

Asset Management Standards

From PAS55 to ISO5500 - Where could this go to?

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Contentions.....

**Asset
Management
=
Risk
Management**

1. Asset management is essentially a risk-based process
2. Infrastructure related businesses invest heavily in Asset Management Systems to help manage their assets and improve their overall performance.
3. The necessity for good asset management is growing rather than reducing.
4. Asset Management System requirements are becoming more sophisticated.
5. The number of stakeholders and the complexity of reporting asset management performance are increasing.
6. Drivers include changing regulation, private finance initiatives to fund major capital programs, and a greater collective understanding of asset management risk.
7. The information and systems necessary to manage physical assets also have enduring value.
8. We should address risk management as part of asset management

ISO 55000 Asset Management Series

Agenda:

1. Background – it started with PAS 55
2. ISO 55000 means opportunities for asset managers
3. It could also create new risks for asset managers
4. What can be tailored
5. Discussion

Definitions are included in this pack for information

Background - Origins of this work

- Derived from the PAS 55 documents
 - Applicable to any organisation where physical assets are a key factor in achieving business success
 - Widely adopted, established a defacto standards framework
- Global acknowledgement that asset management is an emerging discipline that would benefit from standardisation
- Standardisation is seen as a means of making the language, concepts, and measures of quality in asset management common around the world
- ISO project conceived and sponsored by the IAM (UK) and proponents of PAS 55 based asset management

Background - Australian principles

- 1. Provide clear aim for the Standard.*
- 2. Provide a framework to guide organisations in their asset management journey.*
- 3. Focus and promote optimal delivery of identified services in a sustainable manner and not just the management of physical assets without a linked purpose.*
- 4. Address the role of capability maturity in the management of assets and should encourage continuous improvement.*
- 5. Recognise that not one size fits all, that is, it should be scalable, flexible in application and able to be tailored to suit current capability needs. This means an organisation should choose how to implement each element in accordance with its capability and needs.*
- 6. Address the role of asset management audit programs in the achievement of the strategic objectives of an organisation.*
- 7. Foster a “whole of organisation” approach through the integration of all disciplines/professions involved in the AM process.*
- 8. Recognise its relationship with operating environment specific quality management/regulatory systems such as OH&S, government issued licences, etc, in order to ensure that compliance risks are effectively mitigated or managed.*

There are some good things about the drafts, which create opportunity for your organisations...

- Facilitates development of the AM discipline within an international community, concerned with describing *asset management good practice* and application
- Created through cross-sector representation, including: consumer organizations; professional institutions; certification, testing, and inspections bodies; educational establishments; research organizations; regulators and government departments
- Enhances and clarifies the *concepts, models and definitions* for such terms as ‘asset’, ‘asset management’ and ‘asset management system’
- Creates a basis for consideration of asset management as a core function within any businesses ‘*Management System*’
- Articulates the elements required within asset intensive organisations for the assurance of a safe outcome from the operation of assets – the *Safety Case*

But there are also many issues with the drafts....

- Currently, the ISO drafts cover all asset types, not just physical assets
- Must cover all the characteristics from simple to complex, from low to high maturity
- Is all inclusive (requires an all or nothing approach), not scalable or flexible
- Requirements are to be read and applied in their entirety
- ISO 55001, includes 111 “shall” statements placing obligations on management
- Compatibility with other management system standards
- Reference to an ‘organisational strategic plan’
- Reference to a ‘Management System strategy’
- Relevance of PDCA process

key issues with the drafts (cont)...

- Focused on commercial entities with reference to business values and organisational structure around AM
- Inadequate guidance on Levels of Service, stakeholders and customer needs
- Heavy weighting given to Policy, Strategy, Objectives and Plans
- Ignores organisational culture and change management
- Insufficient coverage of design and preliminary planning phases
- Does not cover training, qualification and competency
- UK strongly opposed to allowing any scalability

The standards will create new risks and issues for asset managers ...

- How to deal with differing industries, differing needs and asset types, and the differences between simple and complex systems
- How will government, regulators and asset owners interpret and manage different approaches by different industries and disciplines?
- Regulation, standards or self assessment as part of a safety case?
- Integration with ISO Management System requirements, such as 9000, 14000 & 18000 (31000 also relevant)
- Certification, accreditation or adoption?
- Will management accept the new obligations?

What will you be able to tailor?

1. Your asset management system requirements.

1. Could you define the characteristics of AM relevant for your business, without the standard?
 - Sustainability, capability maturity, continuous improvement
 - AM frameworks, processes, information and systems
 - Terminology, models, guidelines to be used for AM
 - People and IP
2. Do you know what maturity level of each characteristic is needed for your business?
3. Would your AM 'standard' cater for all asset classes (including information, software, people, legal, etc) ?
4. Would your AM standards have a primary focus on 'physical assets' but include relevant guidance on application to 'related assets' that form part of your asset management system?

What will you be able to tailor?

2. How your AMS fits in.

- Business environment, strategy and systems
- Risk appetite, risk management systems, risk strategies, allocation and performance
- Organisational and operational performance targets
- Decision making processes (executive, technical, financial)
- Complexity or simplicity
- Behaviours, attitudes, aptitude, competency
- Applicability of statutory, regulatory and legal requirements

| External Drivers | Examples | Implications |
|---|---|---|
| Availability of talent | Government funding and law may impact the availability of suitable qualified talent to deliver strategy at a reasonable cost | People management frameworks need to look longer term. |
| Commercial arrangements | JV contract management | Need for management of pooled risk where multiple parties collaborate on a venture |
| Customer expectations for service and performance | Engineering and technical staff and specialists training, immigration quotas for skilled labour | Impacts the risk appetite in operational areas, depending on impact on licence to operate and penalties. Also impacts on the operational controls approach and monitoring frameworks |
| Industry Standards | Australian, New Zealand and International standards (31000:2009) | Improved guidance to organisations on how to implement better-practice management frameworks |
| Insurance companies | Premium optimisation | Lowering premium through historic performance (rear ward view) and reassurance on processes, systems and capability (forward view) Even more critical where self insured under a captive arrangement |
| Procurement requirements | Stated requirements for suppliers to demonstrate broad compliance with management systems standards | Places additional pressures on organisations wishing to do business with large customers (defence, government, etc) to articulate how, what and who manages safety, environment, health, quality |
| Regulatory obligations | Mandatory safety case submissions for a license to operate a physical asset | Requires Australian operators in gas, electricity, generation to complete rigorous risk assessment tasks to demonstrate a pathway to safe operation |
| Regulatory Requirements | Government Entity enabling Acts e.g. Transport Accident Act | Outlines broad objectives. powers and delegations which must be considered in risk appetite, governance frameworks and delegations frameworks. |
| Software & systems development | Obligations described in international standards to conduct system level and component level risk identification and assessment tasks | Emergence of new requirements (e.g., ISO 27000) and frameworks currently applied in IT industry but transferring to related industries |

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What are your thoughts and concerns?

Your feedback, comments and opinions will be used by your AMB19 representatives to help shape the standard at the next ISO Standards meeting in the USA in October 2012.

What are the implications for our industries?

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ISO 55000 series

Key terms and definitions

Asset

‘something that has potential value to an organization, and for which the organization has a responsibility’

NOTE 1 Value may be tangible or intangible, financial or non-financial

NOTE 2 Value includes consideration of risks and liabilities, and therefore may be positive or negative at different stages of the asset’s **life cycle** (xx)

NOTE 3 See Figure x for relationship to **System of Assets** (yy) and **Asset Portfolio** (zz)

NOTE 4 An organisation may have partial responsibility for an asset, with limited or indirect influence upon the value obtained or generated.

Asset Management

‘coordinated activities of an organisation to realise life cycle value from assets in delivery of its objectives’

NOTE 1 **Value** may be tangible or intangible, financial or non-financial. Value should also include consideration of risks and liabilities, therefore may be positive or negative at different times in the asset **life cycle**. Realisation of value will normally involve a balance of costs, risks, opportunities and performance benefits.

NOTE 2 When asset outputs or required service levels are pre-determined and non-negotiable, or when value is negative (e.g. dominated by risks or liabilities), “realise value” may represent minimising the combination of costs and risks.

Asset Management System

‘set of interrelated or interacting elements of an organization to establish policies and objectives, and processes to achieve those objectives’

ISO NOTE 1 A management system can address a single discipline or several disciplines.

ISO NOTE 2 The system elements include the organization’s structure, roles and responsibilities, planning, operation, etc.

ISO NOTE 3 The scope of a management system may include the whole of the organization, specific and identified functions of the organization, specific and identified sections of the organization, or one or more functions across a group of organizations. An asset management system, however, will normally realise greater value if it takes a cross-functional approach over the asset life cycle.

Distinguishing features of “Asset Management”

- Need to have **purpose** (‘deliver organisation’s strategic plan/objectives’)
 - A context-sensitive clear *purpose* is needed
- Need to include **timescales**/horizons (‘sustainably’ and/or ‘life cycle’)
 - Introduce requirement for timescales to be considered
 - However *sustainably* can be confused with *sustainability*
 - *Life cycle* can be unclear for a) duration of ownership responsibilities and b) potentially indefinite ‘life’ assets (e.g. whole networks or systems)
- Need for **multi-disciplined** approach (‘systematic’ and/or ‘coordinated’)
 - Makes sure it is not just discrete actions: AM needs to be the appropriate *combination* of all that is planned and delivered
- Need for include **compromise**/blending (‘optimized’ & ‘cost/risk/performance’)
 - Forcing awareness and consideration of conflicting expectations and the need for ‘best blend’

AM Principles (Draft)

- Assets exist to provide value in the form of products and services
- The organisational need for outcomes determines the products and services to be delivered by the assets
- Asset performance and the associated products and services are measurable and traceable
- Asset management enables organisations to transparently manage risks
- Continuous improvement in all stages of the life cycle is an integral part of the management of assets
- The life cycle of an asset is considered from the organisational perspective
- Asset management considers the asset life cycle as an interrelated whole

Whole Life

‘period starting from creation of an asset with potential value to the cessation of its potential value’

NOTE 1 Such things become an **asset (xx)** when they become the responsibility of an organisation for a period known as the asset **life cycle (xx)**.

NOTE 2 Whole life is defined explicitly to enable differentiation of perspective between the life of an asset and the period for which an organisation has a responsibility. Responsibility may change during different parts of the Whole Life, with corresponding changes to needs (potential value), value realisation and residual risks.

Life Cycle

‘period of value realisation from an asset by an organisation’

NOTE 1 There may be a number of life cycles within an asset’s **whole life (xx)**

NOTE 2 Life cycle represents an organisation’s view of an asset, whereas whole life covers an asset’s continuing life history through potentially multiple cycles of ownership or responsibility (i.e. an asset for successive organisations)

NOTE 3 **Life cycle processes (xx)** include identification of needs, creation or acquisition, utilization, care and disposal, decommissioning or renewal.

Whole Life may not be the same as Life Cycle

