

Asset Management

Status and initiatives in Energy Australia
Our Asset Management Journey

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Energy Australia – Status of Asset Management

- Overview of EA : Our Asset Management Journey
- History
- Drivers for change
- Approach
- Implementation
- Regulatory Reset
- Monitoring and Reporting
- Communication
- What has been the result?
- Summary



Overview About us...

- State Owned Corporation
- The largest electricity network in Australia
- Distributing electricity to the Sydney, Central Coast and Hunter regions
- Services more than 1.4 million customers across a 22,275 square kilometre area
- Distributes more than 25,000 GWh of electricity annually



Overview Asset base

- \$11 billion Network assets
- Consisting of
 - 4,700 km of sub-transmission voltage conductors
 - 16,500 km of high voltage conductors
 - 28,000 km of low voltage conductors.
 - More than 330 Zone and transmission Substations
 - More than 29,000 distribution substations.
 - More than 550,000 poles
 - Approximately 250,000 street lights

Overview What are we doing?

- Embarked upon an asset management journey
 - to identify the current leading edge industry practices of identifying and developing maintenance requirements
- FMECA/RCM based methodology adopted
 - asset information systems modified, and additional support systems for defect management developed
- Repair/refurbishment programme
 - primarily driven by an asset condition risk assessment



History – Need for Change

- Focus was primarily on construction, maintenance was secondary requirements
- Maintenance was based on historical approach – manuals & technical excellence
- 1990's downsizings, amalgamations
 - Maintenance 'fell through the cracks'
 - Construction focus for Olympics
 - Increasing asset failures in high reliability assets
 - Chatswood, Paddington, Revesby
- Introduction of the Regulator(s) – IPART and ACCC



History – Need for Change (cont'd)

- Inertia of assets – short term performance without maintenance
- Increasing number of outstanding proactive maintenance actions
- Increasing number of reactive maintenance due to asset failures
- Unsustainable in the long term
 - Asset death spiral if failure rate > repair rate



Drivers for change

- 1998 first Regulatory determination
- Questions asked by financial regulators highlighted deficiencies
 - Lack of objective information for decision making
 - Ability to prove efficient use of capital
 - Justification of quantum maintenance work & cost linkages
 - What assets do we own and what are they worth
 - What assets will we own, and what how much money do we need to efficiently manage them in 5 & 10 years time.
- Failure of assets
 - Maintenance history
 - Maintenance appropriateness
 - Condition information
 - Number of similar assets in Energy Australia
- The need to change from a Reactive to a Proactive management approach of our assets and their performance



Our assets



EnergyAustralia
We're on it

Our assets



EnergyAustralia
We're on it

Our assets




EnergyAustralia
We're on it

Our assets

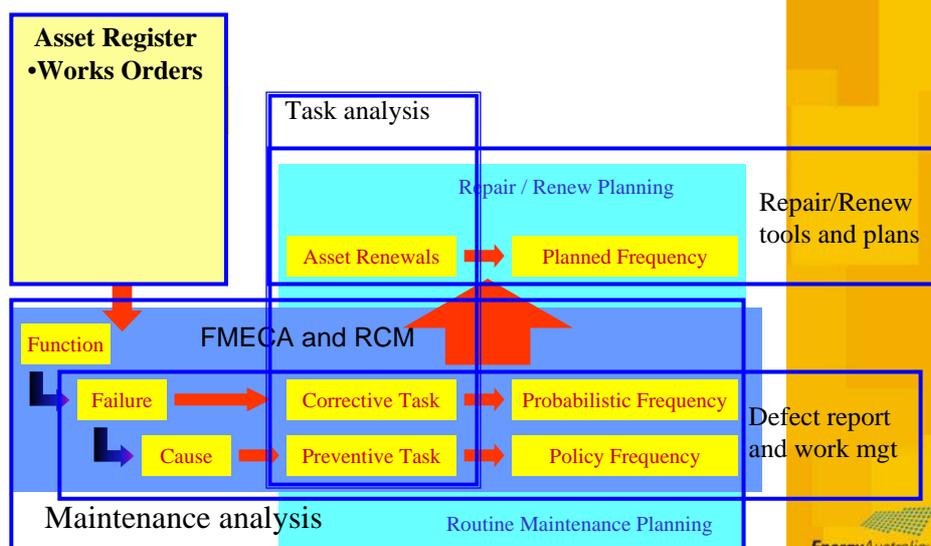



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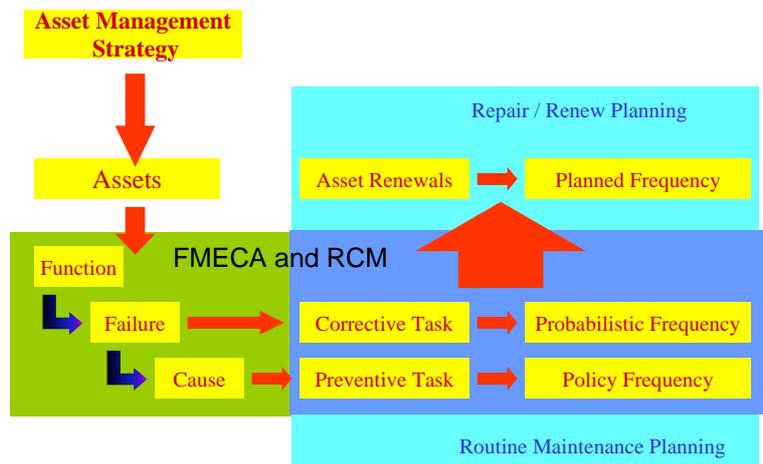
Approach

- Analysis of other companies for maintenance standards
- Analysis outcome found a robust process for identifying maintenance requirements.
- Need to understand the asset and its lifecycle to influence maintenance
- This also linked into capital expenditure requirements as well.
- Model

Approach: Asset management information needs

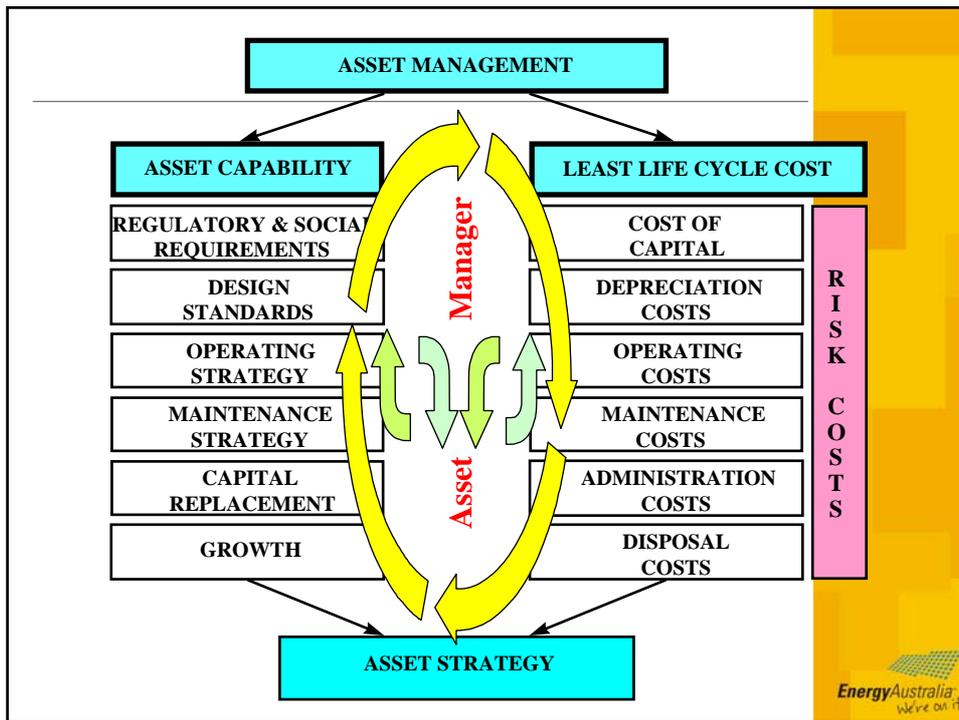


Approach: Asset management integrated process



Approach

- Ramifications of choosing an Asset Management Strategy
 - Senior Management support & commitment
 - Training
 - Communication at all levels
 - Implementation plan
 - Paradigm shift
- Implementing changes
- Life cycle costs
- Technical maintenance plans
- Monitoring and reporting EA View of AM



Implementation

- Need to anchor the maintenance changes already achieved
- Focus shift from Maintenance to Asset Management
- Creation of an Asset Management Branch
 - Responsible for:
 - All Capital and renewal investments
 - All Operational investments for the company
 - What risks we as a company are willing to bear
 - Translating technical data into financial and risk information
 - Information requirements from the technical systems are what is required to determine what money needs to be spent and what risks can be mitigated by this investment.

Regulatory Reset

- 2004 Regulatory determination
- Maintenance had gone from “Time Based” to “Condition Based” using FMECA / RCM
- The analysis forced significant data cleansing of our asset databases
- Carried out an ODRC review on our asset base
- Predicted the end of economic useful life of assets
- Acknowledgement of increased Opex required if assets were not replaced at optimum time
- Expected new and replaced assets were factored into future expenditure requirements
- Created auditable approval process for Capital expenditure
- Changes to IT systems to meet the needs of the new information requirements



Monitoring & Reporting

- High level direction changes were not enough to change the culture
- Simple relevant strategic indicators that affected the mainstream workforce and senior management
- Emphasis on our “Risk Exposure” produced by non completion of work
- Regular feedback of these performance indicators given to both the workforce and senior management
- Common *consistent* indicators across the organisation assisted the “buy-in” of all parties
- Modifications to the organisation structure
- Major change in focus towards understanding the importance of the maintenance impact on asset management
- Formal annual agreement signed for the provision of defined maintenance / replacement requirements



Communication

- Asset Management Branch
 - Multiple internal indicators to assist in early intervention requirements
 - Delivery of Asset Management training
- Executive Management – The Board & MD
 - Quarterly reports
 - Annual reports
 - Sign off on budget
- Management – GMs – Regional & Maintenance Managers
 - Agreement on deliverables for the year
 - Monthly reports
 - Quarterly reports
 - Annual reports
 - Quarterly Regional meetings
 - Quarterly roadshows
- Field Staff & Support – Planners – Supervisors –Field Staff
 - Worklist Variation Requests
 - Quarterly roadshows
 - Monthly reports
 - Quarterly reports
 - Annual reports



What has been the result?

- New maintenance standards were produced for 96% of our assets in 4 years
- Established asset funding aligned with asset requirements
- Operations Investment Section formed to develop asset maintenance and replacement strategies and programmes
- Reduced rates of 'in service' failures
- Backlogs in inspection tasks have been reduced by 98.4 % over 3 years
- Greater transparency to IPART and ACCC regulators



Summary

- Understand your current strategies and culture
- Realisation that external bodies will influence your future information requirements
- Create a deep understanding what others are doing well and act upon it!
- Translate this information into your environment
 - Remember multiple cultures can exist within the one company
- Be selective and consistent in what you monitor and report
- If you can't measure it – it didn't happen
- Senior management must be visibly committed for change to be effective
- Have a clear understanding of what asset management strategy you are implementing
- Communicate – communicate - communicate