Defensible Maintenance Budgets: Supporting the Realisation of Stakeholder Value

Key Note Session

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Core Themes

- To support the achievement of business needs, asset management must integrate technical and financial decision-making.
- Asset management requires auditable and transparent decision making.
- Decision-making is fact based, where alternative solutions are evaluated using risk-based methodologies.
- Asset management requires the development of a supporting leadership style and organisational culture.
- Improved business outcomes are achieved by improving asset management maturity.
Useful Technical References

- ISO 55001:2014 Asset management — Management systems — Requirements
- ISO 31000 Risk Management
- ISO 10007 Configuration Management
- IEC 60300-3-4 Dependability Management Part 3-4; Application guide – Specification of dependability
- IEC 60300-3-1 Dependability Management - Part 3-1: Application guide – Reliability
- ISO/IEC 15288 Systems Engineering
- Naval Aviation (Navair) 00 25 403 Reliability Centred Maintenance
- US Military Standard 390D Level Of Repair Analysis (LORA)
- IEC 60300-3-14 Dependability Management - Part 3-1: Application guide – Supportability.
- IEC 61078 Analysis techniques for dependability - Reliability block diagram
- IEC 60812 Analysis techniques for system reliability - Procedure for failure mode and effects analysis (FMEA)
- IEC 60300-3-12 Dependability management - Part 3-12: Application guide - Integrated logistic support
Useful Financial References

Relevant International Financial Reporting Standards (IFRS):
• IFRS 3 Business Combinations
• IFRS 7 Financial Instruments: Disclosures
• IFRS 8 Operating Segments
• IFRS 9 Financial Instruments
• IFRS 13 Fair Value Measurement

Relevant International Accounting Standards (IAS):
• IAS 8 Accounting Policies, Changes in Accounting Estimates and Errors
• IAS 16 Property, Plant and Equipment
• IAS 17 Leases
• IAS 21 The Effects of Changes in Foreign Exchange Rates
• IAS 36 Impairment of Assets
• IAS 37 Provisions, Contingent Liabilities and Contingent Assets

Note: Implemented within each country’s national accounting and reporting standards e.g. Australian Accounting Standards Board (AASB)

Refer to https://www.ifrs.org/issued-standards/list-of-standards/
What is Asset Management?

Asset Management Council:

“The life cycle management of Assets to achieve the stated outputs of the enterprise.”

ISO 55000:

“The coordinated activity of an organisation to realise value from assets.”
Role of Asset Management

The role of asset management within an organisation is to:

- Identify the ‘value’ to be realised from the use of assets; and
- Develop, implement and maintain a management system to enable that realisation
- Integrate with other management systems

The worth of asset management is the delivery of “assurance” or associated with “value”, within the:

- Agreed levels of service
- Profit and Loss Account, Balance Sheet and Cash Flow Statement
- Return on Equity and/or Economic Value Added (share price, profitability)
- Residual risk profile (safety, asset reliability, reputation etc)

“Effective control and governance of assets ... to ... achieve the desired balance of cost, risk and performance.” ... ISO 55000
The Principles/Fundamentals of Asset Management

**Leadership:** Leadership and workplace culture are determinants of realization of value.

**Assurance:** Asset management gives assurance that assets will fulfil their required purpose.

**Alignment:** Asset management translates organisational objectives into technical and financial decisions, plans and activities.

**Value:** Assets exist to provide value to the organization and its stakeholders.
How to present the Desired Balance of Cost, Risk & Performance?

Maintenance Cost for a certain asset performance

Maintenance Budget 1

Achievable Reliability 0.7

$0 \rightarrow 1$

Reliability

$0 \rightarrow 0.5$

$0 \rightarrow $
What are the Principles of AM?

**Plan** and identify a suite of actions necessary to create and sustain a physical system to achieve a defined need.

**Do** the planned actions in accordance with the plan.

**Check** that we achieved the stated intent of the plan and that we did exactly what was required by the plan.

**Act** on any variances discovered while checking.

**Control** Desired Balance of Cost, Risk and Performance.
Capability Delivery Model
Asset Management - Decision Making Processes

Stakeholder Needs
- Needs Analysis
- Demand Analysis
- Asset Solution
- Needs Solution

Systems Engineering
- Non Asset Solution
- Concept Validation
- Concept Exploration
- Specification
- Design
- Support Analysis

Acquisition
- Integrated Support
- Create and Dispose

Operations & Maintenance
- Operations
- Maintenance
- Process Audit
- Process Monitoring

Continuous Improvement
- Requirements Change
- Engineering Change

Configuration Management
- Support Change

Capability Delivery Model
A series of continual improvement technical processes (PDCA)

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Linking Asset Systems and Assets to Revenue

**Business Output**
- Service
- Performance etc

**Revenue**
- Return on Investment
- Return on Net Assets

Asset System 1
- Asset Sub System
  - Assets

Asset System 2
- Asset Sub System
  - Assets

Asset System 3
A Defensible Maintenance Budget

$ Expected Revenue$
for a certain asset performance

$ Maintenance Cost$
for a certain asset performance

Reliability
A Defensible Maintenance Budget

Defensible means a budget solution that is:

• Fact and risk based
• Fully traceable to business needs
• Demonstrably good practice (international and national standards)
• Compliant with statutory and regulatory imperatives
• Implemented by competent (certified) staff
• Supported by verified technology (information and decision systems)
• Transparently and verifiably costed
• Deliverable in the agreed time frame
• Effect of change (e.g. a maintenance budget cut) can be identified
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