM Policy, AM Objectives, SAMP 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.
AMF Documents Practices, Processes and Artefacts include:	Practices, processes Documentation and artefacts that collectively constitute or are needed for implementation of the AMF . AMF Practices, Processes and Artefacts may be discrete or an AM construct, but also may be evident from drawing relevant parts of other organizational management systems, processes, and practices into an aggregated equivalent. For example, the organization-wide document management system tool may be part of the AMF .
Activities comprise:	The application of tools, processes and practises 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.



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- Asset acquisition, creation, operations, maintenance, and disposal.
- Environmental and social impacts.
- Safety and health.
- Economics – cost, affordability, regulatory level of service and pricing incorporating customer willingness to pay considerations Asset value, condition, retirement and replacement
- Performance of the **AMF**.
- Workplace resourcing, competency, and culture; and
- Alternative technologies.

Meta-cognitive skills are:

The ability to ‘think about thinking’. In this context, demonstrated application of **meta-cognitive** skills is about organizational **meta-cognition** – understanding and then managing in response to how and why the organization thinks and acts in particular ways or follows particular processes and practices. Evaluation and selection of the most appropriate processes and practices as a learning organization, developing and maintaining an appropriate culture, performance management, driving appropriate changes to the operating environment and determining appropriate methodologies, processes, and practices for setting objectives, implementation, review, analysis, and decision making constitute aspects of **meta-cognitive** thinking.

GFMAM Landscape v3.0 elements broken down by subject areas (3rd edition)

1. Context and stakeholders

- 1.1 Organizational Purpose & Context
- 1.2 Stakeholder Engagement
- 1.3 Asset Costing & Valuation

2. Governance

- 2.1 Asset Management Policy
- 2.2 Asset Management System
- 2.3 Asset Management Assurance & Audit
- 2.4 Technical Standards & Legislation
- 2.5 Management of Change
- 2.6 Risk



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3. AM Planning

- 3.1 AM Strategy & Objectives
- 3.2 Demand Analysis
- 3.3 Sustainable Development
- 3.4 Planning
- 3.5 Decision-Making
- 3.6 Lifecycle Value Realisation
- 3.7 Resourcing Strategy & Management
- 3.8 Shutdown & Outage Strategy & Planning
- 3.9 Contingency Planning & Resilience

4. Leadership and people

- 4.1 Asset Management Leadership
- 4.2 Organizational Arrangements
- 4.3 Organizational Culture
- 4.4 Competence Management
- 4.5 Organizational Change Management
- 4.6 Knowledge Management

5. Information

- 5.1 Asset Management Data and Information Strategy
- 5.2 Asset Data and Information Standards
- 5.3 Asset Management Data & Information Management
- 5.4 Asset Management Data and Information Systems
- 5.5 Configuration Management

6. Delivery

- 6.1 Systems Engineering
- 6.2 Asset Creation & Acquisition
- 6.3 Integrated Reliability
- 6.4 Asset Operations
- 6.5 Maintenance Delivery
- 6.6 Incident Management and Response
- 6.7 Asset Repurposing & Disposal
- 6.8 Supply Chain Management

7. Value realization

- 7.1 Outcomes & Impacts
- 7.2 Monitoring



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7.3 Continuous Improvement

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 is essential:

- Summarised overview of the nature and duration of total work experience aligned to the Required experience specified above.
Note: Depending on an AM professional's roles and responsibilities over their working life, and the scale and complexity of the organization(s) and the asset base (and asset criticality), the time needed to build a portfolio of demonstrated successful application of AM practice and leadership may require additional time (for example 12-15 + years for CFAM) i.e., time served needs to be contextualised by application in a blended combination of underpinning discipline and broader AM practice.
- Summarised overview of the nature, dates, and duration of AM work experience, including the nature, size, complexity and criticality of the relevant asset portfolio, and respective AM roles corresponding to the required Performance Criteria, Required Knowledge, Required Skills and Required Experience, as noted above
- Corroboration of the experience and contribution / role of the applicant by a recognised professional, appropriate manager or accountable person in the relevant organisation.
- Submission of key artefacts to support the competency application with appropriate



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referencing against the assessment criteria, for example: establishment / review of the AM Policy; preparation of a SAMP, AM Plan and **AM Processes and Procedures**, performance plan and compliance reports; AM practices assessment and improvement plan.

- Commitment to the Code of Ethics.
- Evidence of successfully achieving an underpinning **Domain** or Asset Management qualification. *Note: Obtaining a recognised formal qualification is one pathway to acquisition of Asset Management knowledge (and in the case of competency-based training, also skills), though WPIAM recognises that a lower-level base qualification plus appropriate demonstration of equivalence of competence can equate to a higher-level qualification; and*
- Evidence of successfully achieving an AM qualification at the Master level; or a recognized Masters level qualification in a relevant **Domain** that includes a significant portion of AM content; and/or formal advanced asset management qualifications plus experience and demonstration of performance of AM **activities** at a post graduate level in performing the role. *Note: Obtaining a recognised formal qualification is one pathway to acquisition of knowledge (and in the case of competency-based training, also skills), though WPIAM recognises that a lower-level base qualification plus appropriate demonstration of equivalence of competence can equate to a higher-level qualification.*
- Evidence of **Domain** work experience with progressive levels of application of relevant asset management knowledge and skills (i.e. competency). For each 3-year period after certification, a summary of Continuing Professional Development (CPD) accrued will be required to meet as required by the relevant certifying



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association or minimum WPIAM specification requirements.

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 proof of **domain** and AM qualifications to confirm successful completion
- Review of artefacts submitted by the applicant, supported by a declaration by the applicant and reference(s) to confirm the specific role and relevant work experience of the applicant in determining, proving and documenting the approach relevant to the application.
- Review of the applicant's response to queries / clarifications requested by the assessors; and
- Interview Mandatory at this level of Global Certification Scheme.
- Interviewers or assessors must be of sufficient or equivalent recognized status in asset management, and, where necessary, competent in the assessment of alternative portfolios of evidence.

Guidance information for assessment:

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

Demonstrated understanding and appropriate application of the relevant ISO 550xx suite of standards and relevant elements of the **GFMAM AM Landscape v3**.



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

Where the applicant was part of a team that co-developed submitted evidence, their AM leadership role must be clearly defined and may require confirmation from the workplace and interview by the assessor or other validation to demonstrate knowledge and ability.

Applicants may be operating within a mature AM environment or one that is in a formative phase. The organizational maturity within which the applicant is operating will inevitably impact on the way an applicant has undertaken their **activities** and hence the evidence presented and therefore needs to be taken in to account. 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.