



Asset Management Strategies and Objectives

Power and Water Corporation

CONTROLLED DOCUMENT

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1. Health and Safety

1.1 Strategic Intent

Promote a culture in which people have the necessary asset knowledge and accountability to safely acquire, maintain and operate assets in accordance with good industry practice.

1.2 Asset Objectives

The primary objectives of Power Networks in meeting its Health and Safety obligations are to:

- ensure the workforce has the relevant asset information to safely undertake their role;
- ensure that health and safety obligations are addressed in the development of all asset planning activities; and
- ensure that network related operation and maintenance tasks are quantified in terms of risk and used to inform investment decisions that affect Health and Safety outcomes for the organisation.

1.3 Implementation

To meet these objectives, Power Networks is committed to the following strategies:

- complete an accessible suite of documentation related to the operation and maintenance of network assets;
- determine the specific skills and competency required to safely operate and maintain network assets and resource appropriately;
- develop corporate systems to enable the efficient capture of asset condition and risk and clearly communicate them to all levels of the organisation and applicable external stakeholders;
- use the FMECA/RCM to ensure the health and safety outcomes are evaluated in the determination of preventative maintenance tasks and frequencies; and
- establish processes to the health and safety aspects when prioritising corrective maintenance and replacement plans.



2. People and Culture

2.1 Strategic Intent

A high performing, diverse workforce that has the capability to deliver asset solutions effectively.

2.2 Asset Objectives

The primary objectives of Power Networks in meeting its People and Culture goals are to:

- develop, mentor and coach personnel through asset management networks to deliver on best practice Asset Management;
- apply a workforce that is asset management capable to achieve efficient outcomes and is always seeking improvement;
- engage with our customers, community and stakeholders to demonstrate that we have delivered the best possible solutions; and
- foster collaborative relationships across Power and Water Corporation (Power and Water) asset professionals to maximise the multi-utility synergies.

2.3 Implementation

To meet these objectives, Power Networks is committed to:

- delivering asset management topics across all asset management professionals within Power and water;
- participating in national asset management discussions through participation in working groups, forums and conferences;
- developing strategic action plans that are efficiently executed, measured and constantly improved;
- demonstrating a line of site from customer and stakeholder engagements to asset solutions;
- seeking community feedback regarding the impact of infrastructure assets in the community;
- regularly sharing achievements and lessons learned across the Power and Water multi-utility; and
- seek solutions internally to maximise the Power and Water multi-utility efficiency.



3. Environment

3.1 Strategic Intent

Power Networks is committed to environmental responsibility in serving its customers and the community.

3.2 Asset Objectives

Power Networks is aligned with corporate environmental strategic elements through the asset management system objectives by:

- defining environmental responsibilities for the organisational hierarchy to increase ownership across business units, leaders and employees;
- defining all environmental risks and ensuring mitigation controls are implemented and responsibility for risk ownership has been assigned to the appropriate leaders;
- developing and documenting clear processes for integration of environmental input into key business processes, including Strategic/Business planning and capex/opex planning/SCI/Annual Report;
- developing Environmental Improvement Plans for significant risks to reduce risk exposures and tracked through a governance framework;
- developing performance indicators for intended environmental outcomes;
- identifying and participating in community and industry networks and forums to collaborate on initiatives that collectively achieve environmental performance outcomes; and
- participating in a formal knowledge share program between business units to transfer knowledge, better practices and performance learnings to collectively mature environmental performance.

3.3 Implementation

To meet these objectives, Power Networks is committed to the following strategies, many of which involve duty of care requirements:

- maintaining and complying with standards and preparing and implementing plans for managing hazardous substances (e.g. PCB's, OCP's, SF6);
- ensuring that cultural heritage requirements are incorporated into network activities, particularly in relation to vegetation management and construction of new assets;
- implementing Safety In Design (SID) principles into all asset decisions, designs, construction and maintenance particularly in relation to maintaining a safe environment for the public;
- incorporating prudent safety measures for EMF exposure, step and touch potentials, oil treatment, soil management, noise and waste management;
- designing, installing and maintaining oil containment systems in all existing and new zone and terminal substations, managing risks at all locations where oil filled equipment is stored;
- applying the environmental planning process for the management of asset construction;
- auditing procedures for managing the spread of declared weeds and continually improve identification and management processes in consultation with key stakeholders; and
- engaging with stakeholders to present contemporary bushfire mitigation options and implement prudent and efficient controls.



- Provide environmental training for specific network risks for both staff and contractors.

4. Reliability

4.1 Strategic Intent

Power Networks is committed to providing network reliability that meets customer and stakeholder expectations at an efficient cost.

4.2 Asset Management Objectives

The primary objectives of Power Networks supply reliability strategy are to:

- manage the delivery of supply reliability to meet the targets and maintain a focus on worst served and vulnerable customers;
- deliver the supply reliability at efficient cost through sound planning, design and operations;
- continually improve network standards to guide and drive the planning and design practices for supply reliability;
- ensure that the systems and processes provide sufficient and appropriate data and information to drive optimal asset and operating solutions; and
- engage with customers to understand customer satisfaction and willingness to pay for reliability.

4.3 Implementation

To meet these objectives the following implementation strategies will be adopted:

- meeting reliability targets for supply reliability including life support and vulnerable customers at least cost;
- developing and applying standards necessary to meet the optimal level of cost and customer expectations for supply reliability, including life support and vulnerable customers. The standards include:
 - asset;
 - network configuration;
 - planning; and
 - maintenance;
- developing a reclose policy that balances cost, risk and performance in the achievement of reliability outcomes;
- developing systems to report the cost, reliability and performance from asset classes and configurations and utilise them to:
 - drive cost effective asset solutions;
 - engage with customer groups;
 - provide reporting to stakeholder; and
 - optimise preventative and corrective maintenance;
- configuring systems to reporting service response elements in order to improve the service response and minimise outage times; and
- evaluating new technologies including automation and analytics to determine the opportunities to improve network reliability.



5. Quality of Supply

5.1 Strategic Intent

Power Networks aims to meet customer requirements for supply quality appropriate to the supply location.

5.2 Asset Objectives

The primary objectives of Power Networks in meeting achievable customer requirements for supply quality are to:

- establish a set of supply quality standards, based on the network technical specification and standards;
- proactively and systematically measure the network power quality; and
- ensure electricity networks deliver efficient supply quality requirements appropriate to the supply location.

5.3 Implementation

To meet these objectives, Power Networks is committed to the following strategies:

- designing and implementing systems to capture power quality data;
- establishing processes to report power quality problems and initiate rectification actions;
- working with customers and contractors to ensure they are aware of the levels of supply quality and availability they can expect from the network;
- developing a set of trigger levels to identify action points at which corrective action will be necessary;
- designing and implementing network improvements or customer end solutions to bring reported defective power quality performance back within specification; and
- providing training to staff dealing with customer enquiries on supply quality and availability.



6. Financial

6.1 Strategic Intent

Power Networks is committed to the development of a disciplined governance framework that delivers a commercially sustainable asset intensive business

6.2 Asset Objectives

The primary objectives of Power Networks financial strategy is to:

- develop an efficient asset management capability that minimises the long term cost to serve;
- ensure that the systems and processes provide sufficient and appropriate financial data;
- promote financial awareness and develop disciplined capability;
- establish commercial sustainable business practices; and
- understand the financial risks associated with asset management.

6.3 Implementation

To meet these objectives the following implementation strategies will be adopted:

- All investment decisions to consider the whole of life cost asset cost, risk and benefit to customers.
- Establish robust governance procedures for capital and operation expenditure.
- Ensure appropriate allocation of budget between capital and operation costs.
- Develop financial reports suitable for;
 - Statutory
 - Regulatory
 - Benchmarking
- Seek opportunities to increase revenue through ACS and unregulated activities
- Minimise cost to our customers by seeking revenue opportunities through our assets; e.g. cable on poles, small cell technology, CCTV, property, etc.
- Configure systems to reporting service response elements in order to improve the service response and minimise outage times
- Evaluate new technologies including automation and analytics to determine the opportunities to improve network reliability.
- Deliver works programs to budget.



7. Network Asset Integrity

7.1 Strategic Intent

Power Networks is committed to keeping its network and network assets fit for purpose and in good operating condition through strong asset management and governance practices.

7.2 Asset Objectives

The primary objectives of Power Networks network asset integrity strategy are to:

- meet duty of care requirements;
- enhance business and stakeholder engagement in good asset management practice;
- develop systems and data that facilitate informed risk based decisions;
- ensure that works programs optimise the balance between cost, risk and performance; and
- ensure the efficient delivery of works programs.

7.3 Implementation

To meet these objectives, Power Networks is committed to:

- developing and implementing a Strategic Asset Management Plan aligned to the ISO55000 series;
- developing and implementing Asset Management Plans;
- continuing to develop works management practices to efficiently deliver works programs;
- reviewing and maintaining management and asset standards to ensure a consistent and contemporary network;
- identifying a set of parameters to describe network integrity through the asset condition and risk management; and
- Developing and implementing a data strategy to provide accurate, current and complete network asset data for network management and reporting.



8. Risk Management

8.1 Strategic Intent

Power Networks is committed to the development of frameworks and an organisational culture that delivers prudent and effective risk practices.

8.2 Asset Objective

The primary objectives of Power Networks network asset Risk Management Strategy are to:

- enable efficient allocation of financial and other resources to achieve optimum benefits and best advance organisational objectives;
- use the corporate risk appetite and tolerances statements to guide asset management decisions and communicate the risk;
- identify, review and manage operational and strategic risks;
- prioritise projects, programs and plans to achieve efficient and consistent risk mitigation; and
- achieve an appropriate balance between cost, performance and risk consistent with regulatory and stakeholder expectations.

8.3 Implementation

To meet these objectives, Power Networks is committed to maintaining an effective risk management program and will:

- Establish a risk framework that is simple, monetised and quantitative to effectively manage and to clearly communicate the business risk.
- Use of Failure Mode and Critical Effects Analysis (FMECA) to define the asset risk and optimise the approach to asset maintenance.
- Conduct network planning activities and outcomes using a risk based approach.
- Prioritise capital work programs to achieve the most efficient risk based outcomes including calibration with the executive management.
- Challenge projects and programs with a portfolio risk assessment to challenge the project and project risk assessment with a portfolio risk assessment approach.
- Develop and maintain operational and strategic risk registers.
- Maintain the use of risk assessment practices in the delivery of works.



9. Network Standards

9.1 Strategic Intent

Power Networks is committed to the establishment and maintenance of a comprehensive set of network, network asset and customer service standards. These standards will address Power Networks' obligations with OHS Legislation, compliance ISO and Australian Standards, and support its work practices, and contribute to mitigating Power Networks' risk profile.

9.2 Asset Objectives

The primary objectives of Power Networks standards are to:

- Provide a basis for a uniform and practical approach to network management across Power Networks.
- Produce standards that effectively translate required strategy outcomes into low level engineering terms, at a sufficient level of detail to be unambiguously used as working documents for day to day management of the network.

9.3 Implementation

To meet these objectives Power Networks is committed to the following strategies:

- Establish a governance framework for Standards.
- Implement an audit process to ensure standards are being adopted and maintained. Commit to reviewing all standards and align with the five year regulatory cycle. If required incorporate any changes into the budget and regulatory review processes.
- Establish the criterion that Standards must address and deliver in terms of statutory and legislative requirements, align with the Asset Management's strategy and plan and practical solutions for reasonable cost.
- Establish the processes for study work and investigations.
- Ensure all stakeholders are engaged and contribute to the solution.
- Review the current suite of Standard documents and identify where there are omissions compared with the Asset Management's strategy and plans, and Power Networks' work practices.
- If required, other supporting documentation (construction sequences, work practices, tooling, etc.) will be delivered to ensure a sustainable standard is delivered.
- Seek to continuously improve standards by reviewing their effectiveness and referencing industry trends and appropriate benchmarks.
- Ensure that standards are implemented across the business with appropriate communication and training.



10. Maintenance

10.1 Strategic Intent

Power Networks is committed to maintaining the integrity of its network assets to ensure keeping them in a safe and serviceable condition and minimising the incidence of premature failure.

Power Networks recognises that effective management of the condition of network assets and elements requires both a maintenance regime and a program for replacement and refurbishment.

10.2 Asset Objectives

The primary objectives of Power Networks network asset maintenance regime are to:

- Ensure that the electricity network assets are maintained in a safe and environmentally responsible manner, contributing to Power Networks safety and environmental objectives.
- Ensure that electricity network assets are maintained in a serviceable condition, fit for purpose and contributing positively to Power Networks business objectives.
- Ensure that the network asset maintenance program is appropriate in view of the regulatory environment in which Power Networks operates.
- Ensure that the network asset maintenance practices are in line with current best practice within Australian and International utilities, where appropriate, and comply with Australian standards and all laws, codes and regulations applying to the corporation.
- Ensure that the costs of network asset maintenance program are consistent with optimum industry benchmarks.
- Ensure that network asset maintenance practices embody the principles of the Power Networks risk management policy.
- Ensure that the network asset maintenance program contributes to an improved reliability and service outcome for all Power Networks customers.
- Ensure continued satisfactory financial return on the investment made in the assets.

10.3 Implementation

To meet these objectives, Power Networks is committed to the following strategies:

- Apply Power Networks risk management policy to network asset maintenance practices.
- Undertake inspection and maintenance of all network assets, (including access tracks, easements, etc.) according to asset specific pre-determined inspection programs. These programs may include a mix of time based, sample based, condition based, and reactive inspection cycles, influenced by geographic and environmental factors.
- Review and optimise the levels of preventative, corrective and breakdown maintenance and integrate with the maintenance plan.
- Take due account of legislative, regulatory, industry and Power Networks codes, guidelines, or practices in assessing the appropriate inspection and maintenance period for network assets.
- Embody the techniques of condition based inspection and maintenance into all asset maintenance practices as appropriate to particular asset types.
- Prioritise all asset defects that result from a particular inspection or maintenance program to facilitate effective repair in accordance with the risk they pose to the organisation and remediation in an appropriate timeframe, meeting all regulatory requirements.

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- Deploy standardised procedures and work practices across the entire maintenance program and ensure staff are adequately trained.
- Develop and maintain comprehensive systems for the efficient storage and reporting of all inspection, maintenance and defect data.
- Continually improve all maintenance processes to incorporate internal learning and changes required by regulatory and industry development.
- Develop a strategic maintenance plan for each area of the business to provide direction to maintenance teams.
- Create maintenance programs also for areas other than network assets; such as vegetation near powerlines, access tracks and environmental requirements.
- Choose and apply maintenance standards to ensure that the rate of in-service equipment failures meets the appropriate levels of customer expectations, cost and safety outcomes.
- Apply sampling techniques to appropriate asset types to determine appropriate levels of maintenance.
- Implement an audit regime to check that expected maintenance outcomes are achieved, processes are carried out correctly and any data recording is carried out promptly and accurately.



11. Vegetation Management

11.1 Strategic Intent

Power Networks is committed to keeping vegetation clear of its assets in accordance with the applicable laws, codes, regulations and guidelines.

11.2 Asset Objectives

Power Networks recognises that vegetation and network assets may at times result in conflicting needs and that an effective vegetation management program will:

- ensure the safety of its employees and the public;
- maintain statutory clearances between network assets and vegetation and deliver duty of care requirements;
- help to resolve any issues the public and other stakeholders may have regarding the clearance of vegetation and weed management; and
- reduce network system damage and supply interruptions, particularly during storms.

11.3 Implementation

To meet these objectives, Power Networks is committed to the following strategies:

- Develop and maintain vegetation management standards in accordance with to ensure that safety clearances meet industry best practice and statutory requirements.
- Provide guidelines and standards for tree trimming to suit varied terrain and environment.
- Train staff on the content of the standards and their application.
- Manage the clearing of all vegetation in proximity to its network assets, including service lines up to 1 metre within the property boundary at efficient costs to comply with adopted standards.
- Recognise the fact that vegetation growth rates vary in different climates and geographies.
- Establish programs for vegetation clearance based on the maintenance of clearances rather than on a simple cycle time.
- Investigate and implement cost effective and environmentally safe vegetation treatment and weed management practices.
- Work with the stakeholders to communicate requirements and treatment practices and manage expectations to develop and implement acceptable tree removal policies and plans.



12. Network Capital Investment

12.1 Strategic Intent

Power Networks is committed to making prudent, efficient and commercially sustainable network investments supported by strong asset management and good governance.

12.2 Asset Objectives

The primary objectives of the Power Networks investments are to:

- provide services to customers at an efficient investment cost;
- define and communicate the level of risk associated with the investment program;
- provide transparent justification for the capital investment program;
- ensure the effective delivery of the capital investment program; and
- demonstrate sound financial and asset management practices in the creation of new assets.

12.3 Implementation

To meet these objectives, Power Networks will:

- Comply with and improve the capital expenditure review and approval process.
- Review all network investment proposals for alternative solutions, including non-network solutions, prior to commitment to network infrastructure expenditure.
- Carry out mandatory and other appropriate consultation with stakeholders in the development of the capital program.
- Consistently apply good asset management practice in capital investment through the use of SAMP's, AMP's and relevant planning documentation.
- Identify and manage project risk through the application of corporate risk management tools.
- Develop tools to determine the level of risk mitigated through the investment.
- Carry out post implementation reviews to establish learning and utilise in a continual improvement process.
- Develop appropriate systems and processes to facilitate accurate record keeping and reporting for the stakeholder's requirements.



13. Metering

13.1 Strategic Intent

Power Networks is committed to achieving customer trust and respect through accurate, reliable and statutory compliant metering assets and systems. Provide efficient metering services supported by strong asset management to enable future market opportunities whilst facilitating the current operating environment.

13.2 Asset Objectives

The primary objectives of Power Networks metering strategy are to:

- Provide meters to customers in compliance with all relevant statutory requirements.
- Provide meters in the most economical manner that is appropriate for the expected loads and tariff structures.
- Ensure that all meters maintain the required level of accuracy.
- Provide for improved network usage data and the introduction of more appropriate regulated network tariff structures.
- Use of meter data to enable better decision making in regard to customer needs, augmentation, fault response, safety, revenue protection, power quality and emerging technologies.

13.3 Implementation

To meet these objectives, Power Networks will:

- optimise and deliver the metering preventative maintenance program;
- develop and implement a meter management system in Maximo and establish appropriate processes for collecting and recording meter asset detail;
- develop a proposal for the installation of new and replacement of remotely read metering;
- develop and implement a meter data management system;
- develop metering asset management plans;
- develop and review metering standards to provide a uniform approach to metering applications and meter types;
- recognise that market developments and transition to the NER may result in changing metrology practices and procedures;
- for safety reasons, replace asbestos meter boards;
- where possible, improve the efficiency of meter reading in remote areas or at difficult sites by implementing an appropriate remote reading system;
- implement a meter sampling plan to test and determine the accuracy performance of large population whole current meters;
- establish Service Level Agreements with relevant stakeholders;
- engage with customers, stakeholders and industry to determine the requirements to enable customers to manage their consumption; and
- explore opportunities to maximise the multi-utility synergies between water and electricity metering.



14. Protection

14.1 Strategic Intent

Power Networks is committed to providing power system protection that meets all statutory and industry requirements and aims to achieve best practice.

14.2 Asset Objectives

The primary objectives of Power Networks protection strategy are to:

- detect system faults or abnormal operating conditions and isolate the faulty section of the network;
- safeguard persons, property and equipment in the event of system faults or abnormal operating conditions;
- minimise disruption to supply availability and quality in the event of system faults or abnormal operating conditions; and
- comply with National Code requirements.

14.3 Implementation

To meet these objectives, Power Networks will:

- Develop and maintain protection standards in accordance with Power Networks risk management policy, which meet statutory and industry requirements.
- Upgrade ageing protection equipment to improve safety and reliability in accordance with current standards.
- Reduce costs and increase reliability by integrating protection, control and communications capabilities when developing protection standards.
- Provide high speed communication links to enable the use of faster more reliable unit protection schemes where economic to do so.
- Periodically review all protection schemes for encroachment, sensitivity, operating times and discrimination and initiate corrective action, as required.
- Install new protection systems that are fully integrated management systems that include fault location, disturbance and event records, plant condition assessment, control, SCADA, statistical metering and power quality where economical.
- Produce a suite of standard protection schemes.
- Set standards for the application of protection systems.
- Review mounting standards to provide for simpler equipment change-out to account for shorter lives of electronic equipment.
- Ensure protection schemes are adequate to meet supply quality requirements.
- Review existing installations for compliance to the application standard and augment if appropriate.



15. Network Supervision and Control

15.1 Strategic Intent

Power Networks is committed to providing SCADA systems that facilitate the safe and efficient operation of the power network, data that informs the management of assets and the monitoring of our obligations to the customer.

15.2 Asset Objectives

The objectives of Power Networks SCADA strategy is to:

- maximise business benefit of the Power Network in the pursuit of the long term interests of consumers;
- provide for safe local and remote operation of the network;
- enable routine network switching operations to be carried out effectively and efficiently;
- provide for appropriate and timely responses to system outages and disruptions through automation or the efficient dispatch of field staff;
- develop cost effective network automation solutions that improve customer reliability;
- provide data for network management and performance analysis;
- deliver optimum value and life cycle performance from network assets; and
- manage operational and associated systems securely and in-line with best practice.

15.3 Implementation

To meet these objectives, Power Networks is committed to the following strategies:

- Deliver an optimised repairs and maintenance program for the systems.
- Identify and manage operational risks for the systems.
- Develop Asset Management plans for the systems, in line with existing frameworks.
- Ensure complete asset information is available in the asset management system.
- Implement a control system which can be managed from multiple locations.
- Design and implement a logic system that reports all alarms in less than one minute.
- Provide local control facilities that are safe, secure, consistent, reliable and cost effective.
- Provide SCADA systems within vendor support with appropriate levels of availability and redundancy.
- Implement cyber security measures on the critical SCADA networks which prevent both perimeter breach and unauthorised internal network activity.
- Integrate using appropriate security measures to other corporate and third party systems.
- Utilise shared resources and services to minimise costs.
- Implement systems that have been designed using the Safety in Design process.
- Develop equipment and construction standards.



16. Operational Communication

16.1 Strategic Intent

Power Networks is committed to operational communications systems which support the safe and efficient operational activities, asset protection and network control.

16.2 Asset Objectives

The objectives of the operational communication strategy are to:

- To maximise the business benefits of the Power Network in the pursuit of the long term interests of consumers.
- Provide communications services to meet the requirements of the business.
- Provide communications services to support the safe and efficient delivery of operational activities.
- Provide communication services with levels of availability and reliability appropriate for our operations.
- Manage operational and associated systems securely and in-line with best practice.

16.3 Implementation

To meet these objectives, Power Networks is committed to the following strategies:

- Deliver an optimised repairs and maintenance program for the systems.
- Identify and manage operational risks for the systems.
- Develop Asset Management plans for the systems in line with existing frameworks.
- Ensure complete asset information is available in the asset management system.
- Utilise the existing Power and Water communications infrastructure along with commercially available services such as mobile and fixed data services to develop best-option proposals.
- Provide efficient operational voice communications with minimal voice traffic congestion.
- Provide additional emergency voice communications facilities for temporary situations such as disaster recovery.
- Provide communications systems within vendor support with appropriate levels of availability and redundancy.
- Implement cyber security measures on the communications networks which prevent both perimeter breach and unauthorised internal network activity.
- Utilise shared resources and services to minimise costs.
- Implement systems that have been designed using the Safety in Design process.
- Develop equipment and construction standards.