Response to EMCa Information Request

EMCa014 and 015

Asset Management Framework

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Response to EMCa Questions

The following information is provided in response to the information request from EMCa on the Asset Management Framework (Item EMCa014 and EMCa015).

Requests

EMCa014: Asset Management Framework Business case: Business case and board papers and expenditure approval minutes for the development and implementation of the current asset management framework (e.g. SAP, SCAR, TALC, asset condition data acquisition, RCM).

EMCa015: Asset Management Framework implementation program: Provide the implementation plan for the Asset Management Framework. Setting out priorities, timeframes expected outcomes/targets, external and internal resource costs.

Response 1

The need to improve asset condition data acquisition and assessment was recognised in the preparation of the Revenue Proposal for the current regulatory control period.

The Asset Data and Information Management Plan (March 2008) developed a framework for improving asset and operational data management and, in particular, improving data and information management processes to improve asset management decision making. Implementation of this plan has resulted in the current framework including the SCAR and TALC processes.

A specific implementation plan for SCAR coding was subsequently developed (September 2009).

The Executive Management Team and Board were kept informed of developments via briefing presentations (e.g. Asset Management Strategy/Plan update to the Board in March 2008, Asset Management Plan update to the Board in February 2009, Network 2035 Vision Update to the Board in November 2010) and management reporting.

Note that the detailed work required to develop the current asset management framework was approved via annual business unit plans and budgets (e.g. refer to Network and Asset Strategies Business Unit Plan 2008-09). Additional resources were not required as the work undertaken was essentially incremental improvements to existing processes.

Field inspection tools were developed under an approved capital project EC.11217 Asset Data Capture which has as its objective to implement mobile, remote asset information capture solutions, enabling access to more timely and accurate asset condition information. The cost of this project is estimated to be approx. $600,000.

Extracts from the relevant documents referred to above are appended to this response.

Response 2

Refer to Response 1 above

Asset Management Plan

ElectraNet
electricity transmission

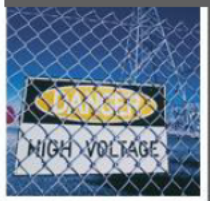
Outline

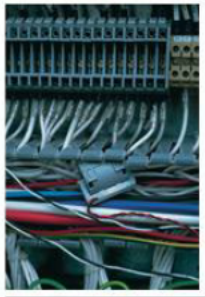
Key Objective:

To Determine the sustainable least cost and stable Asset Management Plan that will deliver acceptable asset risk and performance.

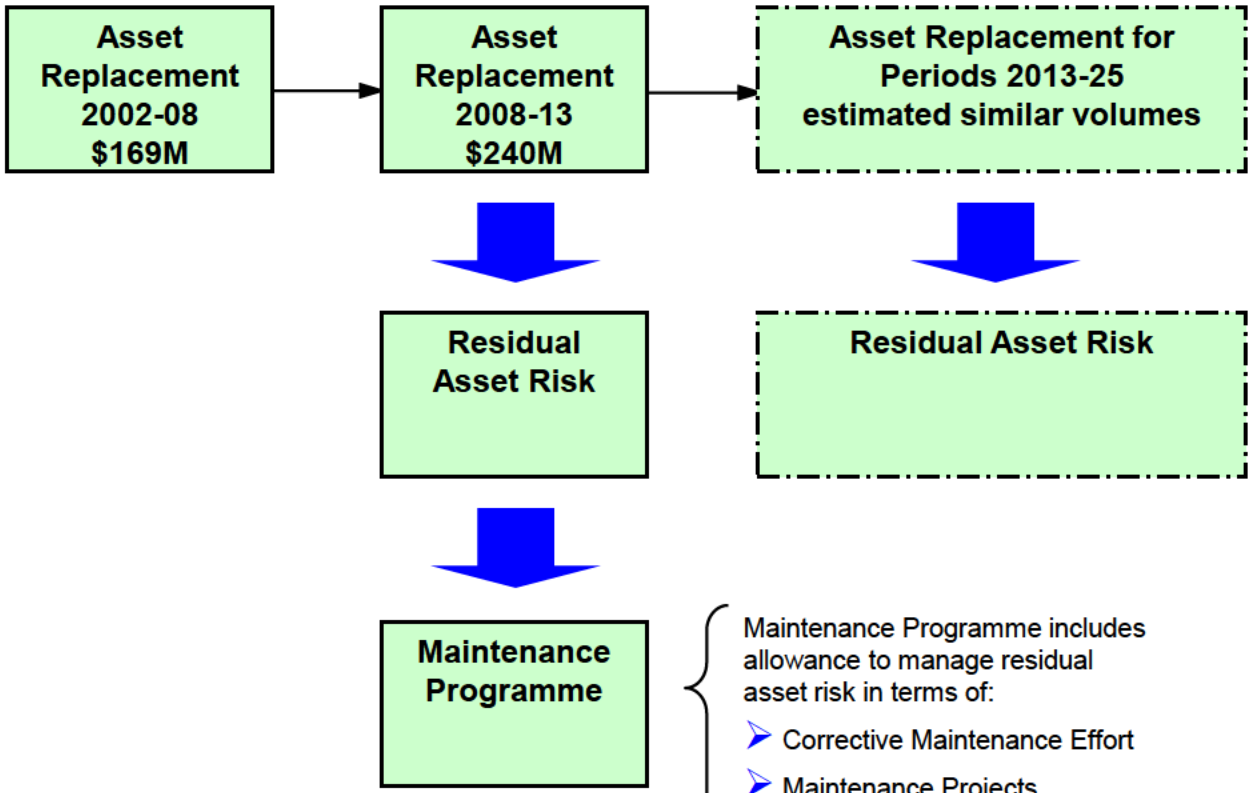
The Asset Management Plan

- How the Asset Replacement Profile was determined
- Assessment of the Residual Asset Risk
- Development of the maintenance programme





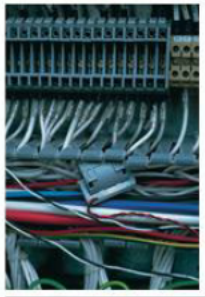
Context


Asset Replacement 2002-08 $169M
Asset Replacement 2008-13 $240M
Asset Replacement for Periods 2013-25 estimated similar volumes
Residual Asset Risk
Residual Asset Risk
Maintenance Programme
Maintenance Programme includes allowance to manage residual asset risk in terms of:
Corrective Maintenance Effort
Maintenance Projects
Transformer Refurbishment
Specific Asset Risk

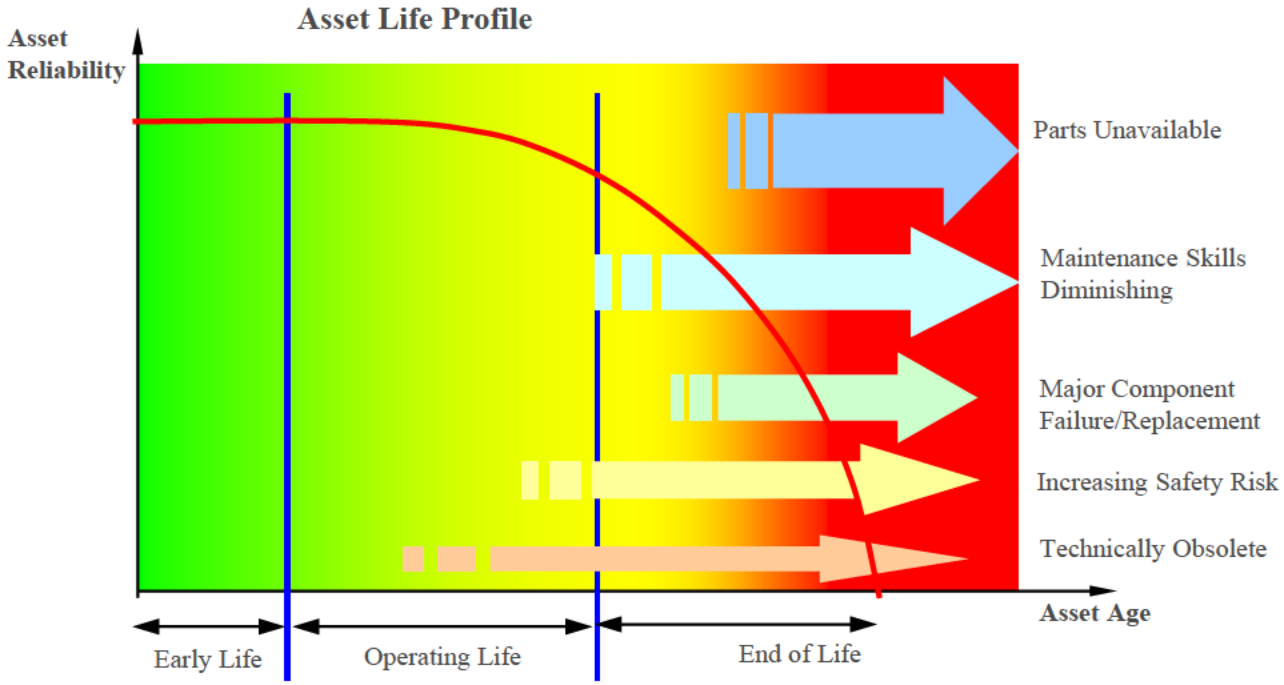

HIGH VOLTAGE

Asset Environment

- Statistically small number of Assets
- Majority of assets only now reaching end of life
- No statistical basis for performance
- Taken in isolation any asset failure is of low consequence (apart from safety related)
- Asset failures do not manifest in Network Performance (until coincident failures are common)



Asset End of Life

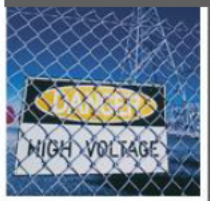


- Incremental reductions in mean time between failure (MTBF) - where a failure is defined as any event that requires unscheduled maintenance to be performed.

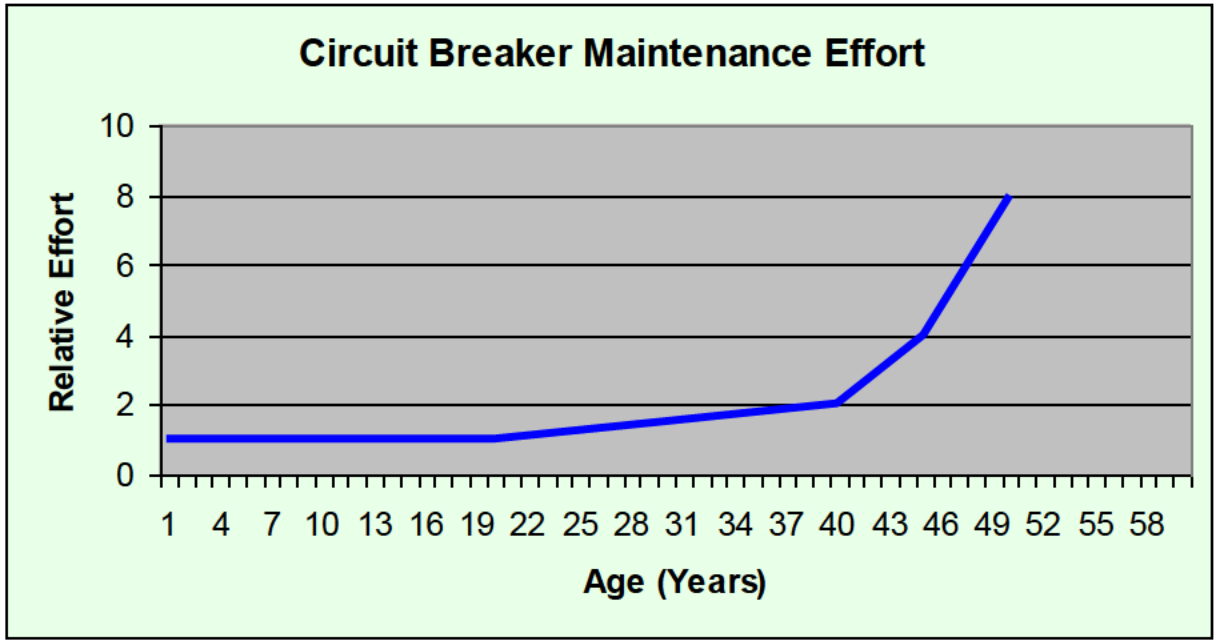
- Incremental increases in mean time to repair (MTTR).

Aggregated Asset Failure

- Asset Failure means that the asset no longer performs as specified
- Asset failure results in increased maintenance effort
- Increased maintenance effort forces a reactive maintenance approach
- Risk to long run maintenance costs
- Aggregated asset failure eventually manifests as a network outage



Maintenance Effort



Note that End of Life is characterised by decreasing reliability, capability and maintainability, this point is indeterminate.

Complete failure may never result however effort continues to increase

What and When to Replace

- What is the condition of our assets
- How much effort does it take to maintain our assets
- Based on condition in what order should they be replaced
- Based on the projected effort and associated long run risk when should those assets be replaced

Asset Management

Asset Rating:
Condition Score
Compliance Score

Asset Condition Assessment

Asset Routine Maintenance Plan

Common Standards

Ranking by:
Condition Score
Compliance Score
Criticality
Connection Type
Code Classification

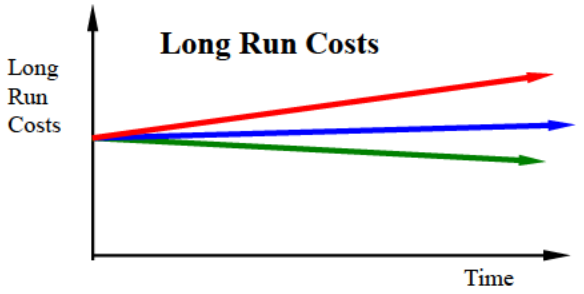
Asset Replacement Ranking

Asset Augmentation Plans

Ranked Capital Projects

Assessment by:
Relative Change in Asset Maintenance Effort Profile and Long Run Corrective Cost Projection

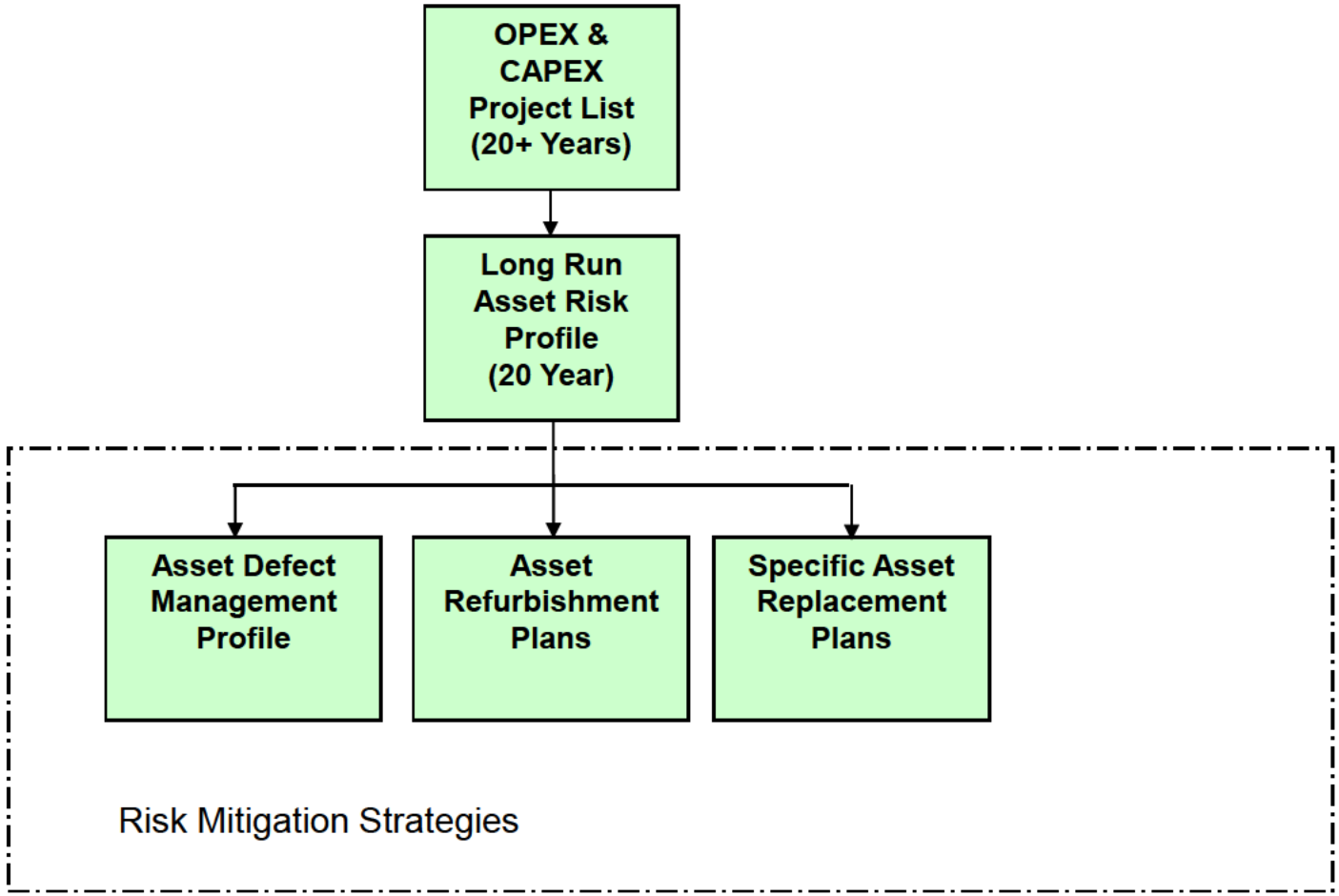
Long Run Effort/Cost Risk Profile



Timing Based on:
Acceptable Long Run Effort Cost Risk Profile

OPEX & CAPEX Project List (20+ Years)

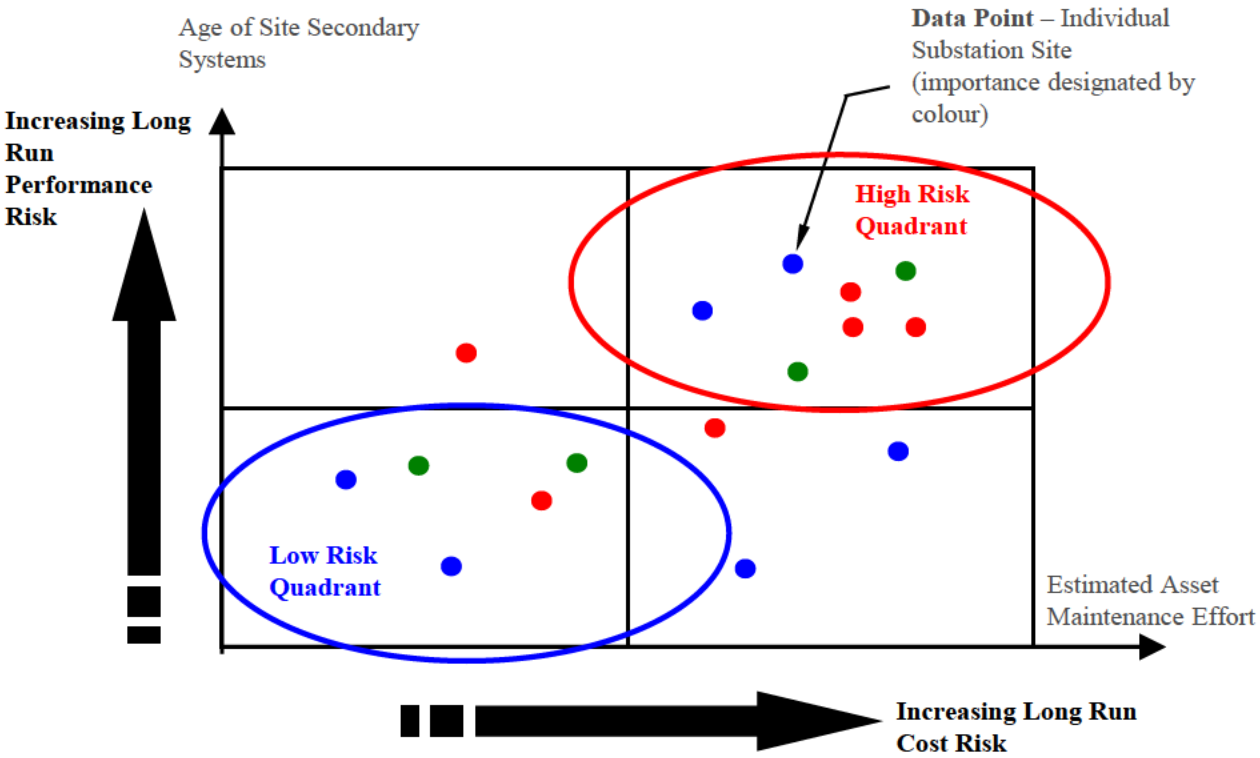
Asset Maintenance Profile



Asset Replacement Drivers

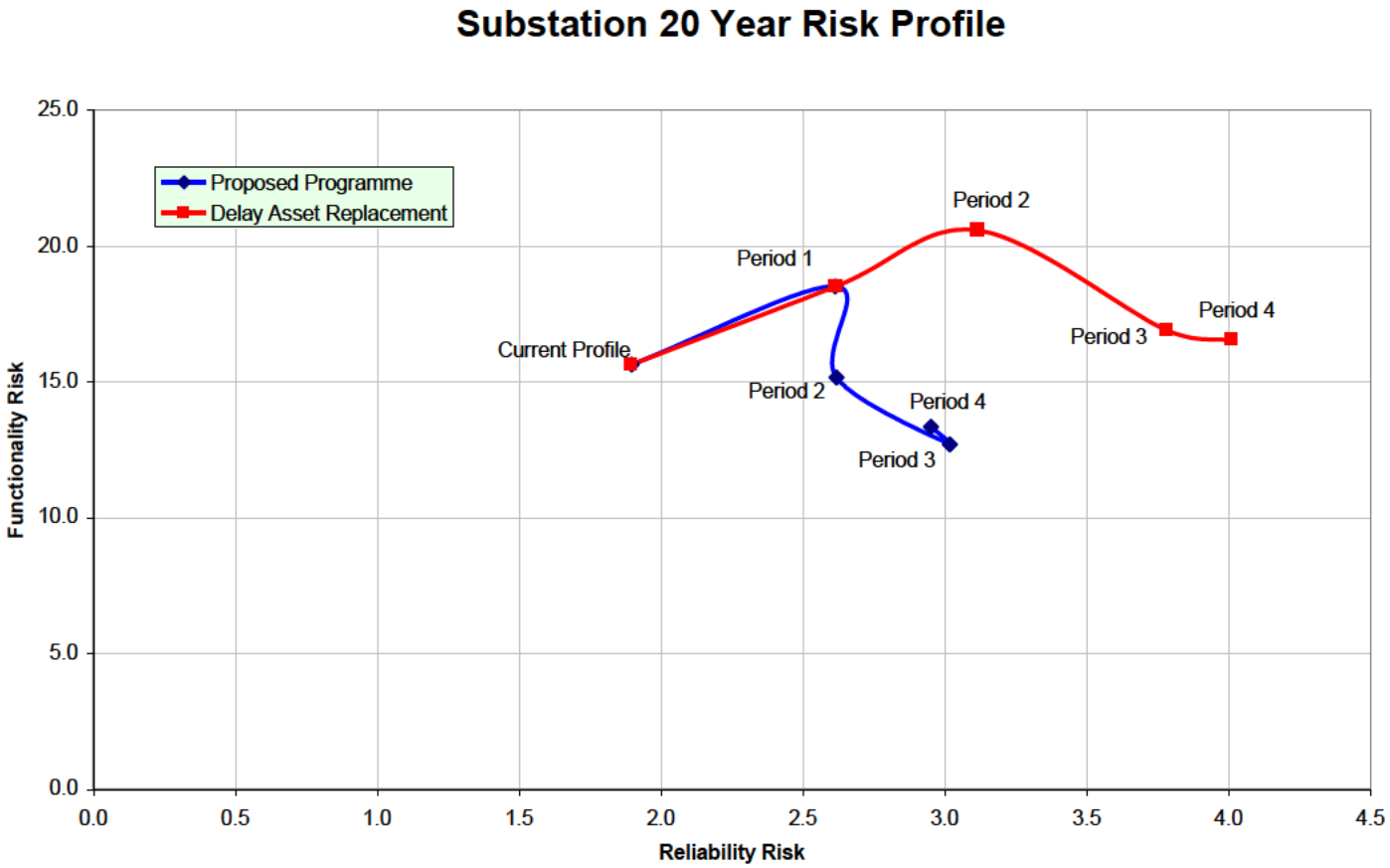
- Risk of losing control of long run maintenance cost
- Risk of losing the ability to improve network performance management
- The consequential loss of Network availability and reliability in the long term

Risk Model



- Risk of not meeting Network2025 Objectives (driven by not being able to roll out the appropriate technology in a timely manner).
- The risk of unsustainable long run costs (driven by decreasing asset reliability)

Aggregated Risk



Questions

Asset Management Plan Update

Board Strategy Presentation

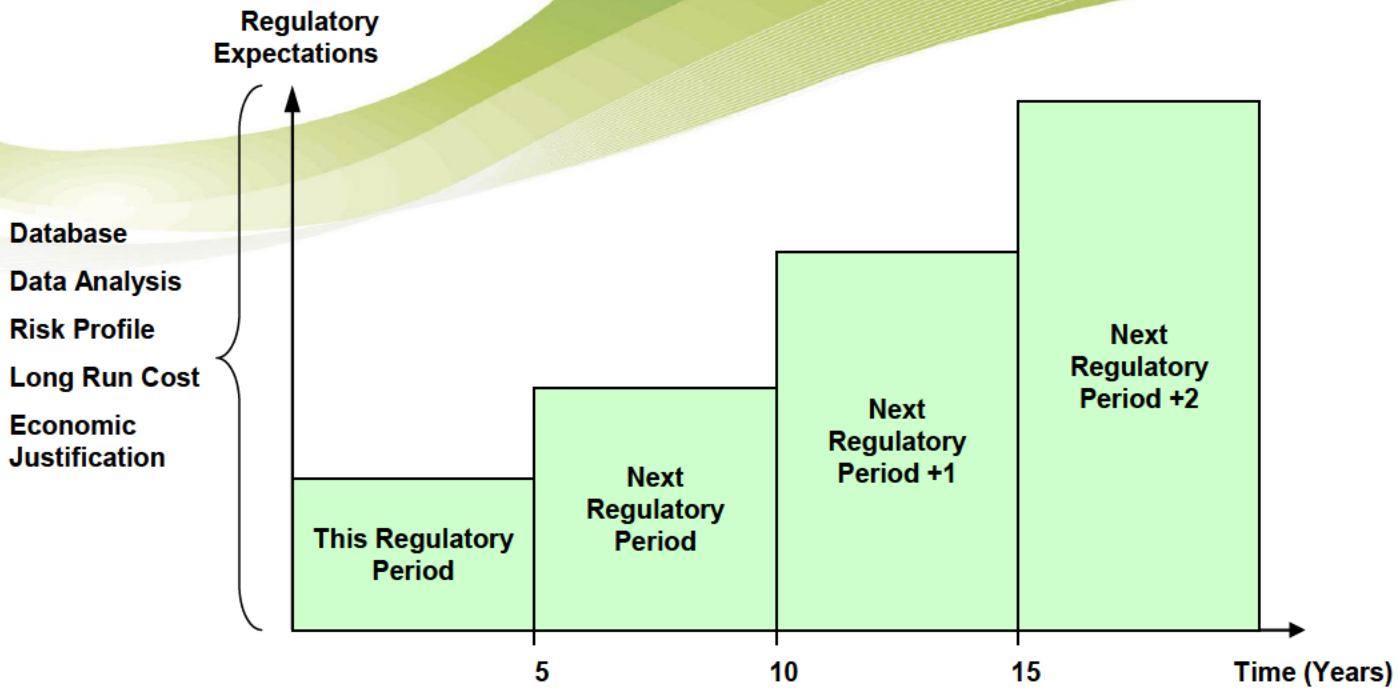
23 February 2009

ElectraNet
electricity transmission

Outline of Presentation

- The Planning Environment
- Asset Management Plan Framework
- Data Capture
- Inspection Guidelines
- Outcomes
- Next Steps

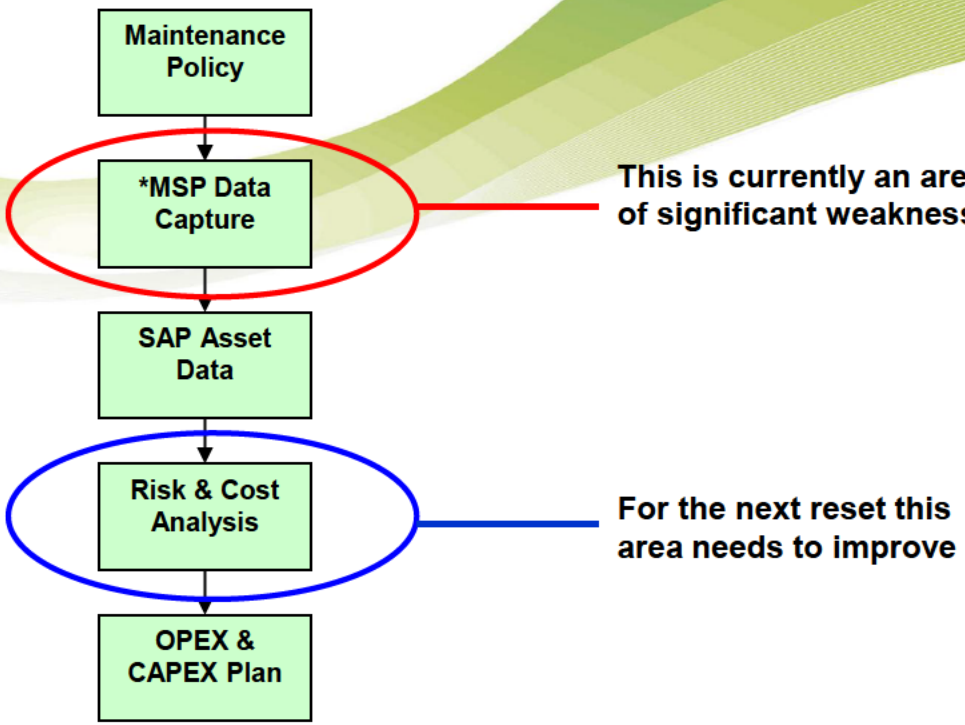
Changing Expectations:



There is a need to continually improve the Asset Management Planning Process to continue to :

1. meet (not exceed) regulatory expectations
2. achieve proposed future revenue allowances
3. manage risk vs. benefit within given revenue periods

Meeting Expectations:



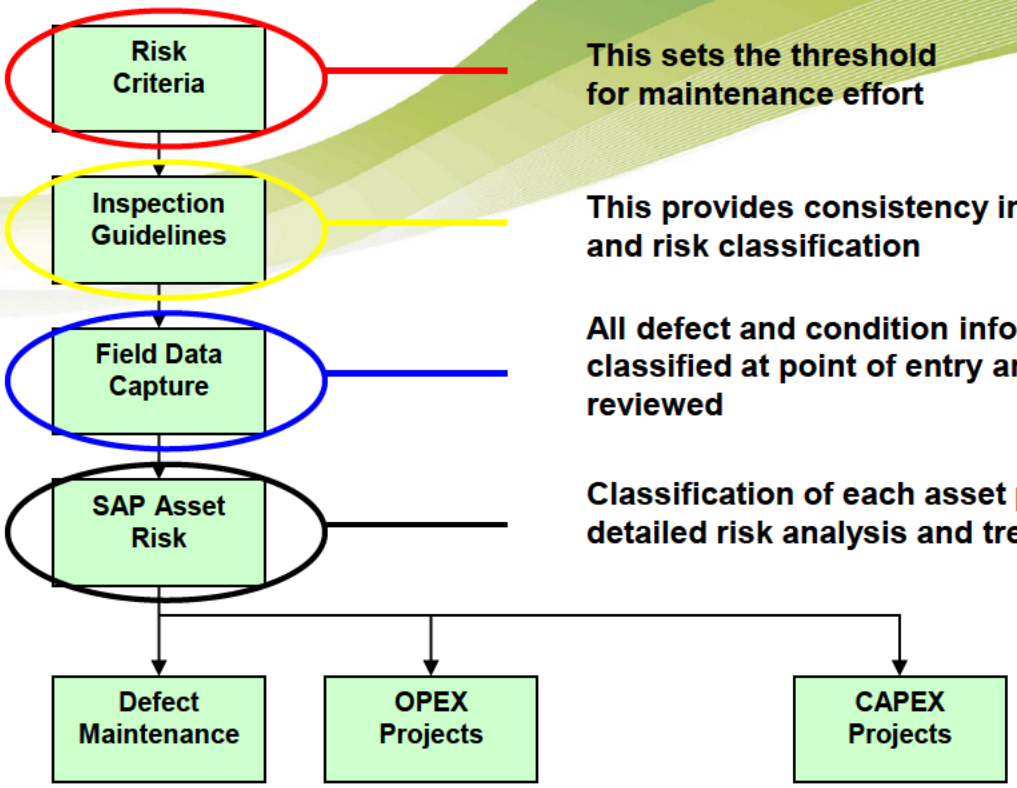
Improving data collection and classification of Asset Risk is the main driver for improved analysis

*MSP = Maintenance Service Provider

Asset Management Plan Framework

Data Capture

Setting Expectations:

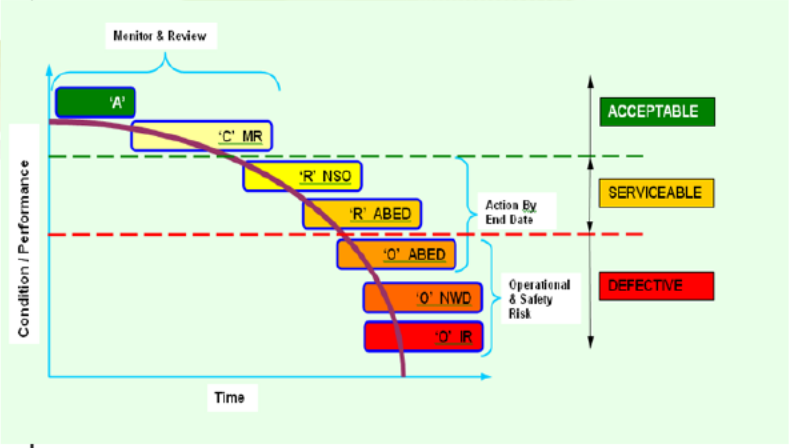


Defining Inspection Guidelines and Classifying Risk at Data Entry provides High Value at Data Capture

Meeting Expectations:

Risk Analysis

Documented Risk Analysis for each stage of the asset life cycle for each Asset



SAP Notification System used to provide both Asset Condition and Defect Data (based on risk).

Defect Maintenance

OPEX Projects

CAPEX Projects

Data consistency is improved and risk is classified based on a documented risk analysis framework

Data Capture

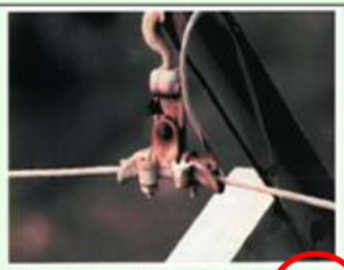
Inspection Guidelines

Example:

Defining Data Structures for Analysis

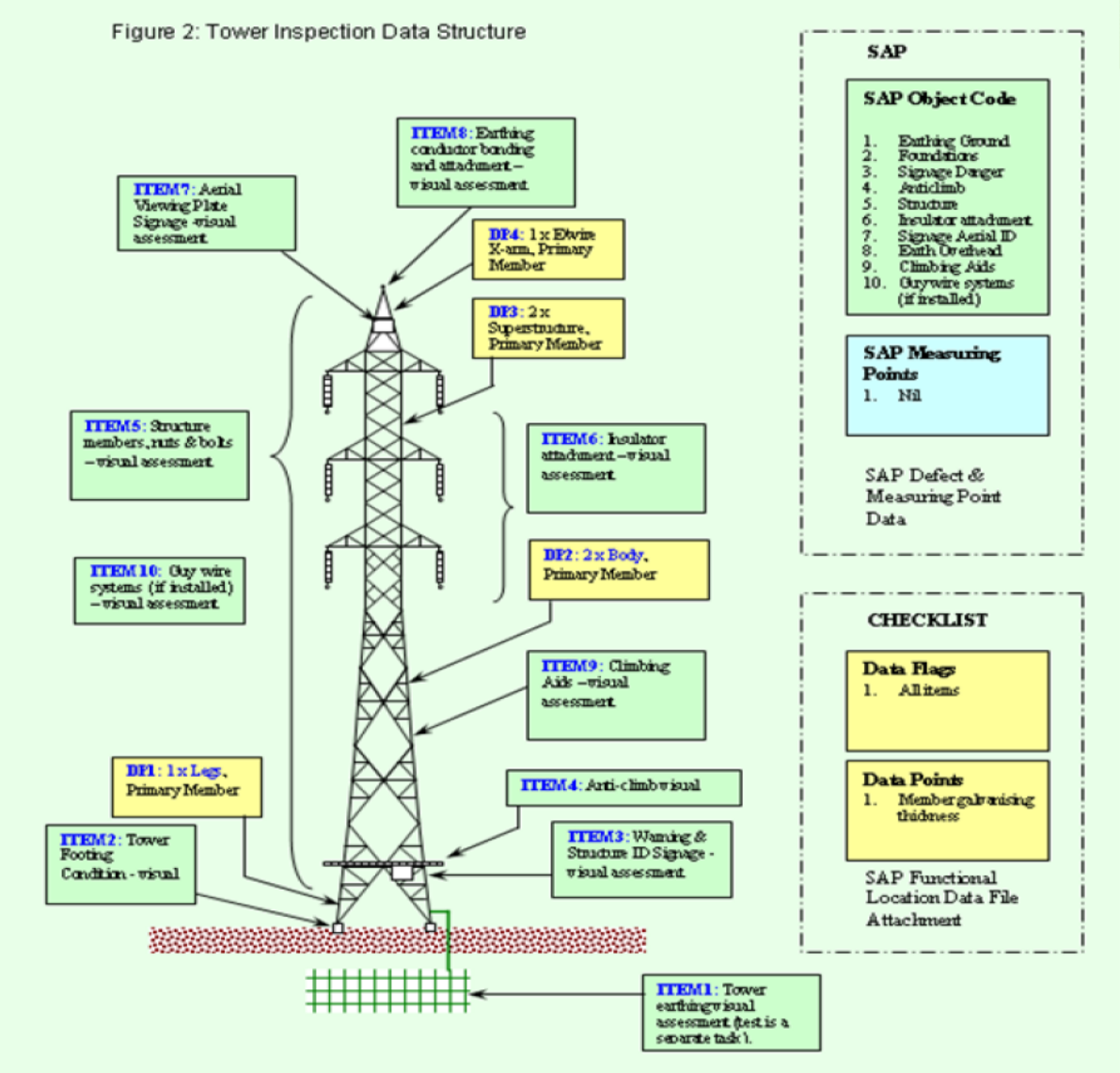
CODING GUIDE – Attachment Hardware

OBJECT CODE: **Crossarm Attachment Point**
Suspension - Hardware Clamp (Bolted)
Suspension - Hardware AGSU
Suspension - Hardware Coupling Component
Tension - Hardware Clamp
Tension - Hardware Coupling Component
Hardware - Attachment (AGSU)
Hardware - Attachment (Bolted/Trunnion)
Suspension - Hardware Corona Ring
Tension - Hardware Corona Ring

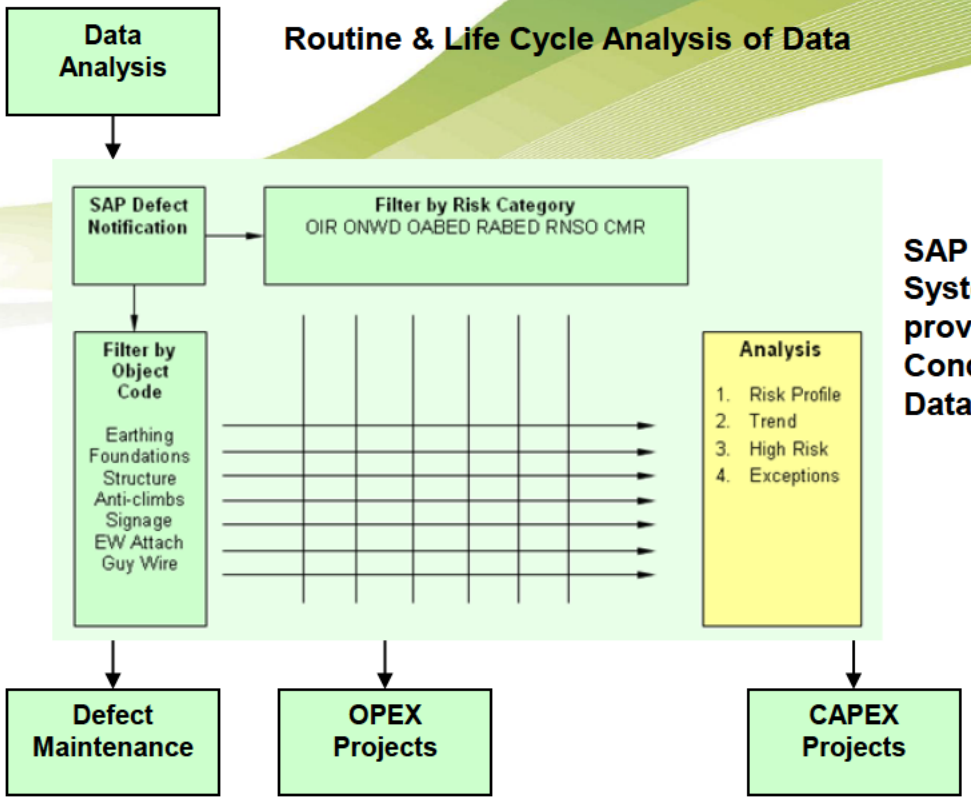
							
Worn Attachment Point	O_{ABED}	Worn Hole visible above Suspension Clamp	O_{ABED}	Worn Hardware	O_{ABED}	Worn Attachment Point	R_{ABED}
>50% loss of cross sectional area on either component / Engineering Assessment Required		>50% loss of cross sectional area on either component / Engineering Assessment Required		>50% loss of cross sectional area on either component / Engineering Assessment Required		25 - 50% loss of cross sectional area on either component / Engineering Assessment Required	

Classification of Risk

Example – Tower Inspection



Improved Data Analysis:



SAP Notification System used to provide both Asset Condition and Defect Data (based on risk).

Structured Data Analysis for Aggregated Assets providing a Long Run Network Asset Risk and Cost Profile

Next Steps

Implementation:

Risk Profile Documentation complete– April 09

Inspection Guidelines – complete April 09

Field Data Capture – Commence June 09

Data Analysis (procedural) – complete Dec 09

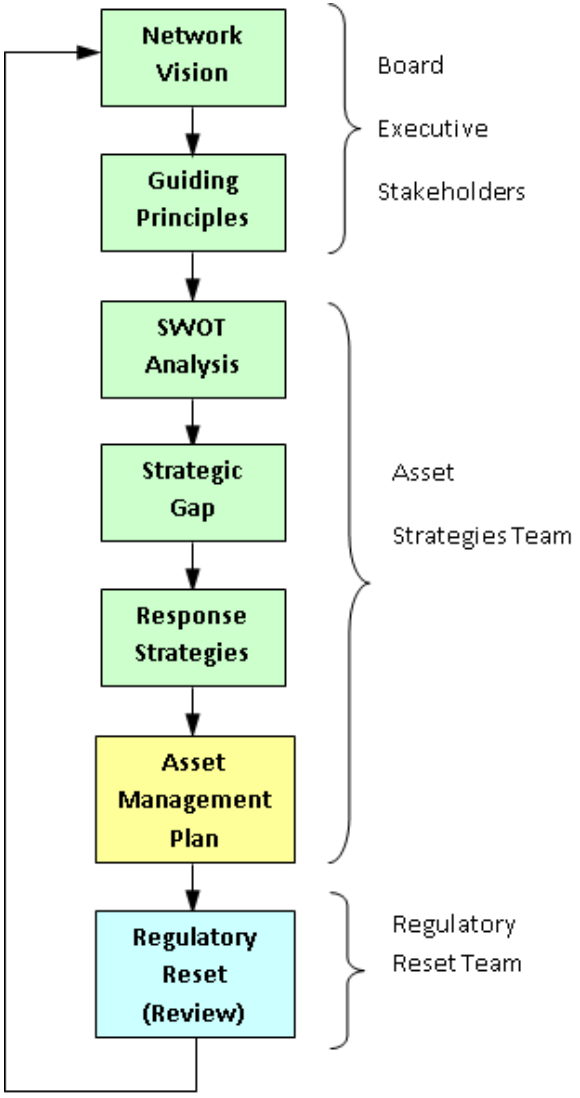
Network Vision 2035 Update

Presentation to the Board

19 November 2010

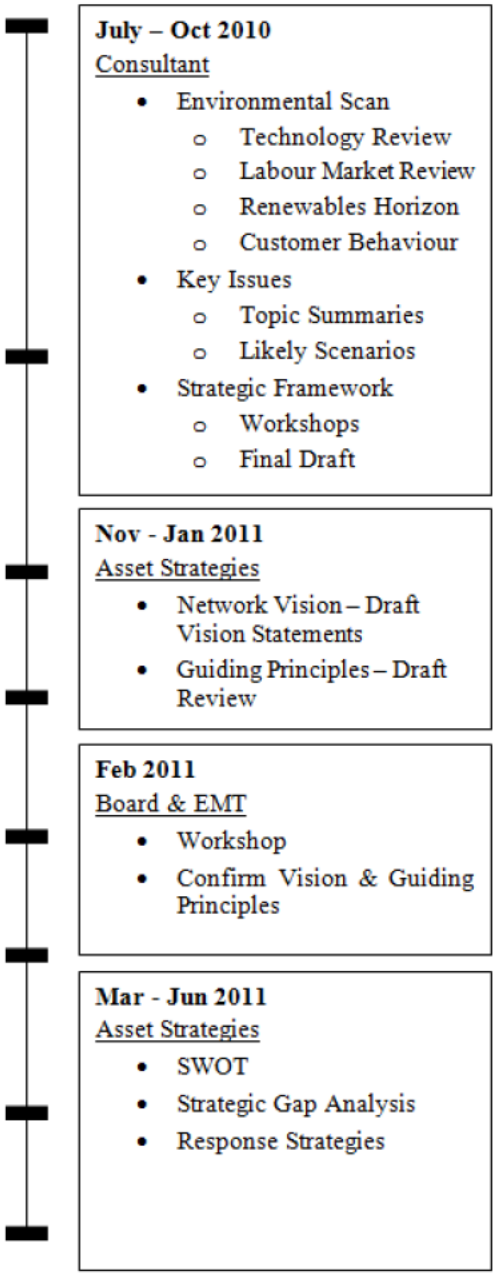
Network Vision 2025

- Network Vision and 32 Guiding Principles were developed in consultation with the Board
- Principles used to develop the Asset Management Plan
- Network Vision used as a vehicle for stakeholder consultation as part of the Regulatory Reset
- Asset Lifecycle and Network Development Focus



Network Vision 2035

- Environmental scan identifying key network drivers completed – October 2010
- Present high level environmental scan outcomes to Board – November 2010
- Review of Vision & Guiding Principles in light of above – January 2011
- Present proposed changes to Board Strategy Planning Day – February 2011
- Develop asset management response strategies – June 2011



Environmental Scan

Research conducted by NOVA Consulting including:

- Inputs from within ElectraNet
- Stakeholder interviews
- Assessment of confidence of independence of data
- 55 PESTEL issues identified and assessed
- 30 ≥ with likelihood of “likely”
- 12 ≥ with likelihood of “likely” and “high” consequence (i.e. “high impact”)
- 4 potentially disruptive factors (≤ “possible” likelihood and ≥ “extreme” impact)

High Impact Drivers

- Government policy drivers
  - Government response to climate change
  - network investment in SA large scale renewable energy resources
- Social drivers
  - skill levels: changing nature of work (higher level skills required)
  - social expectations - energy sources

High Impact Drivers

- Technology drivers
  - asset management technologies
  - energy storage: fuel cells
  - energy storage: large scale
  - renewables: photovoltaic
  - renewables: wind turbines
  - ICT: security
- Environmental drivers
  - climate change: extreme weather patterns
  - climate change: bushfires

Disruptive Factors

- Political
  - non market based regulations to achieve carbon emissions
- Economic
  - insurance costs
- Technology
  - energy storage: embedded
  - renewables: geothermal

Stakeholder Engagement

What did they think the future business environment would look like over the next 25 years including any disruptive factors:

- Solicited using PESTEL categories focused on their area of specialty/ interest
- Why they thought the future would be the way they thought
- What would they like to see different in regard to Transmission Services over the next 25 years (“wish-list”)

Stakeholder Response

Universally positive of initiative and approach:

- Most stakeholders had opinion based input – very rarely had references to substantiate their opinion
- All pointed to Government policy in response to Climate Change, either carbon pricing and/or more intervention as the biggest driver of change
- Two distinct schools of thought on future policy/ regulatory impacts (i.e. incremental/ market driven vs intervention/ politically driven)
- Significant improvement in load factor driven by energy storage and load control technologies.

Strategy Drivers

The future environment will be less stable and less predictable:

- Network development will be driven by generation and load scenarios that are not presently fully understood
- The economics of new generation technology is not mature, which increases the uncertainty of the timing and impact of future generation and load
- Step changes in generation technology may occur suddenly, these events have the potential to significantly affect load profiles
- Future energy policy has the potential to significantly shift energy transport either to the network or away from it
- Shortage of key skills will increase

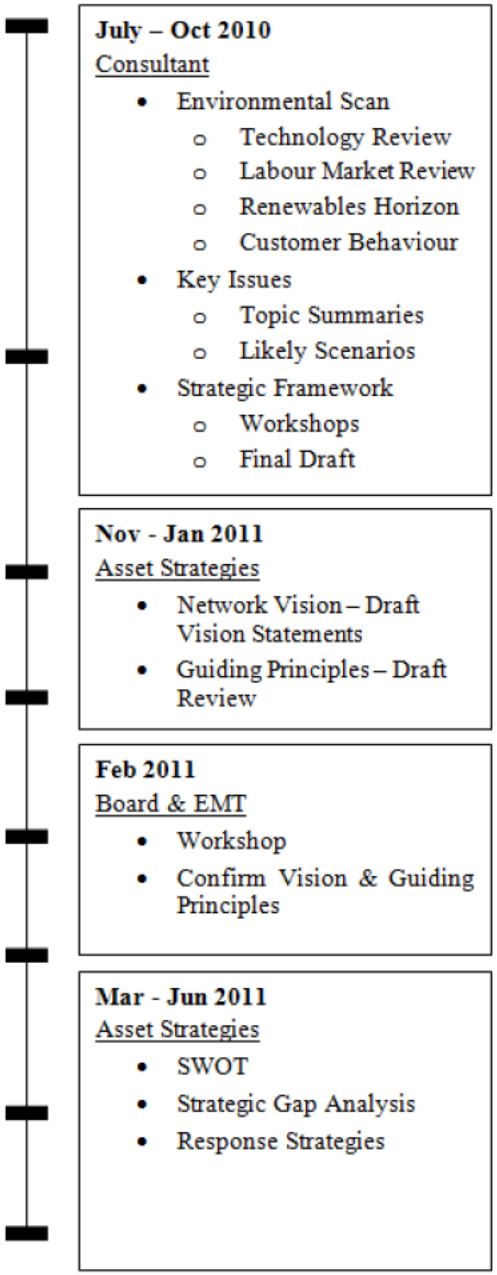
Possible Response

Regular monitoring and review of the external environment:

- Develop and maintain generation and load technology profiles – these are critical inputs to economic modelling and long term strategic planning
- Develop and maintain access to economic modelling capability – sound economic modelling is the key to successful long term strategic planning
- Ongoing development of the resource sector is likely to compete for critical skills – identify and capture those skills through long term and broad development programs

Next Steps

- Based on the outcomes of the environmental scan:
  - review Vision and Guiding Principles – January 2011
  - present proposed changes to Board Strategy Planning Day – February 2011
  - develop asset management response strategies – June 2011
- Develop broader stakeholder consultation paper – by June 2011



Network & Asset Strategies
Business Unit Plan 2008-09

10th September 2008

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1. Introduction

ElectraNet is committed to achieving four long-term objectives, these are;

- Delivering a safe and reliable supply of electricity to the community,
- Delivering "value for money" transmission services to customers,
- Meeting statutory obligations under the National Electricity Code, SA Transmission Code and other relevant Legislation and
- Providing fair and reasonable returns to shareholders.

The transmission network forms the backbone of the electricity system between generators, distributors and direct connected customers. A highly reliable transmission network is fundamental in an economy that is dependent on electricity in terms of growth and standard of living.

The consequences of a low reliability network besides a reduction in the standard of living and inconvenience to the wider community are higher prices for residential customers, and higher prices and collateral costs for commercial customers. The flow on effects of higher costs for commercial customers is a lower competitive position for those industries, which can lead to lower business investment and lower regional growth.

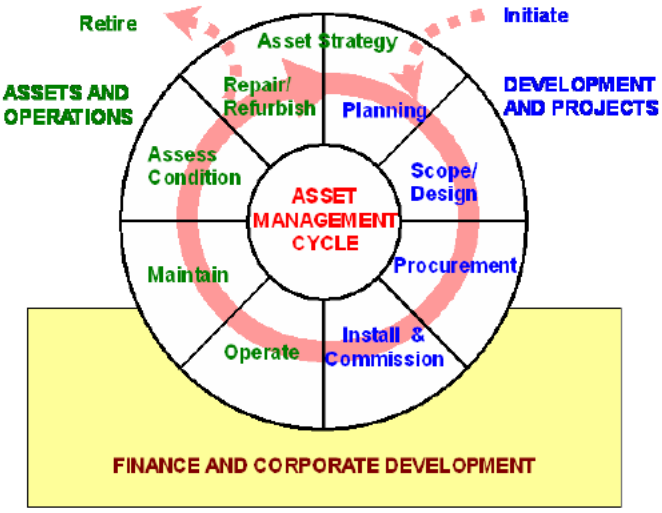
Providing a safe and reliable transmission network is not simply a matter of constructing assets and retiring them at end of life. The network infrastructure requires targeted asset management plans including appropriate levels of maintenance, monitoring and refurbishment throughout its life to ensure the required level of performance.

A simplified and high-level view of the asset management illustrating the cyclic nature of asset management is shown in fig 1, where the cycle period may be 40 years or more for most assets.

Fig 1: Asset Management Cycle

Network & Asset Strategies is a business unit of the Assets & Operations Division with the key objective:

"To minimise total asset life cycle costs with regard to acceptable levels of Network Safety, the Environment and Asset Reliability."



2. Long Term Planning - Network 2025

The Network and Asset Strategies Business Plan is prepared in conjunction with the following documents:

- Network 2025 (N2025), a twenty-year asset management strategy for the transmission network based on a set of guiding principles and network vision developed by the ElectraNet Board and management in consultation with key stakeholders
- Transmission Network Asset Management Plan (AMP), a five year rolling plan describing network asset maintenance, replacement and refurbishment plans.
- Annual Planning Review (APR), a twenty year network augmentation plan based on the underlying Regional Development Plans.

Network 2025 provides a set of guiding principles to guide decision making these are summarised below.

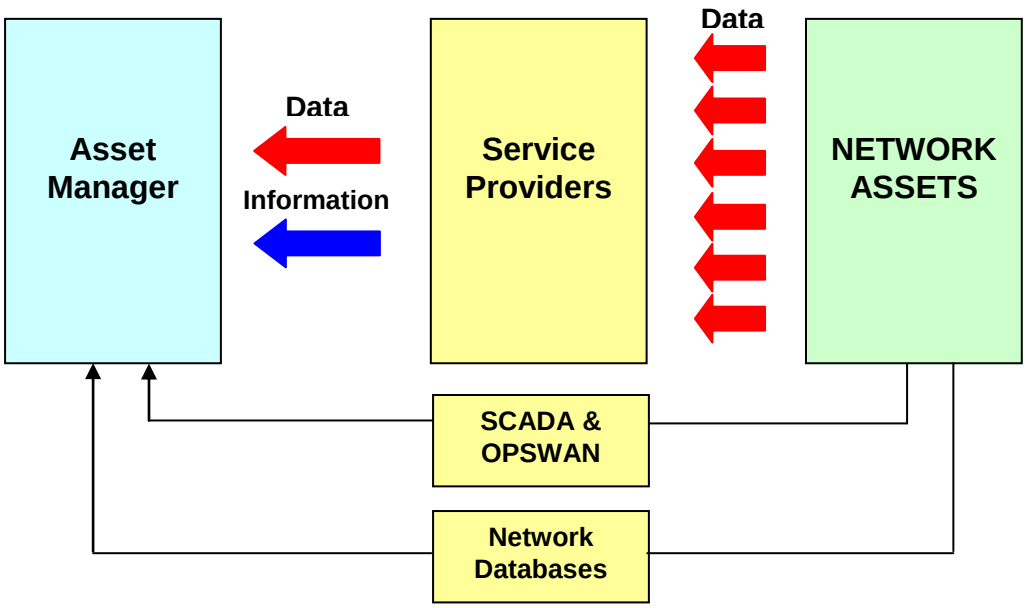
Table 2.1: N2025 Guiding Principles

Plan smarter	Plan for the long term – optimise capacity, flexibility and performance over a 20 year horizon
	Leverage every project – exploit synergy between new capacity and refreshment of aged plant
	Plan holistically – whole of asset (e.g. substation) thinking, rather than component level, take a broad view to find the least cost option
	Plan for security – build physical and network security over the long term
Manage smarter	Manage performance – embed quality and performance monitoring to find opportunities for best practice, share information with customers, work with regulators to set clear targets
	Manage capital resources – align investment with business objectives and code obligations
	Manage technology resources – use new technology (including embedded intelligence) to improve value for money and fully exploit the capacity of existing assets
Work smarter	Design – holistic designs that minimise environmental impact and risks, deliver value for money and provide flexibility for long term changes in network use. High performance designs based on standardised components that maximise plant and easements utilisation and exploit benefits of modern digital technology and secure digital networks
	Construct – work closely with the local community and use modules assembled off-site to minimise local disturbance and overall cost. Where possible avoid the complexity risk of brown-field projects by finding simpler green field alternatives
	Operate – preserve safety and build security, use remote monitoring and control via secure digital systems for performance and flexibility, and identify spare capacity for contingencies
	Maintain – minimise requirements to work on site or take assets out of service
	Buy wisely – leverage common specifications and maximise competitive pressure on suppliers to get best value

3. Business Model

The ElectraNet business model is based on outsourcing asset maintenance and construction with ElectraNet performing the role of Asset Manager & System Operator. In effect, ElectraNet makes Asset Management and Operational decisions based on data and information provided by either Service Providers or from operational control systems.

Fig 3.1 ElectraNet Asset Management Business Model



The key elements of this model are:

- A range of Service Providers deliver elements of the asset management cycle
- The Service Providers collect and provide data.
- The Service Providers interpret data and provide information
- The Asset Manager makes decisions for each element of the Asset Management Cycle (except for operational decisions) based on data and information provided by Service Providers.

The implications for the Asset Manager are that all elements of the Asset Management Cycle need to be effectively managed including the development and delivery of Asset data and information in order to be able to make efficient and timely decisions.

4. Context

The Network and Asset Strategies Business Unit Plan is intended to provide a summary of key objectives relating to business and process improvement in the following context:

- Network Strategies - the medium to long term development of the transmission network (key document – Annual Planning Review)

- Asset Strategies – the medium to long term management of transmission network asset performance and risk (key document – Asset Management Plan)

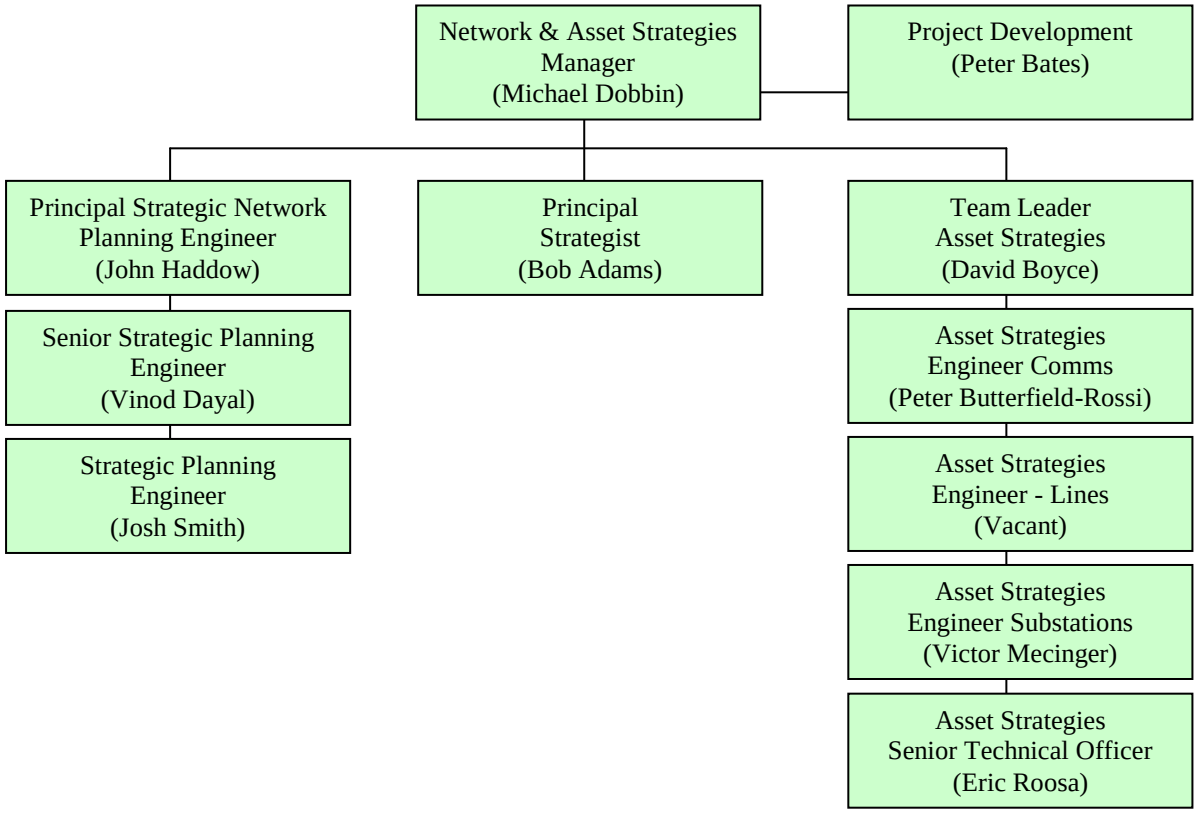
The business unit plan also provides linkage to business wide process improvement projects (refer to balanced scorecard high level process model – Maxwell):

- Regulatory Reset Data Capture. A project to incorporate revenue reset data capture into business as usual process (in order to improve the quality of data available to the reset).

- Plan & Design the Network A strategic project to re-engineer the Plan & Design the Network business process by 2010/11

The plan does not describe in any detail the business as usual processes or identify the many unexpected tasks and projects that arise on a regular basis. The resource plan at the end of the document makes some attempt to allow for these events.

Fig 4.1 Network & Asset Strategies Structure

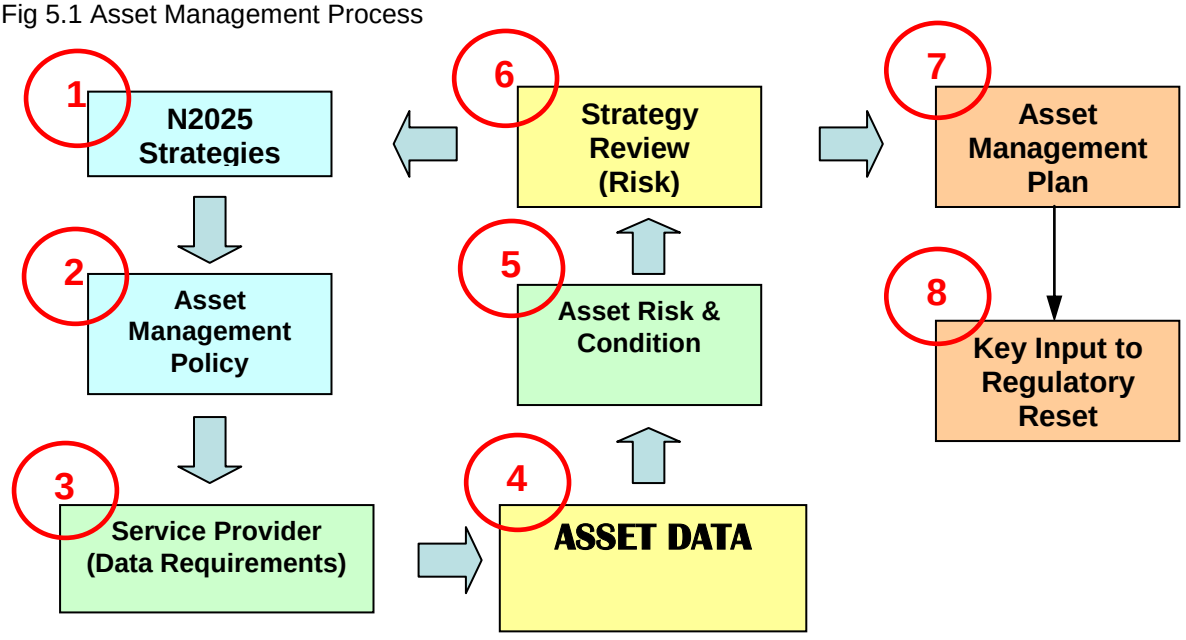


5. Asset Strategies

5.1 Environment

Development of the Network and Asset Strategies Business Plan is based on a scan of the operating environment for each of these business units. The environmental scan is essentially a risk based consideration of the key elements of the Asset Management process and Network Development framework, a summary of this analysis is shown below.

Fig 5.1 Asset Management Process



The key aspects of the asset management cycle are:

1. **Long Term Strategy** – long term strategies and associated guiding principles for the development of the transmission network (defined by the Board, based on stakeholder expectations).
2. **Asset Management Policy** – Asset Maintenance Policies and associated procedures (these define and describe for each asset the overall maintenance and data management requirements).
3. **Service Provider** - Maintenance Plans, asset and associated data management tasks, asset defect management, asset refurbishment and replacement processes (the basis for contractual agreement with the MSP to provide maintenance and data collection services).
4. **Asset Data** – Major asset and data management platforms (SAP, SPF, TRSD).
5. **Asset Condition –** A structured and consistent record of the condition and risk profile.
6. **Strategy Review** - The process for managing asset risk (Short Term – Operational, Medium Term - Asset, Long Term - Strategic)
7. **Asset Management Plan** – The consolidated plan for managing asset risk through a combination of routine maintenance, corrective response, refurbishment and asset replacement (this plan forms the basis of the revenue reset application for asset maintenance and replacement).
8. **Regulatory Reset** – In accordance with the National Electricity Rules, ElectraNet presents to the Regulator a five year case for asset maintenance and replacement.

Table 5.1 Asset Management Process - Environmental Scan

Note: Shaded cells are 08/09 projects

Asset Element	Risk	Action	Status	Assigned
[redacted]				

5.2 Current Status

Work undertaken by the Asset Strategies Team to date has developed a basic framework for understanding and demonstrating asset risk, each element of the asset management cycle has been reviewed and basic business processes are now in place, noting the following highlights:

- Asset Management Plan - is now based on managing asset risk in the short, medium and long term has successfully supported and delivered the required outcomes for the regulatory reset.

- Financial Model - has been developed which now provides for the long term financial modelling of both lines and substation planned maintenance (this model formed the baseline for the 2008-2013 revenue reset allowance).

- Hazard Management - in conjunction with the Asset Information Team a business process using SAP has been developed and implemented business wide, this replaces a previously ineffective system and provides a framework for developing defect tracking process for other high priority risks.

- Asset Data and Information Management Plan - has been developed in response to the need to substantially improve SAP asset data for asset risk management, annual input to the AMP and improving the efficiency of the regulatory reset case development.

Currently the following projects are substantially progressed:

- Field Data Collection – in conjunction with the Asset Information Team a SAP business process has been developed to provide data entry by inspectors directly to SAP, business rules are applied at the point of entry in order to provide for consistency of the asset risk and condition assessment.

- Policy and Procedure – existing Powerlink (PLQ) and ElectraNet TAMS policy and procedure documents are to be consolidated into a single document framework (this is now possible as the end of the shared services agreement with PLQ provides ENet with ownership of all documentation).

- Transmission Line Maintenance Plans – new maintenance plans for all transmission lines based on reliability centred maintenance have been completed, these plans place a greater emphasis on inspection and testing of line components by the MSP.

- Field Inspection Guidelines – guidelines are currently being developed for both transmission line and substation asset inspection, they provide the basis (business rules) for assigning priority (a measure of risk) and condition codes.

- Asset Risk Issues – A number of significant risk issues have been identified as part of the broader risk management process, these issues and risk mitigation actions are listed in table 5.2 below.

Table 5.2 Asset Risk Issues

Note: Shaded cells are 08/09 projects

Asset Function	Risk	Action	Status	Assigned
[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
	[redacted]	[redacted]	[redacted]	
	[redacted]	[redacted]	[redacted]	
[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
	[redacted]	[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
	[redacted]	[redacted]	[redacted]	[redacted]
	[redacted]	[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]	[redacted]	
	[redacted]	[redacted]	[redacted]	[redacted]
	[redacted]	[redacted]	[redacted]	
[redacted]	[redacted]	[redacted]	[redacted]	[redacted]

Asset Function	Risk	Action	Status	Assigned
[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
	[redacted]	[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
	[redacted]	[redacted]	[redacted]	
[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
	[redacted]	[redacted]	[redacted]	[redacted]
	[redacted]	[redacted]	[redacted]	[redacted]
	[redacted]	[redacted]	[redacted]	[redacted]

Asset Function	Risk	Action	Status	Assigned
[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
	[redacted]	[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
	[redacted]			
	[redacted]			
	[redacted]			
[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
	[redacted]	[redacted]	[redacted]	[redacted]

5.3 Next Steps

The focus for Asset Strategies is now to implement the more sophisticated collection and analysis of SAP asset risk and condition data, this data structure and analysis will then form the basis of the next regulatory reset based on the following principles:

- Value is created for the business when good quality and timely decisions are made, asset data and processes must be structured to support this
- All asset condition and risk data resides in SAP in the form of defect notifications using SAP Effect Codes related to the level of asset deterioration and risk
- Asset risk and condition assessments are based on documented field inspection guidelines, these guidelines define the risk threshold associated with asset deterioration and also define the associated cause and effect descriptions in order to provide a consistent asset condition assessment.
- Asset condition and risk data will be collected using field devices that provide input to SAP through the Grazer interface, business rules relating to inspection and data entry will be applied at the point of data entry.
- The development of maintenance tasks is based on defining each element of the maintenance task for each asset type and fully defining the management of all data associated with each task.

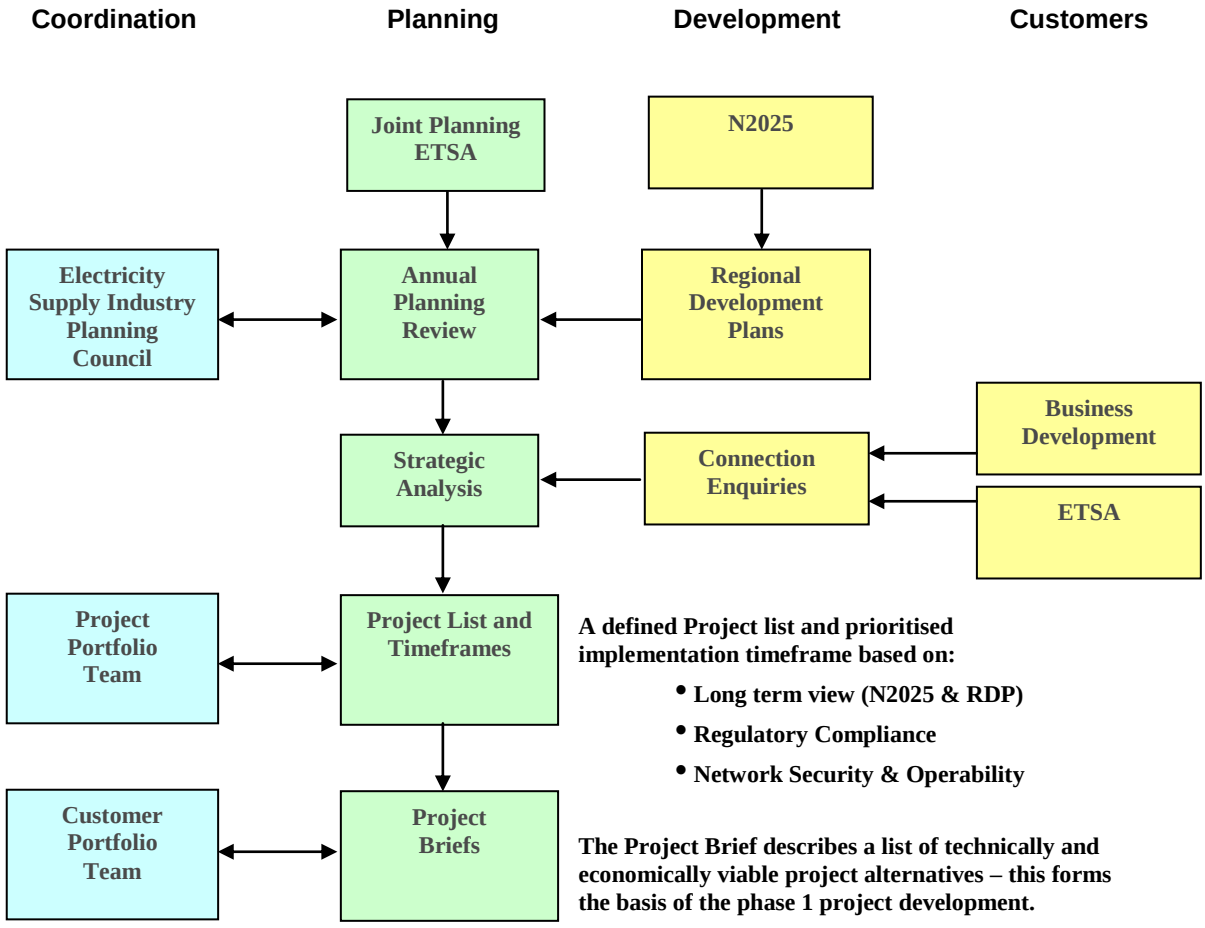
It is essential that implementation is substantially achieved in the period 2008/09 in order to provide the quantity and quality of data needed for the next reset), in particular:

- Implementation of Transmission Line Maintenance Plans and associated field inspection guidelines (in order to consistently define asset risk and condition).
- Development and field testing of the Substation Field Inspection/SAP integration tools, in order to provide for collection of asset data by the field inspectors and the application of risk and condition business rules as early as possible in the data collection process (this project is in conjunction with the Asset Information Team)
- Development, field testing and implementation of Substation field inspection guidelines (in order to consistently define asset risk and condition).
- Complete the consolidation of maintenance policy and procedure documentation and the re-development of underlying task definitions (for both maintenance and data management) for the MSP, in order to improve the efficiency of defining maintenance tasks and associated data management.
- Develop Asset and data performance measures (reference ITOMS reporting and Data and Information Management Plan).
- Complete the asset risk mitigation actions identified in table 5.2

6. Network Strategies

In June 2007 the Network Strategies group was formed to undertake the strategic development of the Transmission Network and take responsibility for managing the Network Capital Projects List. The group's main functions are set out in fig 6.1.

Figure 6.1 Network Strategies Process



The Network planning process includes:

- Annual Planning Review – planning of the regulated network to address emerging limitations and meet requirements of the South Australian Transmission Code
- Non Regulated Connection Development – identifying technically and commercially viable non regulated customer connection options (both in terms of the individual connection and the overall effect on the network).

6.1 Environment

Development of the Network Strategies Business Plan is based on a scan of the operating and external environments. The environmental scan is essentially a risk based consideration of the key elements of the Network development process, National Electricity Rules and the State planning framework, a summary of this analysis is shown below

Table 6.1 Network Development Process - Environmental Scan

Element	Risk	Action	Status	Assigned
[redacted]				

Note: Shaded cells are 08/09 projects

6.2 Current Status

The Network Strategies Team have developed and implemented the framework and business processes for the annual planning cycle and managing connection enquiries, noting the following highlights:

- Annual Planning Review – framework has been substantially improved through more regular consultation with the ESIPC. The need for scenario based planning has been identified and agreed with the planning council as a requirement to address the potential impacts of renewable energy targets on the SA Transmission Network.

- Project List – has been developed and implemented in cooperation with the Project Portfolio team. In order to provide regular communication and resolution of planning issues Network Strategies and Project Portfolio team members meet formally on a monthly basis.

- Project Briefs – a standard format and supporting business process has been implemented, most activity relates to non regulated customer connection enquiries including regular consultation with the Customer Portfolio team. The project briefs provide a range of technically and economically viable project options.

- Policy Framework – is required to ensure that network development is carried out in a consistent manner and that in particular non regulated development is economically and technically efficient. A range of policy documents have been drafted and are currently in approval stage.

Currently the following projects are substantially progressed:

- Network Generation Profile – development is based on identifying the available capacity of the existing network to connect generation. Later stages of this project are to identify the maximum available capacity with minor augmentation. This work will be undertaken in conjunction with the Planning Council and will be used to provide guidance for identifying major constraints and capacity limits.

- Scenario Based Planning – This process will form the basis of ultimate generation scenarios considering the most likely renewable scenarios. In principle a number of plausible scenarios are to be developed in order to demonstrate the impact on the existing transmission network and to provide the opportunity to influence policy decisions where rule changes are required.

- Dynamic Rating – A project to implement dynamic rating of transmission lines is currently being developed by the Network Strategies team in conjunction with Network Operations, it is anticipated that dynamic line ratings will be implemented in a staged manner over a number of years.

6.3 Next Steps

Managing the efficient development of the Network in a period of major uncertainty and rapid development has now become a priority for the Network Strategies team. Although augmentation projects for the regulated network are well understood and planned the increasing size and volume of non regulated connections has the potential to severely interfere with the regulated network resulting in inefficient overall development.

The team's key focus is to mitigate these risks and provide leadership by identifying developments that are technically and economically viable in the long term renewables environment, in particular:

- Identify the capacity of the existing network to connect maximum renewable generation in the most efficient manner – develop underlying assumptions in conjunction with ESIPC and use this information to provide immediate guidance for non regulated development of the Network

- Develop a broader interpretation of the ability of the Network to connect additional renewable generation in the most efficient manner through minor augmentation projects – develop underlying assumptions in conjunction with the ESIPC and use this information to provide guidance for non regulated development of the Network through the Annual Planning Review.

- Based on a number of plausible generation scenarios provided by the ESIPC develop the network scenarios required to deliver energy to a national transmission network solution based on emission reduction targets set by the Federal Government.

- Using scenario based planning:

    - Identify common network infrastructure development issues; test the ability of ElectraNet to meet these requirements under the current National Electricity Rules.
    - Develop a generally agreed view of the broader interconnected network with relevant stakeholders
    - Where significant impediments to efficient and timely development of the network are identified, develop cases for policy change.

- Develop working knowledge of control system philosophy and application for effectively managing large and diverse renewable generation schemes and associated power flows operating in interconnected networks.

- Complete the development and implementation of the Transmission Network Development Policy framework

- Develop the Annual Planning Review in conjunction with the ESIPC to include plausible generation scenarios based on meeting renewable generation targets.

7. Calendar

Frequency	Item	Responsible	Schedule
Fortnightly	Individual meeting with Manager/Team Leader	All	As agreed
Monthly	Asset Performance Reports	David Boyce	1st working day of each month
	Team Meeting	Michael Dobbin	2nd week of each month
	Transformer Monitoring	Michael Dobbin	2nd Wednesday of each month
	Business Unit Report	Michael Dobbin	4th working day of month
	Joint Planning	Josh Smith	As scheduled with EU
	Regional Development Plans	Vinod Dayal	Undertake review – 1st Half
6 Monthly	Performance Management	Michael Dobbin	July and January
Annual	Asset Management Plan Review	Michael Dobbin	November
	OPEX Projects Plan	Michael Dobbin	January
	Annual Planning Review	John Haddow	1st June 2009

Appendix 1: Business Improvement – Regulatory Reset Data

The Network and Asset Strategies Business Plan must support improvements to business processes, a process re-engineering workshop recently identified improvements required to the Revenue Reset process as follows:

> Revenue Reset Data Capture – a project to incorporate revenue reset data capture into business as usual process (in order to improve the quality of data available to the reset). The key elements of this process are:
>
> - Policy Database – the requirement to have clearly defined network development and engineering policy
> - Condition Assessment – the requirement to have comprehensive and up to date asset condition assessment data
> - Asset Risk Profile – development of an asset risk profile representing short, medium and long term trends
> - Spares Inventory Plan – a plan for the medium to long term management of network spares inventory
> - AMP 10 Year – extending the Asset Management Planning timeframe to ten years
> - Project Briefs (CAPEX and OPEX)
> - Contingent Project List
> - RDP 20 Year
> - Project SAE
> - Grid Support Plan

Table A1:1 indicates the linkage between the Network and Asset Strategies Business Unit Plan and the outcomes required for improving the Revenue Reset Capture.

Table A1:1 Business Unit Plan Linkages – Revenue Reset Data Capture

Reset Process	Business Unit Process
Policy Database	Policy Framework development (Bob Adams)
Condition Assessment	Field Inspection Guidelines & Condition Based Defects development
Asset Risk Profile	Field Inspection Guidelines & SAP Asset Risk Profile development
Spares Inventory Plan	To be developed
AMP 10 Year	Develop 10 year view based on RDP, condition assessment and Asset Risk Profile
Project Briefs (CAPEX and OPEX)	OPEX Briefs – Based on AMP Asset Risk Profile CAPEX Briefs – Based on APR
Contingent Project List	Developed as part of RDP/APR process
RDP 20 Year	Reviewed and improved annually
Project SAE	Developed as part of RDP/APR process
Grid Support Plan	Developed as part of RDP/APR process

Appendix 2: Strategic Project – Plan & Design the Network

The ElectraNet business plan has identified a strategic project to re-engineer the Plan & Design the Network business process. Linkages to the Network and Asset Strategies business unit plan are described below. For the purpose of definition Plan & Design the Network is defined in figure A2.1.

Fig A2.1 Plan and Design the Network Summary Diagram

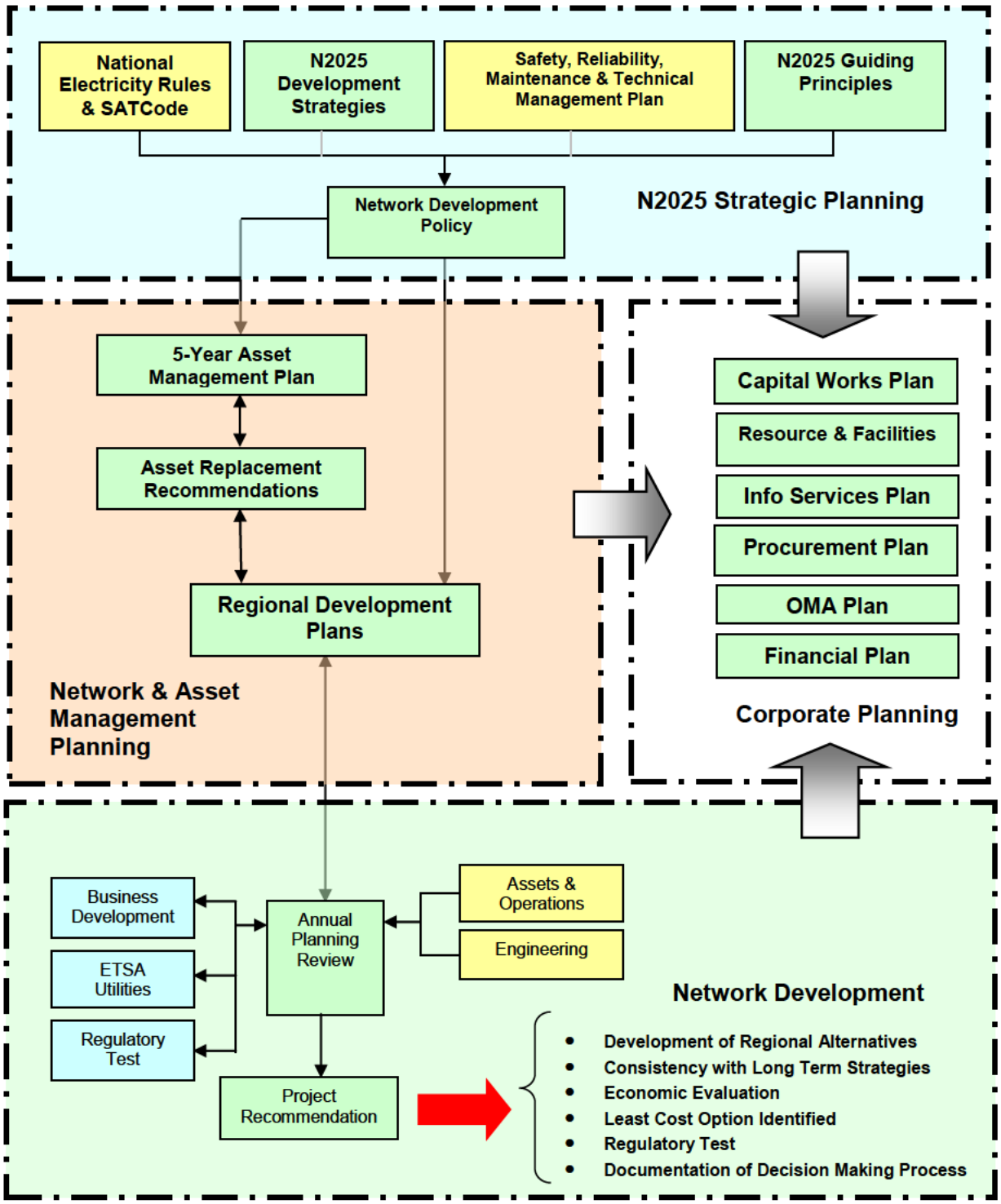


Table A2:1 indicates the linkage between the Network and Asset Strategies Business Unit Plan and the outcomes required for re-engineering Plan and Design the Network.

Table A2:1 Business Unit Plan Linkages – Plan & Design the Network

Plan & Design Process	Business Unit Process
Network 2025 Guiding Principles	Review of Guiding Principles and stakeholder consultation is part of the five year regulatory reset plan.
Network 2025 Development Strategies	Board review of Development Strategies is part of the five year regulatory reset plan.
Network Development Policy	Policy framework development
Asset Management Plan	Development of the longer term Asset Management Plan (identified as part of the Reset Data Capture process requirement)
Asset Replacement Recommendations	Improvement of SAP based Asset Condition Monitoring and Risk Profile in order to provide the basis for asset replacement recommendations
Regional Development Plans	Regional Development Planning process (identified as part of the Reset Data Capture process requirement)
Annual Planning Review	Key Network Strategy Business Unit focus based on the development of Scenario Based Planning in conjunction with ESIPC
Project Recommendations	Development of Project Briefs identified as part of the Reset Data Capture process requirement)
Corporate Planning	Not covered by this plan – to be addressed separately as part of the processes re-engineering framework

Appendix 3: Resource Plan

Resourcing Principle:

Resourcing of the Asset and Network Strategies group is based on the following principles:

- The Asset and Network Strategies business processes are developed to manage the Asset "Whole of Life" and each element of the process must be appropriately resourced in order deliver the required outcomes.
- There is a minimum level of internal resourcing required in order to maintain, develop and protect the intellectual property of ElectraNet.
- Asset and Network management requires specialist knowledge and experience relating to each of the main asset types, therefore a specialist for each of the key asset management processes will be provided as an effective full time position.
- [redacted]
- Where additional resources are required to undertake specific asset condition investigations they will be resourced through a specific maintenance or capital project.
- More detailed Network Analysis will be undertaken by the Engineering Group at the request of Network Strategies.
- The current Lines Strategy Engineer vacancy is currently unfilled and may remain so for an undetermined period, this gap will be filled using a contract engineer resource.

Flowcharts of the Network & Asset Strategies business process and resource allocation is shown in figures below. Estimates of resource capacity are provided in table A3.1.

For the purpose of estimation the following categories of resource allocation are assumed:

- Major Assignment – a project associated with a business unit initiative, in the order of 500 person hours
- Minor Assignment – a project of a minor nature typically associated with development of a project brief or routine investigation, in the order of 15 person hours
- Business Process – the allocation of time to undertake routine business process, estimated for the defined processed
- Administrative Time – the allocation of time to attend meetings and attend to general administrative tasks and routine reporting
- Training and Development – allowance for time allocated to training, conferences and professional development

Fig A3.1 Business Process and Resource Allocation Asset Strategies

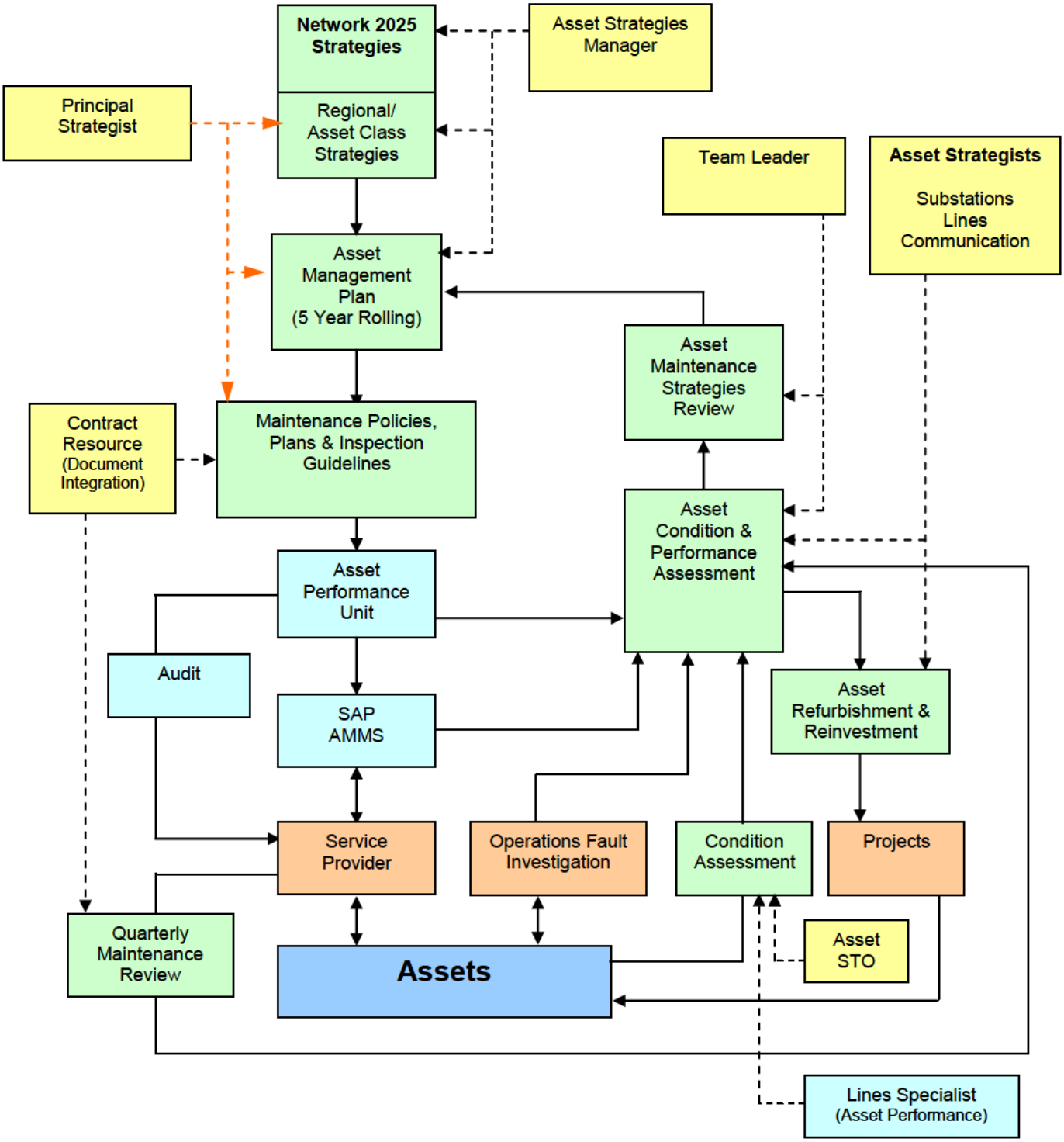


Fig A3.2 Business Process and Resource Allocation Network Strategies

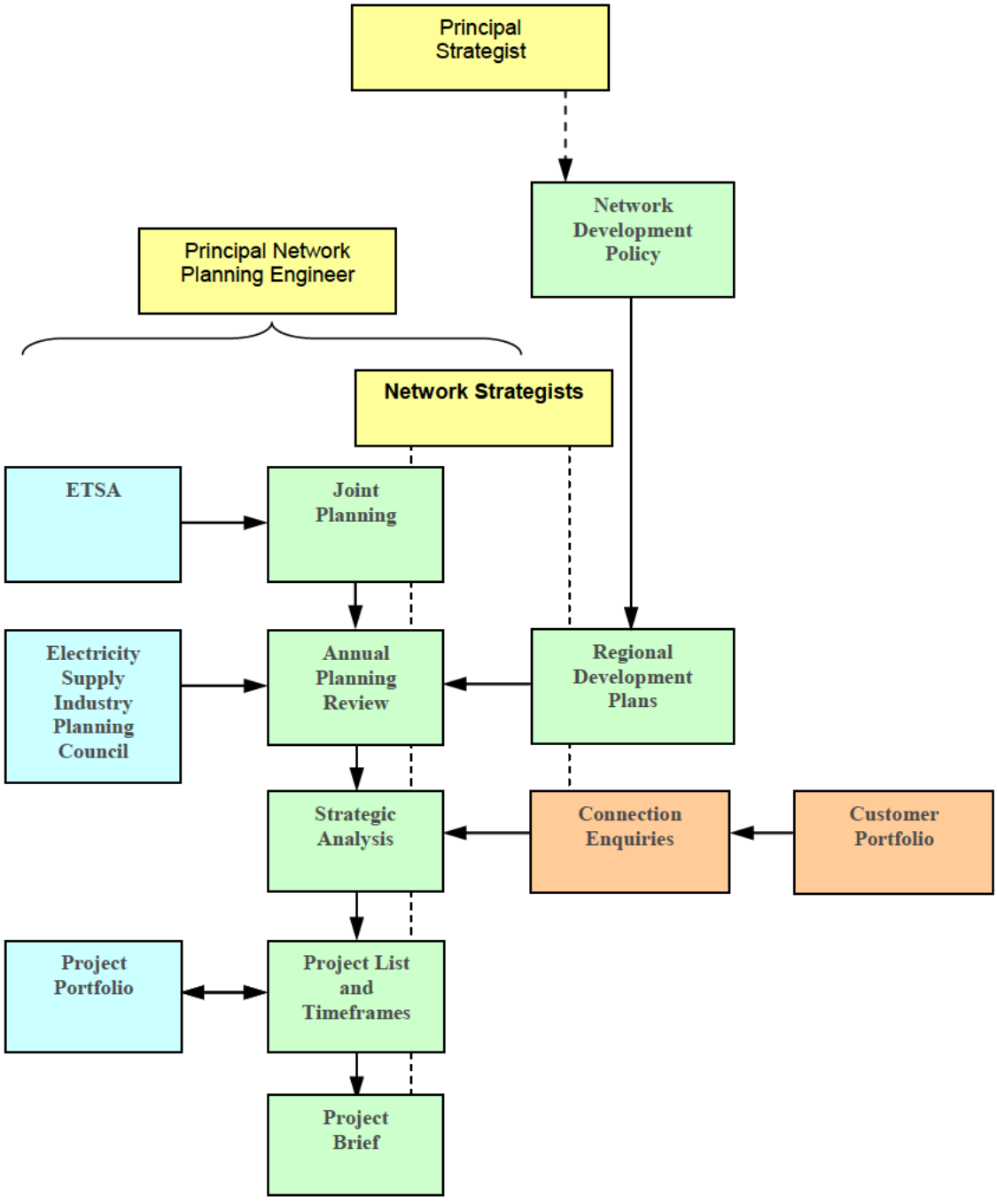


Table A3.1 Graduate Development Projects

Project	Detail	Status
SVC Simulator 1	Re-establish the simulator to working order	Complete
SVC Simulator 2	Develop, document and implement simulator induction, operating and card test procedures	
SVC Simulator 3	Undertake testing and verification of the status of all Para SVC control system spare equipment.	
Eberle AVR 1	Design, build and commission an Eberle AVR test rack.	Complete
Eberle AVR 2	Develop a process for simulating existing control schemes and implement.	
Eberle AVR 3	Identify improvements to existing control schemes, develop, test and implement.	
Asset Maintenance Audit 1	Undertake a review of all SAP asset maintenance plans – undertake gap analysis between revenue reset proposal, maintenance policy and SAP.	
Asset Maintenance Audit 2	Undertake a review of secondary system scheme audits (to ensure that all schemes have maintenance plans)	
Asset Maintenance Audit 3	Identify all condition monitoring equipment, develop, implement and populate SAP asset structure.	
Asset Maintenance Audit 4	Develop and implement maintenance plans for condition monitoring equipment.	
Maintenance Plan Development 1 – Substation Structures	Identify all substation structures, develop, implement and populate SAP asset structure.	
Maintenance Plan Development 2 – Substation Structures	Develop and deploy structure labelling. Develop and implement SAP maintenance plans.	
Substation Site Information Management 1	Develop site sign posting and labelling standards (fences, buildings, operational equipment, cubicles etc).	
Substation Site Information Management 2	Develop and deploy site information folder document management procedure.	
Asset Performance Report Development 1	Develop and implement SAIDI SAIFI and CAIDI network reporting tools.	
Asset Performance Report Development 2	Develop ITOMS asset performance KPI's reporting tools.	
Asset Performance Report Development 3	Develop SAP repeat faults reporting tool.	

Asset and Network Strategies Resource Estimate

Asset Strategies	Detail	Frequency	Hours	Total Hours	Notes
Public Holidays	10 Days per Year	10	7.5	75	
Annual Leave	4 Weeks per Year	20	7.5	150	
Total Hours per Year	48 Working Weeks	240	7.5	1800	
Working Hours per Year	Working Weeks less Public Holidays	230	7.5	1725	
Major Assignment	2 Major Assignments per year	2	500	1000	
Minor Assignment	2 Minor Assignments per month	22	15	330	
Business Process	2 hours per week	48	2	96	
Administrative Time	Allow for 3 meetings per week	144	1	144	
Training & Development	Allow 1 week per year	1	37.5	37.5	
			Unproductive	117.5	7.3%
			Total Working Hours	1607.5	
			Total EFT	100%	

Major Assignments for 2008/09 are:

Note: Development of Project Briefs in response to customer connections requires approximately 200 hours of Network Strategy time. Where demand for project briefs exceeds available resource contract resources will be used to support Network Strategy personnel.

Assignment	Assigned
Development & Implementation of Inspection Guidelines	David Boyce
Field Testing of Inspection Process	David Boyce
Substation Fire Protection	Peter Bates
Transformer Oil Containment	Peter Bates
Substation Perimeter Security Development	Peter Butterfield-Rossi
275kV Cable Oil Management	Peter Butterfield-Rossi
Transformer Management	Victor Mecinger
Substation Structure Numbering and Maintenance Plans	Eric Roosa
Substation Cable Maintenance Plans	Eric Roosa
Generation Scenarios	John Haddow
Control Systems Philosophy	John Haddow
Policy Development (Network, Engineering, Maintenance)	Bob Adams
Project Briefs	Vinod Dayal/Josh Smith
RDP/APR	Vinod Dayal/Josh Smith

Appendix 4: Key Performance Measures

Performance measures are designed to indicate the performance of:

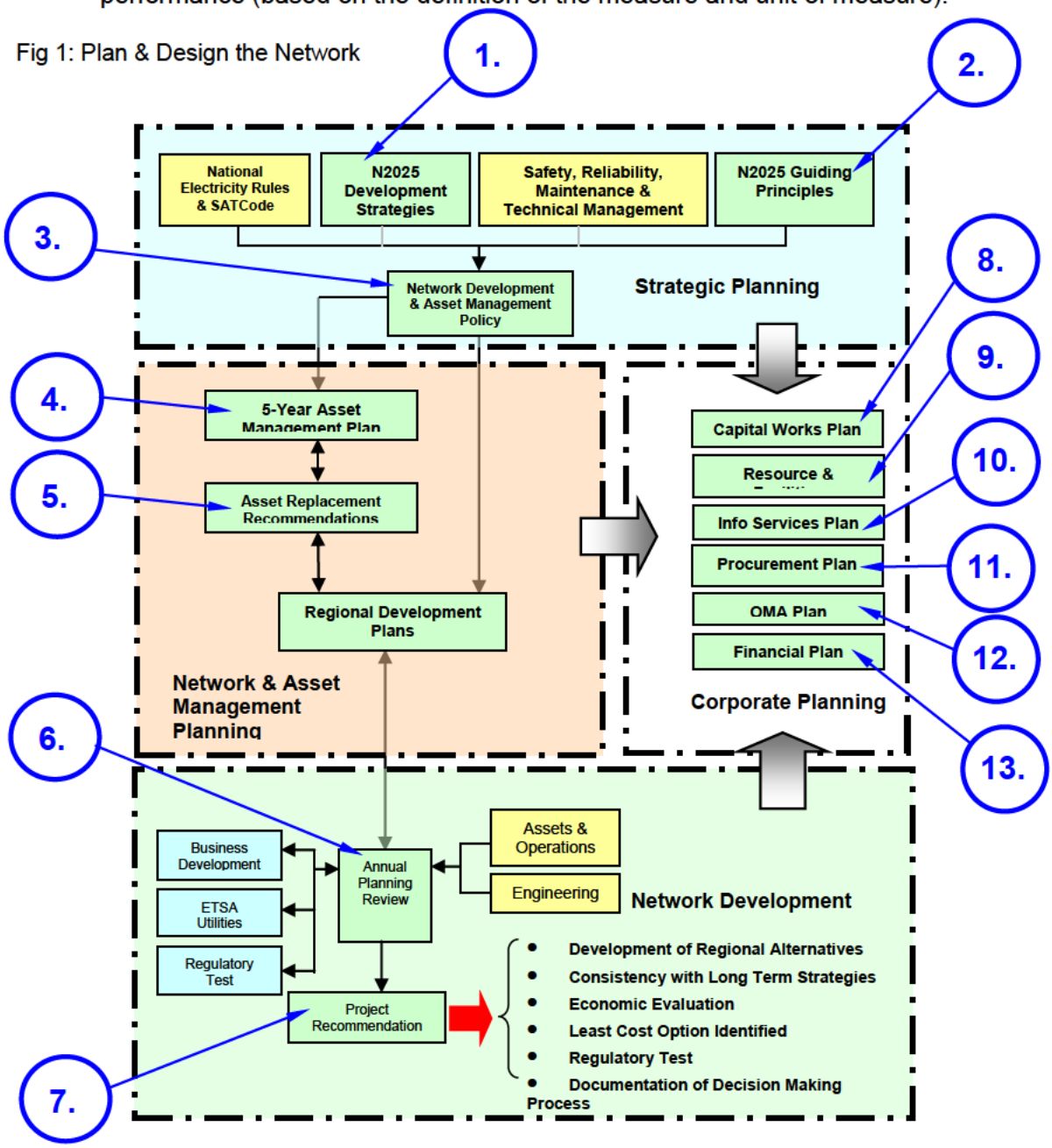
- Plan & Design the Network
- Asset Management
- (Asset) Data Management

Performance measures for Plan & Design the Network, Asset & Data Management:

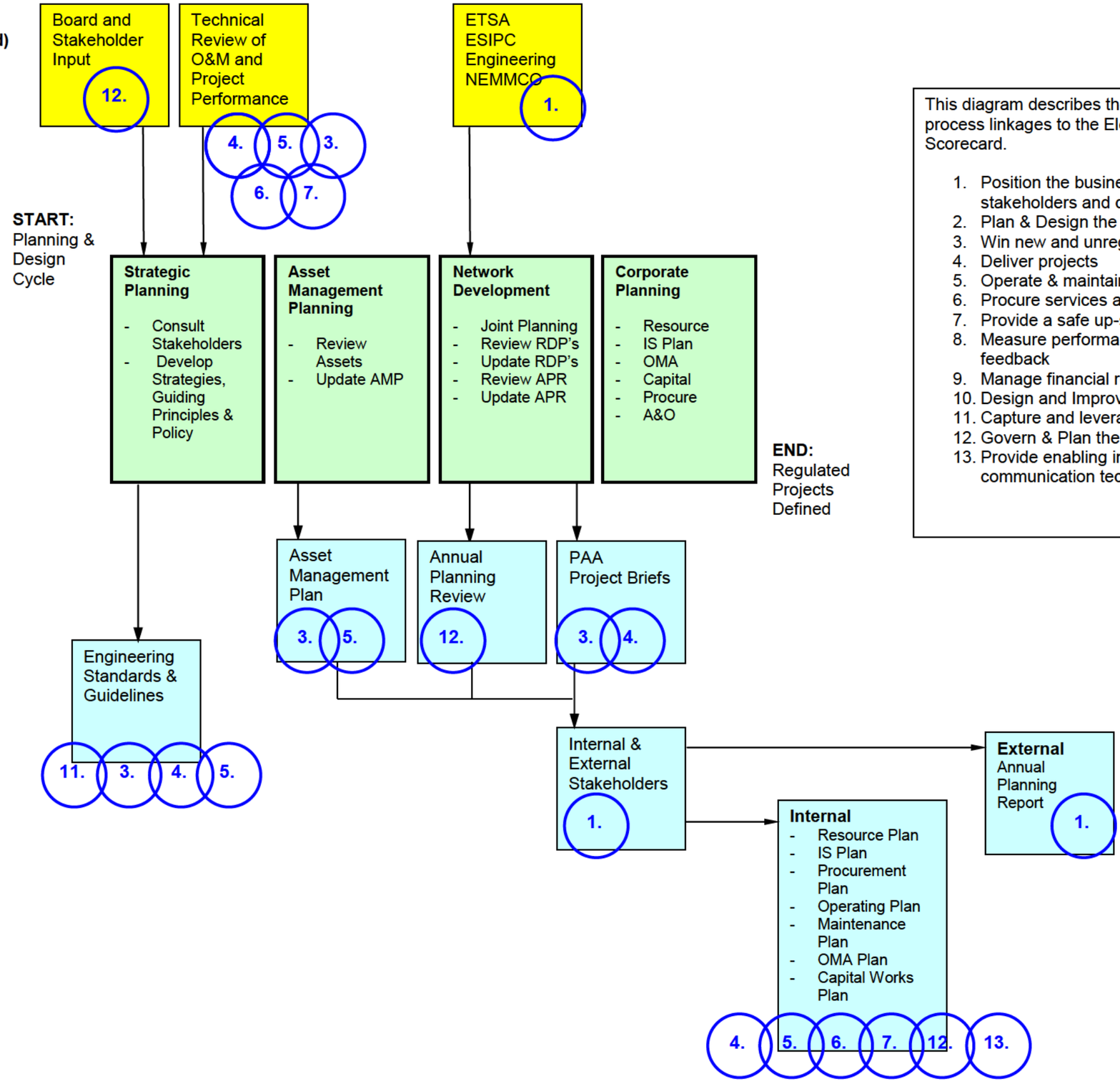
Performance Indicator Measure – demonstrates the effectiveness of the performance measure (generally measured by audit, conformance and compliance)

Process Performance Measure - provides a measure of the process performance (based on the definition of the measure and unit of measure).

Fig 1: Plan & Design the Network



Plan & Design the Network (Regulated)
Level 2 Process Elements



This diagram describes the business process linkages to the ElectraNet Balanced Scorecard.

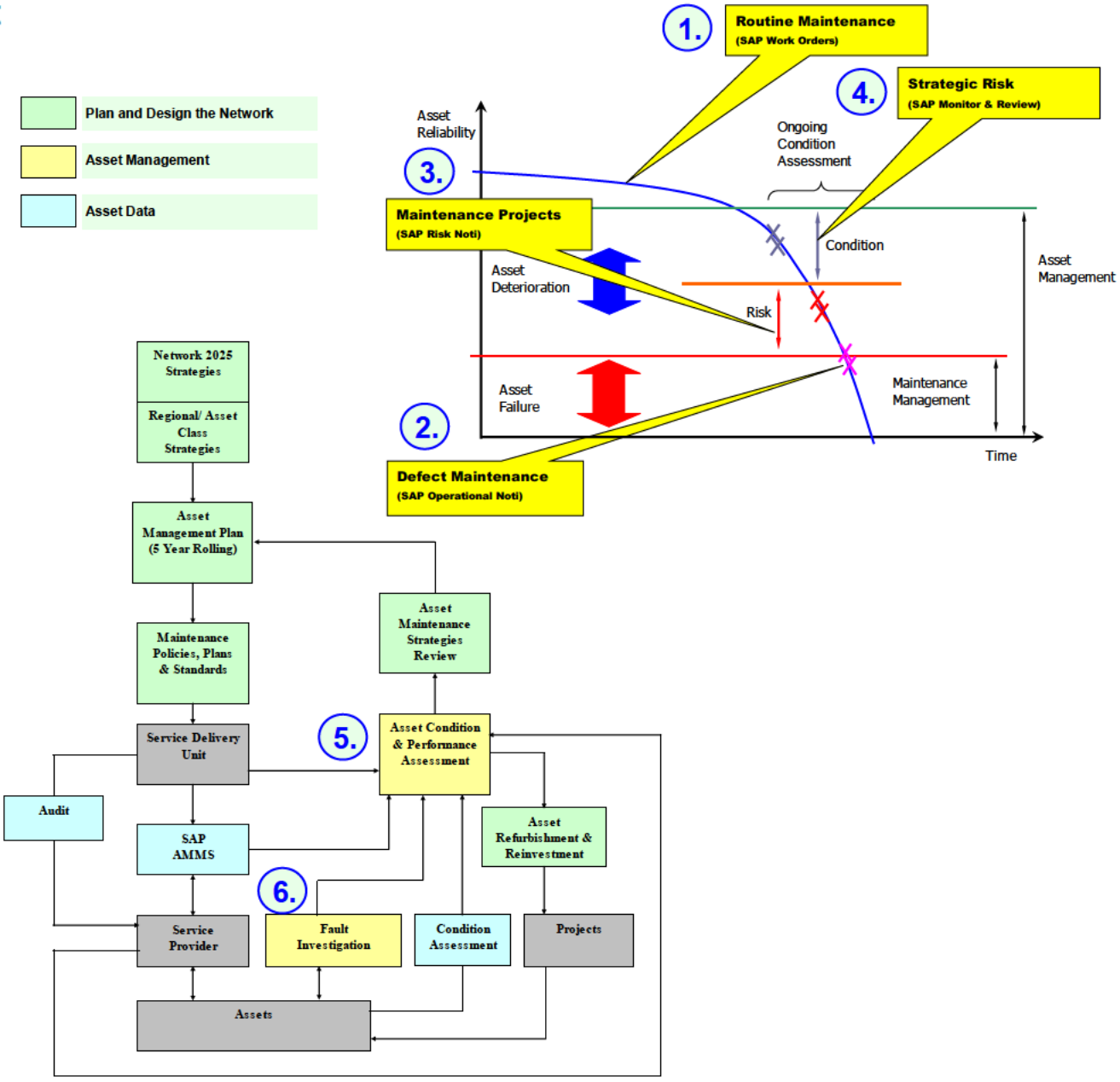
1. Position the business with external stakeholders and customers
2. Plan & Design the Network
3. Win new and unregulated business
4. Deliver projects
5. Operate & maintain the network
6. Procure services and materials
7. Provide a safe up-skilled workforce
8. Measure performance and provide feedback
9. Manage financial resources
10. Design and Improve processes
11. Capture and leverage knowledge
12. Govern & Plan the Business
13. Provide enabling information & communication technology support

Plan & Design the Network KPI's

No	Process	Process Name	Description	Frequency	Indicator Performance	Who	Status	Process Performance	Who	Status
1	Network 2025	1. Stakeholder Review	Stakeholder consultation N2025 Principles	5 Years	Consulatation Timetable	Owner		Review outcome approved	CEO	
		2. Regulatory Reset Review	Review and Publish N2025	5 Years	Reset Review Timetable	Owner		Document Approved	EMT	
2	N2025 Guiding Principles	3. Board Review	Board/EMT Workshop	5 Years	Board Review Timetable			Board Review	CEO	
3	Network Development and Asset Management Policy	4. Policy Management	Policy development and Implementation	1 Month	Development & Approval Plan	Owner	Development	Policy Approval	TRC	Development
		5. Policy Audit	Policy implementation audit programme	1 Month	Policy Audit Programme	Owner	Undefined	Non Conformance Review	TRC	Undefined
4	5 Year Asset Management Plan	6. Annual Review	AMP is reviewed and Updated	12 Months	Document Status	Owner		Document Approval	EMAO	
		7. Asset Strategies Business Plan	Asset Strategies Business Plan Updated		Plan Status	Owner		Document Sign Off	EMAO	Development
5	Asset Replacement Recommendations	8. Recommendation Development & Approval	Document Development & Approval	1 Month	Document Status	Owner	Development	Document Approval	EMAO	Development
6	Annual Planning Review	9. Stakeholder Meetings	Refer to Planning Cycle Calendar	1 Month	Gantt Chart	Owner		Timetable	EMAO	
		10. Publications	Refer to Planning Cycle Calendar	1 Month	Gantt Chart	Owner		Timetable	EMAO	
		11. Load Forecasts	Refer to Planning Cycle Calendar	1 Month	Gantt Chart	Owner		Timetable	EMAO	
		12. Modelling	Refer to Planning Cycle Calendar	1 Month	Gantt Chart	Owner		Timetable	EMAO	
		13. Analysis	Refer to Planning Cycle Calendar	1 Month	Gantt Chart	Owner		Timetable	EMAO	
		14. Plans	Refer to Planning Cycle Calendar	1 Month	Gantt Chart	Owner		Timetable	EMAO	
7	Project Recommendations	15. Project Briefs - Network	Document Development & Approval	1 Month	Gantt Chart	Owner		Timetable	EMAO	
		16. Project Briefs - Assets	Document Development & Issue	1 Month	Gantt Chart	Owner	Development	Timetable	EMAO	Development
8	Capital Works Plan	17. Project Server - Regulated	Review with Project Portfolio	1 Month	Project Server	Owner		Timetable	EMAO	Development
		18. Customer Portfolio - Non Regulated Projects	Review with Customer Portfolio	1 Month	Gantt Chart	Owner		Timetable	EMAO	Development
9	Resource & Facilities Plan	19. Planning Document - HR	Resourc & Facilities Plan	12 Month	Document Status	Owner	Unknown	Document Approval	EMT	Unknown
10	Information Services Plan	20. Planning Document - IS	Information Services Plan	12 Month	Document Status	Owner	Unknown	Document Approval	EMT	Unknown
11	Procurement Plan	21. Planning Document -	Procurement Plan	12 Month	Document Status	Owner	Unknown	Document Approval	EMT	Unknown
12	OMA Plan	22. OMA Plan - A&O	Operation Plan	12 Month	Document Status	Owner	Unknown	Document Approval	EMAO	Unknown
			Maintenance Plan	12 Month	Document Status	Owner	Unknown	Document Approval	EMAO	Unknown
13	Financial Plan	23. Financial Plan - Corporate	OMA and Capital Works Plan	12 Month	Document Status	Owner	Unknown	Document Approval	EMT	Unknown

The Planning Cycle **Month** / **Activity**	January	February	March	April	May	June	July	August	September	October	November	December
Meetings												
Customer Portfolio Weekly Meetings	Wednesday	Wednesday	Wednesday	Wednesday	Wednesday	Wednesday	Wednesday	Wednesday	Wednesday	Wednesday	Wednesday	Wednesday
ESIPC Monthly Joint Planning Meetings		1st week	1st week	1st week	1st week	1st week	1st week	1st week	1st week	1st week	1st week	
Network Operations Mon hly Meetings	2nd week	2nd week	2nd week	2nd week	2nd week	2nd week	2nd week	2nd week	2nd week	2nd week	2nd week	2nd week
ETSA Utilities Monthly Joint Planning Meetings		3rd week	3rd week	3rd week	3rd week	3rd week	3rd week	3rd week	3rd week	3rd week	3rd week	
Project Portfolio Monthly Meetings	4th week	4th week	4th week	4th week	4th week	4th week	4th week	4th week	4th week	4th week	4th week	4th week
DP&A Monthly Meetings	4th week	4th week	4th week	4th week	4th week	4th week	4th week	4th week	4th week	4th week	4th week	4th week
RDP Group Analysis Weekly Meetings (Eng/Com/Ops/Plan/Etc.)		Tuesday	Tuesday									
Publications												
Policy Documents (developed/updated as required)												
RDP Preparation (feeding changes from APR through)												
RDP Draft (review by M Dobbin/EMT?)												
RDP Publication (on intranet and email notification to stakeholders)												
APR Preparation (shell document i.e. not project scope and timing)												
APR Draft (shell document to EMT for review)												
APR Preparation (project scope and timing review and refining)												
APR Draft (complete document to EMT for review)												
APR Presenta ion (EMT/SMT/ESIPC)												
APR Final to ESIPC/Print run for internal												
Regulated Project Briefs (as required by Project Portfolio)												
Non-regulated Project Briefs (as required by Customer Portfolio)												
Load Forecasts												
Direct Connect Customer Load Forecast												
Direct Connect Customer AMD												
ETSA Utilities Load Forecast (20-year)												
ETSA Utilities AMD Request												
ElectraNet/ETSA U ilities Connec ion Point Schedule Update												
ElectraNet AMD Response												
Modelling												
ETSA Utilities PSS/E Model Update												
ESIPC Generation Scenario Update												
ElectraNet PSS/E Model Update												
PSS/E Annual Models Released												
Analysis												
Analysis - 20-year Limitation Identification												
Identify Solution and Op ions												
Plans (other) updated												
Communications RDP updated												
Asset Replacement RDP updated												
Strategic Land and Easement RDP updated												

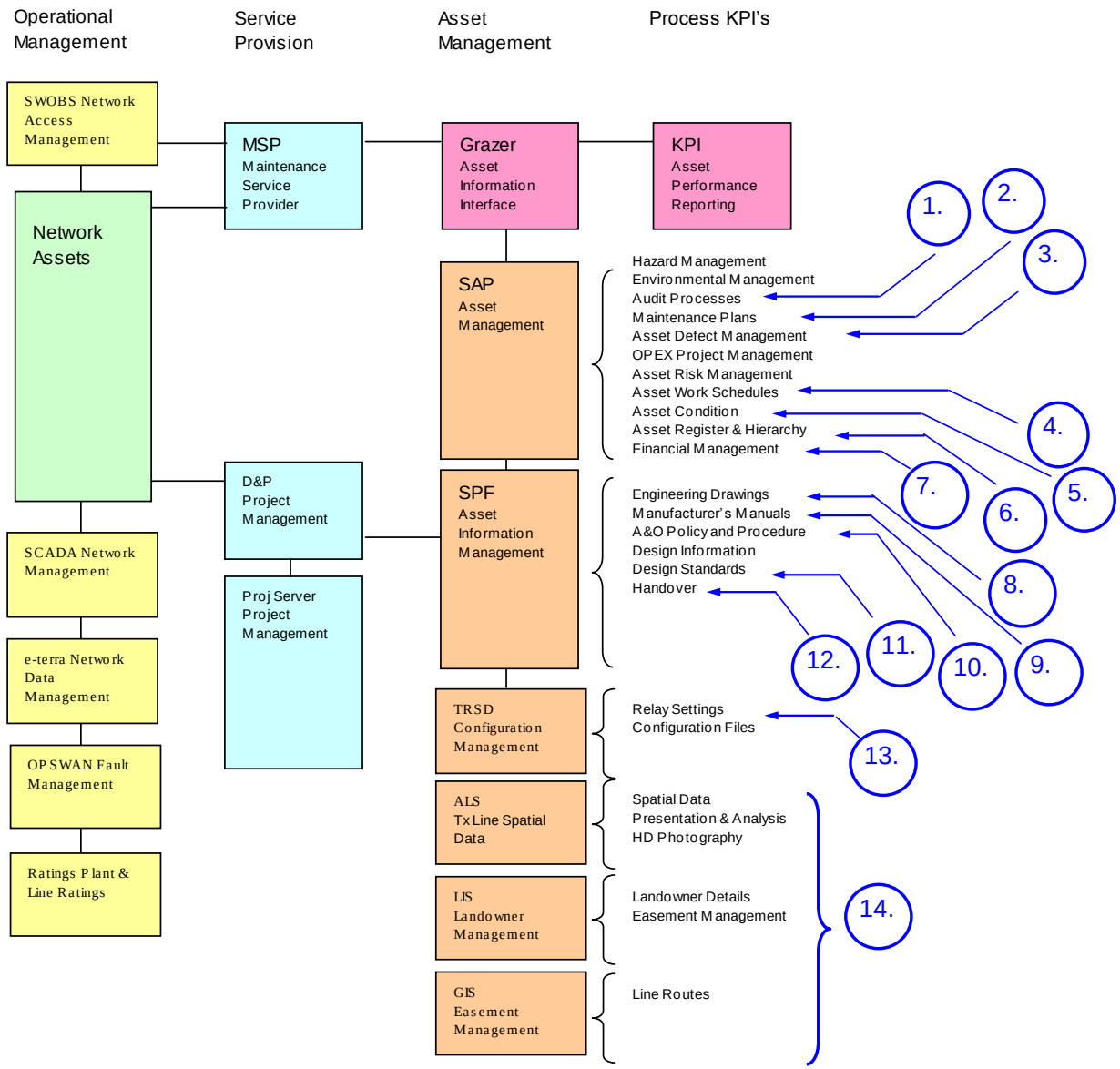
Asset and Data Management



Asset Management KPI's

No	Process	Process Name	Description	Frequency	Indicator Performance	Report	Status	Process Performance	Who	Status
1	Routine Maintenance	Maintenance Plan	1. Maintenance Plan Compliance	1 Month	Substations	SAP	Not Defined	% Compliance	DMT	Not Available
				1 Month	Transmission Lines	SAP	Not Defined	% Compliance	DMT	Not Available
				1 month	Telecoms	SAP	Not Defined	% Compliance	DMT	Not Available
				1 Month	Vegetation	SAP	Not Defined	% Compliance	DMT	Not Available
2	Defect Maintenance	Hazard	2. Hazard administration	Daily	SAP Hazard Repor ing	SAP		Daily Ac ivity Report	RSA	Development
		Hazard	3. Follow up and resolution	1 Month	SAP Hazard Repor ing	SAP		Monthly Exception Report	RSA	Development
		Environment	4. Environmental administration	1 Month	SAP E Noti Reporting	SAP	Development	Daily Ac ivity Report	RSA	Not Defined
		Environment	5. Follow up and resolution	1 Month	SAP E Noti Reporting	SAP	Development	Monthly Exception Report	RSA	Not Defined
		Safety	6. Safety Administration	1 Month	SAP S Noti Reporting	SAP	Development	Monthly Activity Report	RSA	Not Available
		Safety	7. Follow up and Resolution	1 Month	SAP S Noti Reporting	SAP	Development	Monthly Exception Report	RSA	Not Available
		Asset Risk	8. Defect Scheduling	1 Month	SAP Risk Profile Report	SAP		% Defects Scheduled	DMT	Low
		Asset Risk	9. Asset Risk Profile	1 Month	SAP Risk Profile Report	SAP		Asset Risk Profile Trend	DMT	Not Available
		Asset Risk	10. Cost (Emergency & Deferred	1 Month	SAP Defect Cost Report	SAP	Not Defined	SAP Financials	DMT	Not Available
		Backlog	11. Backlog Effort	1 Month	SAP Backlog Report	SAP	Not Defined	Backlog Time and Effort	DMT	Not Available
		Backlog	12. Backlog Cost Es imate	1 Month	SAP Backlog Report	SAP	Not Defined	Backlog Cost Estimate	DMT	Not Available
		Overdue	13. Overdue Defects	1 Month	SAP Overdue Report	SAP	Not Defined	Defects Overdue	DMT	Not Available
		Overdue	14. Overdue Defect Resolution	1 Month	SAP Overdue Report	SAP	Not Defined	Overdue Defect Resolution	DMT	Not Available
3	Maintenance Projects	Project	15. Project Plan	1 Month	OPEX Project Management Plan	Gantt	Not Defined	Gantt (based on SAP schedules)	DMT	Not Available
		Project	16. Budget	1 Month	SAP Financials	SAP	Not Defined	Forecast and Actual	DMT	Not Available
		Project	17. Quality	1 Month	OPEX Project Report	Closeout	Not Defined	Excep ion Repor ing and Resolu ion	DMT	Not Available
4	Strategic Risk	Strategic	18. Aggregate Asset Risk Profile	12 Month	Risk Model	Risk		Aggregate Risk Trajectory	DMT	Development
		Strategic	19. Regulatory Spend Profile	12 Month	Maintenance Model	Maintenance		Profile Tracking	DMT	Development
5	Asset Condition & Performance	Performance	20. SAIDI, SAIFI	1 Month	Events Database	Event	Not Defined	Trend	DMT	Not Available
		Performance	21. ITOMS	12 Month	SAP/Events Database	SAP/Event	Not Defined	Relative Trend/Benchmark	DMT	Not Available
		Performance	22. Repeat Faults	1 Month	SAP Defect Noti	SAP	Not Defined	Top 10	DMT	Not Available
		Performance	23. Communications - Service	2 Month	Service Performance	eterra	Not Defined	Service Levels	DMT	Not Available
		Performance	24. Communications - PSDCS	3 Month	PSDCS	eterra		Performance Limit	DMT	Fail
		Condi ion	25. Fault Investigation Root Cause	1 Month	SAP I No i Reporting	SAP	Development	% Compliance	DMT	Not Available
		Condi ion	26. Fault Investigation Follow up	1 Month	SAP I No i Reporting	SAP	Development	% Compliance	DMT	Not Available
		Condi ion	27. Condi ion Noti Review	12 Month	SAP C Noti Reporting	SAP	Development	% Compliance	DMT	Not Available

Data Management



Asset Data Management KPI's

No	Process	Process Name	Description	Frequency	Indicator Performance	Report	Status	Process Performance	Who	Status
1	Audit Process	Audit	1. Audit Plan	1 Month	Audit Plan	Coordinator		Monthly Review - On Target	DMT	
		Audit	2. Follow up and resolution	1 Month	Activity Report	Coordinator		Monthly Exception Report	DMT	
2	Maintenance Plans	Maintenance Plan	3. Compliance	1 Month	Maintenance Model Reconciliation	Model	Development	Exception Reporting and Resolution	DMT	Not Defined
3	Defect and Risk Management	Asset Risk	4. Noti Data Compliance	1 Month	SAP Noti Data Audit	SAP		% Compliance	DMT	
4	Work Schedules	Schedule	5. Short Term Work Scheduling	1 Month	SAP/Gantt Scheduling Report	SAP		Gantt 3 Month Schedule (SAP)	DMT	LOW
		Schedule	6. Medium Term Work Scheduling	1 Month	SAP/Gantt Scheduling Report	SAP		Gantt 13 Month Schedule (SAP)	DMT	LOW
5	Asset Condition	Condition	7. Validation of Asset Condition	3 Month	Field Inspection Audit Tool	MGT	Development	Exception Reporting and Resolution	DMT	Development
		Condition		3 Month		MGT	Development	Exception Reporting and Resolution	DMT	Development
6	Asset Register	Register	8. Validation of Asset Register	1 Month	Asset Field Audit	MGT		Exception Reporting and Resolution	DMT	
7	Financial	Financial	9. Validation of Maintenance Expenditure	1 Month	Invoice Reconciliation	SAP	Not Defined	Variance Resolution	DMT	Not Available
		Financial		12 Month		SAP	Not Defined	Financial Audit	DMT	Not Available
8	Drawings	Drawing	10. SSD Compliance	1 Month	SDD Compliance Report	TDC		Exception Reporting and Resolution	DMT	Not Compliant
		Drawing	11. Routine maintenance	1 Month	SAP Drawing Activity Report	SAP		Exception Reporting and Resolution	DMT	Development
		Drawing	12. Validation of Drawings	1 Month	Field Audit	TDC		Exception Reporting and Resolution	DMT	Development
9	Manuals	Manuals	13. Validation of Documentation	3 Month	Documentation Audit	Coordinator	Not Defined	Exception Reporting and Resolution	DMT	Not Available
10	Policy & Procedure	Policy	14. Policy and Procedure Conformance	1 Month	Audit Plan	Coordinator	Development	Exception Reporting and Resolution	DMT	Development
11	Standards	Standards	15. Standard Compliance	1 Month	Asset Handover Reporting	PCAI		Exception Reporting and Resolution	DMT	Development
12	Handover	Handover	16. Safety	1 Month	Asset Handover Reporting	PCAI		Safety Data Provided	DMT	Development
		Handover	17. Technical	1 Month	Asset Handover Reporting	SAP		Technical Data Provided	DMT	Development
		Handover	18. Operational	1 Month	Asset Handover Reporting	PCAI		Operational Data Provided	DMT	Development
13	Relay Settings	Configuration	19. Routine Maintenance	1 Month	TRSD Activity Report	OE	Development	Exception Reporting and Resolution	DMT	Not Available
		Configuration	20. Validation of Database	1 Month	Field Audit	OE	Development	Exception Reporting and Resolution	DMT	Not Available
		Configuration	21. Validation of Database	1 Month	Data Audit	OE	Development	Exception Reporting and Resolution	DMT	Not Available
14	Database Management	Spatial Data	22. Validation of Database	6 Month	Data Audit		Not Defined			Not Available
		Landowner	23. Validation of Database	6 Month	Data Audit		Not Defined			Not Available
		Easement	24. Validation of Database	6 Month	Data Audit		Not Defined			Not Available
		Transmission Line	25. Validation of Database	6 Month	Data Audit		Not Defined			Not Available