



# Asset Management: BSI - PAS-55 Overview

## Globally Emerging Perspectives & Challenges

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**Presentation for.....**



ASSET MANAGEMENT COUNCIL

Two Groups, One Purpose



A Technical Society of Engineers Australia  
Sydney Chapter

## Contents

### ➤ Background

- Local & Global Developments
- How UMS approaches PAS-55 in its Asset Management engagements
- Risk Management As A Cornerstone of PAS-55
- An overview of UMS' AM / PAS-55 Training Approach
- An update of the current PAS 55 Review Program & Path to full BSI and European Standard
- Attractiveness and otherwise of PAS 55: Case Examples
- Keynote Summary



## Background

- Strategic, Tactical, and Technical Asset Management have developed at a rapid pace in recent years culminating in the development of organizations like the UK based Institute of Asset Management (IAM), and development of a formalised Publicly Available Specification (PAS 55) covering the optimized management of physical infrastructure assets.
- This specification was issued in 2004 by the British Standards Institute as the result of a multi-industry working party of IAM.
- It is a publicly available specification (PAS) rather than a BS or ISO standard at this stage although it is structured to align with other commonly used standards.
- The specification was drawn up to provide best practice guidance for organisations responsible for managing assets drawn from the experience of a wide cross section of industry (including gas utilities), and was initiated in response to the recognition that there was no existing reference standard for asset management.



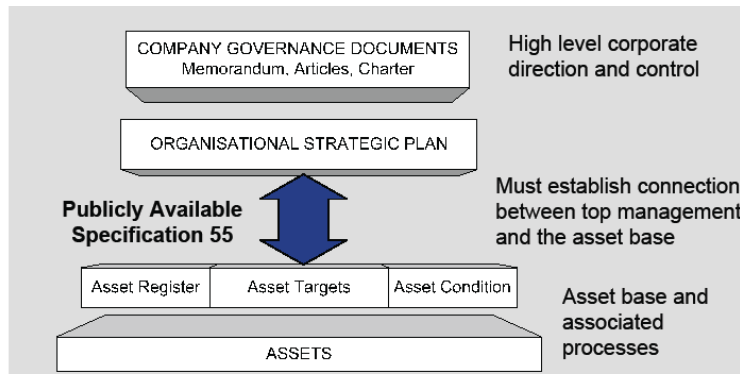
## Background

- Applicable to any business where the greatest expenditure, effort, dependency and risks are associated with assets such as energy, transport, manufacturing and utilities, it takes a holistic approach to asset management.
- The standard is based on a Plan-Do-Check-Act (PDCA) methodology and using a life-cycle view, PAS 55 incorporates the optimal mixture of capital investments, operations, maintenance, resourcing, risks performance and sustainability.
- The specification has had wide review, and has been welcomed internationally as representing best practice guidance for asset management organisations.
- A common use is to demonstrate regulatory compliance with UK/European electricity distributors required to be PAS 55 compliant by 2008.



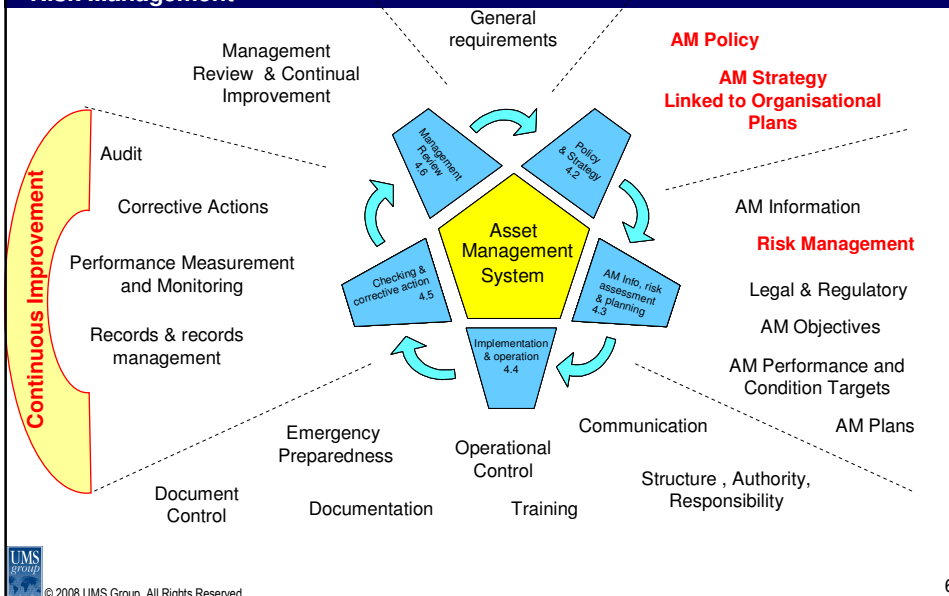
## Background

### PAS 55 strives for connection between top and bottom



## Background

### Asset Management Requirements – Emerging International Specifications/Standards Focusing On Continuous Improvement, Strategy and Risk Management



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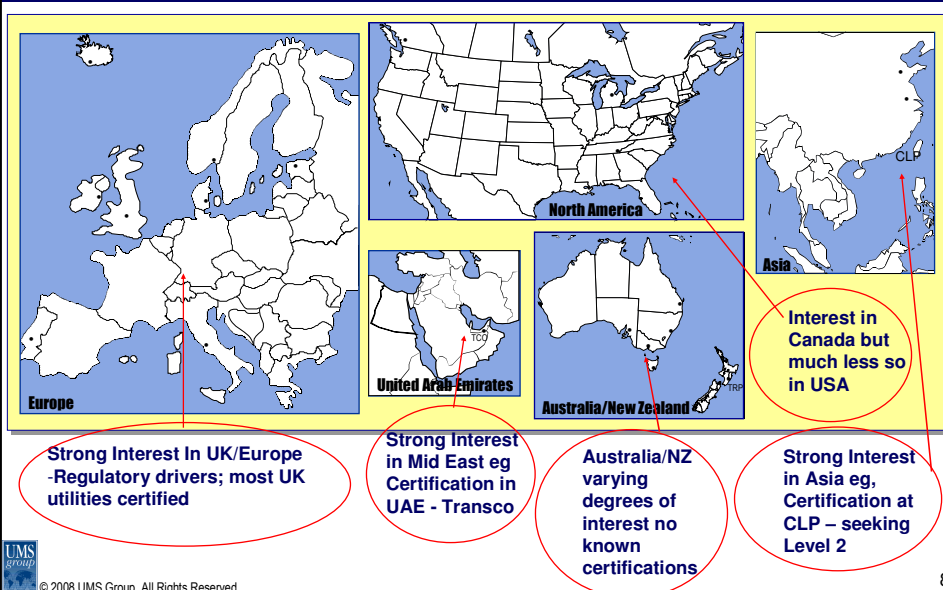


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## Local & Global Developments

### Interest and Take Up



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## Local & Global Developments

### Utilities Companies PAS-55 Certified

Company	Date Certified	Re-certification due
NGET	Oct 2005	Oct 2008
WPD	Nov 2006	Nov 2009
EDF Energy Networks	Nov 2006	Nov 2009
Essent Netwerk (Netherlands)	2006	
United Utilities	Jan 2007	Jan 2010
Central Networks	Feb 2007	Feb 2010
National Grid Gas Transmission	Feb 2007	Feb 2010
National Grid Gas Distribution	Mar 2007	
CLP Power, Hong Kong - Power Systems Business Group (PSBG)	Mar 2007	
Central Networks	May 2007	
CE Electric	Mar 2008	
Transco UAE	2007	



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## Local & Global Developments

### Utilities Companies Progressing Towards PAS 55 Certification

Company	Expected Date of Certification	
	Earliest	Latest
Northern Gas Networks	Dec 2007	Apr 2008
SP Power Systems ( SP Manweb, SP Dist, SP Trans)		Dec 2007
SSE (SHETL, SHEPD, SEPD)	Nov 2007	Mar 2008
Scotia		Mar 2008
Wales & West Utilities	Nov 2007	Apr 2008



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## Local & Global Developments

- Companies in all sectors are rapidly picking up on the potential for achieving benefits through improving asset management and delivering highly reliable, stable and cost-effective asset performance in terms improved customer service, and also in enhanced relationships with Regulators.
- Increasingly high degree of regulatory interest, particularly from Europe:
  - Examples include UK regulator OFGEM pushing for utilities to be PAS 55 compliant by 2008; the Dutch regulator DTe has stated that PAS 55 certification is an appropriate answer to the regulatory requirements set on utility distribution companies.
  - Ofgem advised Network Companies that they believed that BSI-PAS 55 certification would help provide assurance as regards long term asset stewardship and establish greater clarity of the asset management policy and process that underpins the investment decisions of Network Companies.
  - Our experience shows that the key requirement underpinning PAS 55 is the demonstrable ability to critically manage asset risk



## Local & Global Developments

- UMS is of the view that Australian and NZ economic regulators are likely to be eyeing OFGEM and others and picking up on these AM compliance standards.
- There is a quite a gulf of how Australian utilities are addressing PAS 55 – some have no awareness whilst others are carrying out full internal investigations and reporting to their Executives. In the latter instance, we may see a PAS 55 certified utility in the near future in Australia.
- Note, recently we have engaged the Energy Networks Association in regard to PAS55 who now have the specification on their agenda. ENA is a Member of the IAM
- In one instance we are aware of an Australian utility who have appointed a consultant for a High Level Asset Review with a view to getting an AM plan that the Board is comfortable with and defensible to the regulator – however they have only just been made aware of developments in PAS 55 and will need to reassess the review in light of these developments.



## Local & Global Developments

- There is an intent to developing the specification into a fully fledged British and European Standard and UMS is currently on the Review Committee associated with these developments
- The flow of companies wishing to prepare for PAS 55 Asset Management certification will grow, and we can expect PAS 55 Certification for asset intensive businesses to become in due course as much a requirement as ISO 9000.



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## UMS PAS-55 Experience

UMS has been at the forefront of asset management developments for over 10 years and our role with PAS 55 is no exception in keeping abreast of and influencing outcomes for the industry.

### Of note UMS is

- closely aligned to and Member of the IAM
- member of the Review Committee for PAS 55 Asset Management and the ongoing development and review of the specification (last meeting in Nov07)
- at the forefront of how PAS 55 affects regulatory and business performance of major infrastructure organisations
- our approach is based on kick starting organisations with an Awareness Training program with Certification recognising such training has taken place. This is helpful should the organisation consider pursuing PAS 55 certification.



## UMS PAS-55 Experience

UMS have also been active in the developments of the internationally recognised Publicly Available Asset Management Specification (PAS 55)

- UMS has been actively engaged in the development of this specification and providing knowledge and experience in developing and implementing best practice asset management systems and processes
- UMS has an Interactive Assessment and Roadmap Development methodology that can lead to PAS55 certification
- In general, our methodology assesses the asset management capability of an organisation; and scopes and rates the potential impact of improvement activities to establish a best practice, risk based asset management approach – a core requirement of PAS 55
- Options to include in depth quantitative analyses are also available





## UMS PAS-55 Experience

### PAS 55 is not an end in itself but a piece of a broader, highly valued Asset Management offer

- Results are integrated into a pragmatic and integrated roadmap, with two levels of planning detail:
  - The first is a 3-5 year strategic objective (a timescale that is sufficiently long for significant change to be achieved in staff competencies and behaviours, yet soon enough for the establishment of personal commitments to its achievement)
  - Linked to these specified longer-term goals are the specific actions required in the first 12 months to:
    - obtain some "quick wins" and demonstrate to all the benefits and realism of an asset-centric approach and
    - b) lay the necessary foundations for the longer lead-time changes such as organisational, educational, and behavioural changes.
- UMS also has a training/assessment technique that has been successfully used in many countries and for different industries e.g. gas and electricity transmission/distribution utilities, oil & gas, water utilities and rail.
- This along with its consulting engagements have enabled organisations to best position themselves in respect of regulatory and stakeholder pressures as well as identifying fully optimised and sustainable business improvements, that particularly meet the requirements of PAS 55 .



## UMS PAS-55 Experience

### In Australia interest varies from utility to utility (distributors, generators etc) with a number of proposals currently under consideration

- Victoria
- New South Wales
- South Australia
- Queensland
- New Zealand

***The Energy Networks Association Have Also Established A PAS 55 support and review regime within their Steering Committees and advising on PAS 55 and how it can be interpreted and implemented. UMS have been in contact with ENA Aust in this regard***

***Along with UMS, ENA Australia are also associated with the PAS 55 Review Process***



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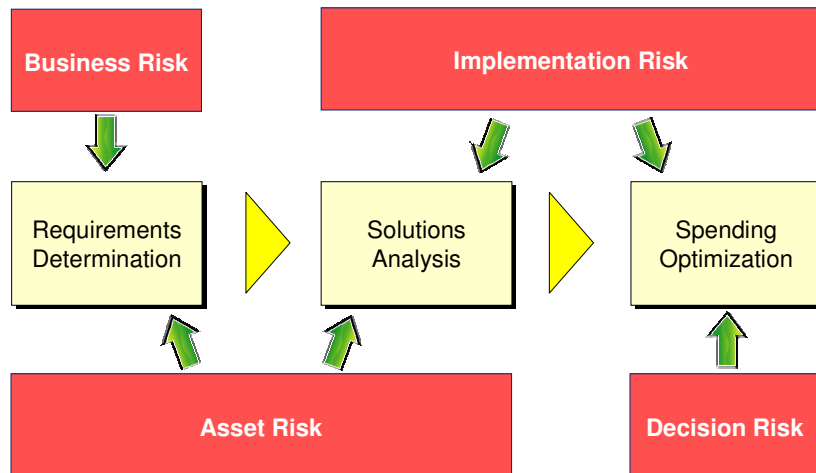


## Cornerstones of PAS 55 linked to best practice asset management

- Asset Management done well protects investments and it manages the performance of the business in order to meet corporate **risk and value** goals
- It manages risk -all asset and asset management process related risks are actively managed to minimise negative impacts on performance of the business
- An asset management framework developed and implemented in harmony with BSI -PAS 55 ensures that all asset management activities support the achievement of the business plan, at optimal cost, and on a sustainable basis
- Asset Management is good business sense "from board room to control room" and in delivery to the customer



**Risk Management**  
Balancing an acceptable risk exposure is ever more complicated

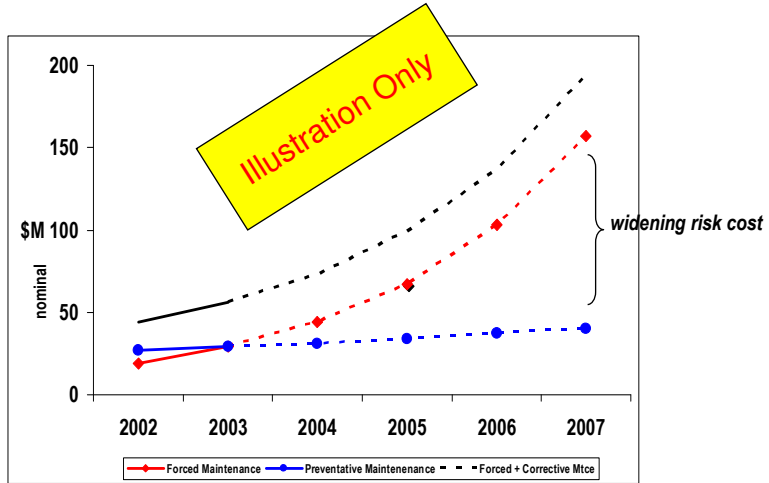


**At the Broad Level, the Key Asset Risk Cost Drivers Can Be Classified As Follows:**

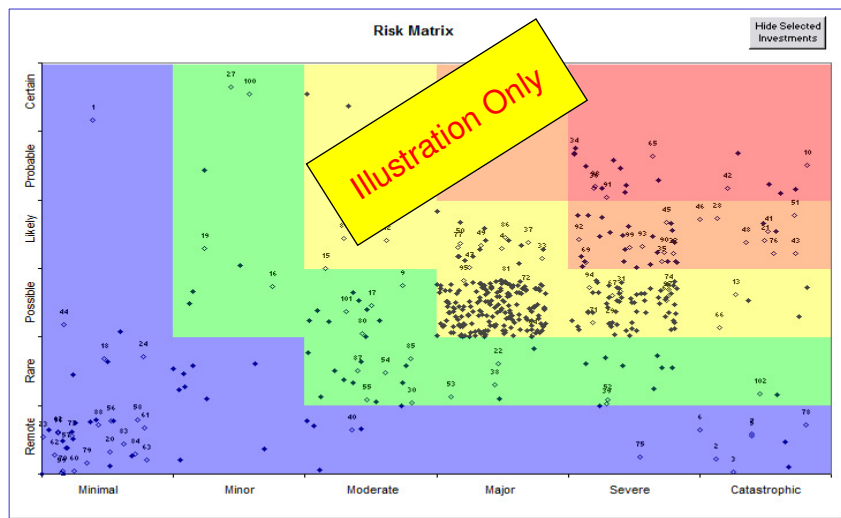
- Maintenance Costs deriving from asset failure & deficiencies typically forced and corrective maintenance
- Maintenance Backlogs – necessary work in waiting
- Other Costs including
  - Loss of revenue
  - Costs of Notifying Customers
  - Penalties/Compensating Customers
  - System Losses
  - Damages – legal, contractual etc.
  - Impacts on Image/Brand
  - Regulatory Impacts



Without a stepped up injection of renewal/refurbishment and based on current percentage change trends, the gap is likely to widen and reach a critical stage reasonably quickly. This could be of major concern to all key stakeholders by the time of the next regulatory review



Decision Risk - developing the sophistication to understand the risk trade offs in asset investment decisions in a constrained spending environment



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## UMS Approach: Awareness Training Course Outline: a key note from the IAM UK on competencies

*"With many industrial sectors concerned about skills shortages, age and experience demographics, and a growing need for transparent good governance, the development of competent asset managers is becoming a significant priority"*

**Hence the competency need should be fully assessed with a view to plan for the development of appropriate skills and competencies in the future**



## UMS Approach: Awareness Training Course Outline

### Asset Management Competency & Awareness Training Utilising The Institute of Asset Management (IAM)BSI-PAS 55 Standards

#### *Training Objectives/Outcomes:*

- Establish full awareness of the BSI - Publicly Available Specification PAS 55: Asset Management.
- Understand the implications of PAS 55 for utilities and utilities regulation
- Identify key capability gaps that your organisation may have to the Specification
- Discuss potential means of closing key capability gaps and steps going forward



## UMS Approach: Awareness Training Course Outline

#### *Recommended Attendees:*

Executive and Senior Managers with major stakes in key asset decision making processes, managing key asset risks, and/or key asset investments.  
Personnel may include:

- Network General Managers
- Network Service General Managers
- Asset Managers
- Maintenance Managers
- Design & Construction Managers
- Performance Managers
- Financial Managers
- *Key Frontline Staff with a need to know*

#### *Preparations:*

- Review your own organisation's asset management capabilities – use sources/reports as appropriate eg, benchmarking, special reports, etc



**UMS Approach:  
Awareness Training Course Outline:  
Part One: Building Awareness (1/2 day)**

**Background & Introduction**

- Why PAS 55 - Context and Business Drivers
- Development and Importance of Asset Management
- What is PAS 55
- Key Focus Areas & Best Practices
- Industry Participation

**PAS 55 Architecture**

- PAS55 Structure
- Applications
- Definitions
- Scope
- Dimensions
- Certification Levels
- Key Linkages – Policy, Strategy, Risk, Process, Optimisation, Performance

**Implications of PAS 55 & Current Global Developments**

- Significance in mature and emerging regulatory markets
- Growth as the International compliance standard
- Current PAS 55 Review Program
- Path to full BSI and European Specification
- Future Accountabilities & Expectations



**UMS Approach:  
Awareness Training Course Outline:  
Part Two: Self Assessment / Breakout Exercise(1/2 day)**

- **Self Assessment & Case Discussions**
- **High Level Gap Assessment**
- **Discussion and Review of Self Assessment Potential Gaps and Opportunities**
- **Case Study**  
How one company was assessed, gaps identified, and gap closure strategies developed and implemented thereby significantly increasing its ability to manage risk and plan investments
- **Next Steps / Summary**
  - . Towards achieving PAS 55 Compliance
  - . Leading Asset Management Benchmarking and Assessment
  - . Means of Identifying Business Improvement Initiatives
  - . Consolidating Gains – Decision Support Tools, Ongoing Monitoring
  - . Close



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## PAS 55 Update

### *PAS 55-1:2008 Second Draft – Review Panel Consultation*

- Review Panel met in late Nov 2007
- New Release after 30 June 2008 to supersede current release
- ENA (Aust.) sent out a Draft PAS 55 for comment as part of worldwide process
- This PAS is not to be regarded as a British Standard. The push for a Standard will take longer.
- This PAS supersedes PAS 55-1:2004 and PAS 55-2:2004, which are considered withdrawn
- This is a full revision of PAS 55-1:2004, which introduces the following principal changes:
  - The term “infrastructure” has been removed from the title of the PAS;





## PAS 55 Update

### PAS 55-1:2008 Second Draft – Review Panel Consultation

- The Introduction has been revised;
- Figures 1, 2 and 3 have been revised and Figure 4 is new;
- New definitions have been added, and existing definitions revised;
- Asset management system goals, asset management objectives and asset management targets are now referred to as asset management objectives and the definition of asset management objectives has been revised accordingly (see 3.4)



## PAS 55 Update

### PAS 55-1:2008 Second Draft – Review Panel Consultation

- The importance of sustainability and sustainable development has now been given greater emphasis (see 4.2.g);
- A new section 'Asset management enablers and other requirements' has been created to consolidate the generic requirements of risk management, information management, roles and responsibilities and legal obligations (see 4.4);
- Control of documentation has been combined with asset information management system(s) within the new 'Enablers' section (see 4.4.1);
- Management of change is now more explicitly addressed (see 4.4.2);
- Emergency preparedness and response has been extended to include business continuity planning and has been renamed to 'Emergency preparedness, response and business continuity planning' (see 4.4.3);
- New requirements have been introduced for participation and consultation (see 4.4.8.2);
- 'Operational control' has been renamed to 'Implementation of asset management plans' and expanded to address the life cycle phases of managing assets (see 4.5);
- New requirements for evaluation of compliance have been introduced (see 4.6.2); and
- New requirements have been introduced for the investigation of incidents (see 4.6.3.1).



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## UK Utility adopting PAS 55

- Can be used to demonstrate AM system
- Can be used for self improvement



## UK Utility adopting PAS 55: Stages of Self Improvement



<b>Denial</b>	<b>Everything ok really</b>
<b>Anger</b>	<b>Sabotage, attack and withdraw.</b>
<b>Bargaining</b>	<b>Cut a deal to spare them.</b>
<b>Depression</b>	<b>Increase in absenteeism.</b>
<b>Acceptance</b>	<b>Ownership and focus on achieving.</b>



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## UK Multi-Utility adopting PAS 55

- Provides a common language and understanding of asset management internally and externally
- Essential when dealing across sectors and geographies
- Provides an independent common framework
- Forms the platform of the common asset management operating model
- Independent 'standard' developed by a cross sector group has aided acceptance
- Assurance of operating at 'good practice' standard for asset management
- Ensures we get the basics right
- Each of its four strategic businesses has bridged gaps to achieve the PAS 55 certificate with most bridging actions aimed at improving integration of activities
- Has provided a catalyst and direction to address some known issues



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## UK Multi-Utility adopting PAS 55 (2)

- On-going PAS 55 assurance framework ensures we maintain this 'good practice' standard
- Used to drive improvement and enhance our asset management capability
- Expands the asset management 'community' because a wide cross section of the business is involved
- Clear evidence PAS 55 concepts are influencing thinking in areas of the business other than the traditional 'asset management' departments
- PAS 55 assurance framework is being used to drive improvement –not just about gaining and maintaining the certificates
- Enables opportunities to transfer practices internally and externally
- Common areas identified showing strengths across all businesses and also where common improvements can be made



## European Multi-Utility Case: Why Seek PAS 55 Certification

**PAS 55 describes good practice asset management**

**This is what we try to improve every day –it benefits everybody in the organisation**

- **For Top Management**
- **For Strategy and Planning**
- **For the Asset Manager**
- **For operational staff**
- **For our stakeholders (Customers, Regulator, Owner, Environment Agency, etc)**

***Our industry Regulator also acknowledges the benefit of this approach***



## European Multi-Utility Case: Learnings

- Don't underestimate the resources that alignment might require
- It helps if organisational changes are placed *before* the audit
- Trust your instincts –you already know where most of the problems are, it helps to have them identified by a credible expert
- Take time to interpret the requirements –we had problems understanding 'outsourcing' and 'operational management'
- A staged approach will draw all elements of the business into the process as everybody's understanding develops
- PAS 55 looks up, down and sideways -you must show how the organisation's structure and processes facilitate asset management activities
- Remember that you are *aligning with* PAS 55, not *conforming to* it!
- Keep on telling the story -despite our efforts, there were still people in the Branch who were uninformed about PAS 55
- Remember that it is good practice –it's what you should be doing!



## Dutch Utility Case: Critical Success Factors For Implementation

- **Commitment of entire organisation**
- **Workload of employees**
- **Cultural differences in the organisation**
- **Uniformity of doing the job**
- **Scope of the system**
- **Changes of organisation**
- **Availability of documents and registration**



## Dutch Utility Case: Lessons Learnt

- Resistance due to feelings of increased transparency and availability of audit-trails. The resistance is short-lived.
- Design your processes for operational excellence, not for certification
- System requires continuous commitment of management
- Commitment of employees cannot be taken for granted; you'll have to earn it
- Beware of bureaucracy....

~~The many procedures and instructions  
can be written much shorter.~~



## Australian Electric Utility Case:

- Use of PAS 55 as a quick exercise in determining degree of compliance
- Generally compliant but not all policies are neatly stacked
- Producing all the evidence and documentation might be an issue
- PAS 55 perceived to be too general and containing perplexing diagrams
- However willing to adopt PAS 55 in concert with guidelines and policies set by ENA Australia who are now actively looking into PAS 55 and providing a good Australian context for implementation
- Degree of comfort using Australian Risk Management Standard 4360 as a guide; PAS 55 originally not seen to go as far
- No other "AM Standard" has or is being considered



## Asian Electric Utility Case: Advancing on current Level 1 PAS 55 Certification Level (competency sets)

- The latest knowledge and practices of asset management, particularly to the requirements of PAS 55 may not yet be fully understood by all of the *frontline* staff
- A group was formed to identify the provision of training to target staff in order they meet the foundation levels of PAS 55's requirements
- In view of the learning capabilities as well as the culture (some may resist learning if requirements are too stringent) of the frontline staff and, to ensure the effectiveness of the training, it was proposed two competency areas by which to instigate the training:
  - business management - development of Asset management strategies from business goals
  - creating / acquiring assets - whole life planning & performance criteria
  - *Outcomes yet to be seen....*



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## Keynote Summary

- Growing importance and role of PAS 55 – increasing number of certifications
- Greater scrutinies by Regulators and using PAS 55 as a yardstick particularly in influencing the management of asset risk and maintaining high service and cost efficiency
- PAS 55 implementation is as much a change and organisational improvement mechanism as it is an asset management and regulatory one
- UMS integrates it within its asset management portfolio and uses it where it is seen of value for clients – at this point Europe has been dominant in this regard whilst Australia and New Zealand are still assessing implications
- This could quickly change if the likes of AER (AU), Commerce Commission (NZ) etc take a more decisive line ; although many local utilities have a degree of Asset Management readiness
- Key issues may arise in terms of tightening asset and risk policies, creating stronger links to org plans and strategies, and having an internal architecture that provides ready access to relevant field evidence and documentation



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## Q&A / Thank You



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