Jemena Electricity Networks (Vic) Ltd

2016-20 Electricity Distribution Price Review Regulatory Proposal

Attachment 7-2

Asset management framework and governance

Public

30 April 2015

Jemena Electricity Networks (Vic) Ltd

Asset Management Framework and Governance

ELE PL 0024

Public

12 February 2015

An appropriate citation for this paper is:

Asset Management Framework and Governance

Authorisation

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History

Rev No	Date	Description of changes	Author
1	21 Jan 2015	Draft issued	Dalibor Balicevic
2	12 Feb 2015	Final version issued for approval	Dalibor Balicevic

Owning Functional Area

Business Function Owner:	Electricity Asset Investment

Review Details

Review Period:	Revision Date/Last Review Date + 1 years
NEXT Review Due:	Feb 2016

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1. INTRODUCTION

Jemena is committed to employing best industry asset management practice to prudently manage our assets over their total life cycle. Jemena recognises the importance of sound asset management in ensuring the efficient delivery of services that meet customer and stakeholder requirements.

Network design, construction, maintenance, operations, asset investment and innovation are vital components of asset management, with effective asset management having a direct impact on customer service, electricity pricing, safety and shareholder value. Jemena undertakes these activities in accordance with its asset management framework.

This document provides an overview of the asset management framework used to manage the Jemena Electricity Network (JEN), including its supporting governance processes and documents (see Table 1–1).

Table 1–1: Asset Management and Governance Processes and Documents

Asset Management and Governance Structures /Processes	Policies/Strategies/Plans/Procedures
Asset Management System (AMS)	– Asset Management Policy – Asset Management Strategy and Objectives (AMSO) – Asset class strategies – Network development strategies – Strategic planning papers – 20-Year Strategic Asset Management Plan (20-Year SAMP) – 5-Year Asset Management Plan (5-Year AMP) – Capital and Operational Work Plan (COWP)
Capital Governance Process	– Gating process – Capital project prioritisation – Cost estimates – Business case assessments – Risk management – Procurement – Plan delivery

Asset Management and Governance Structures /Processes	Policies/Strategies/Plans/Procedures
Key enablers for ensuring the governance of the AMS	– Structures, authorities and responsibilities – Stakeholder committees and operational forums – Content management, documentation and records – Asset information management – Risk management – Change management – Compliance – Audit – System improvements

In June 2014, the JEN AMS achieved PAS 55 certification. PAS 55 is recognised internationally as pre-eminent asset management practice, and JEN was only the third organisation in Australia to achieve accreditation, which involved external audits of the AMS and its processes and procedures. With PAS 55, JEN has:

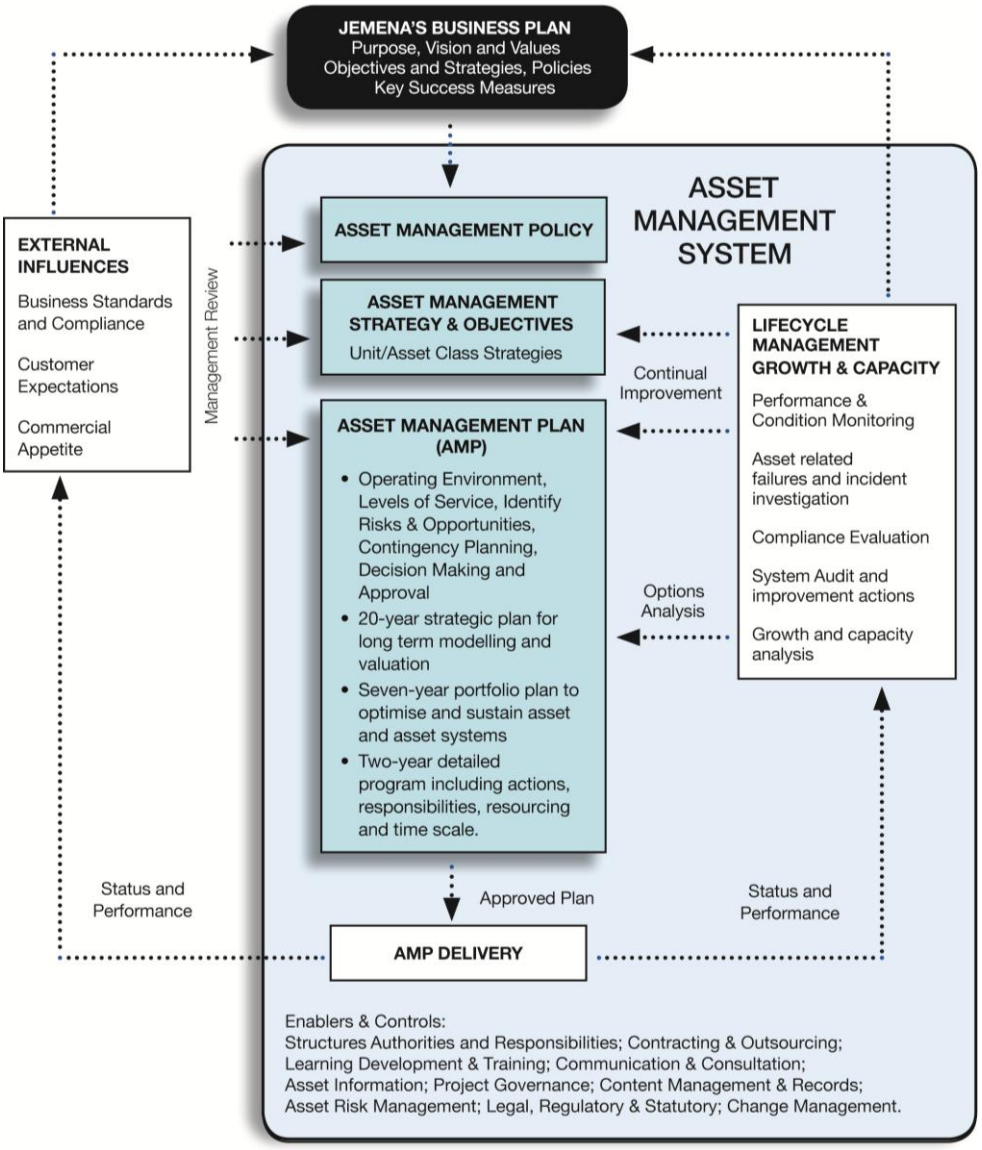
- a standardised set of templates and tools to efficiently manage assets, allowing us to work in a more integrated way, and
- the framework and measures to enable us to track our progress against our objective of becoming a leading asset manager.

2. ASSET MANAGEMENT FRAMEWORK

The asset management framework represents an integrated approach to aligning our corporate objectives with the individual asset management objectives for each business unit. JEN's investment planning is undertaken in a prudent and controlled manner in accordance with this asset management framework.

As shown in Figure 2–1, the asset management framework incorporates the AMS's scope and boundaries in terms of Jemena's policies, strategies, objectives and plans, all of which ensure the appropriateness of Jemena's asset management activities. The list of key documents underpinning this framework is provided in Appendix A.

Figure 2–1: Asset Management Framework



2 — ASSET MANAGEMENT FRAMEWORK

The key purpose of JEN's asset management framework is to:

- establish the general requirements of asset management
- ensure a clear planning process that aligns with Jemena's Business Plan, Asset Management Policy, and strategy, objectives, and plans
- ensure continual performance assessment and improvement in the implementation of the AMP
- ensure management review
- strengthen the processes and procedures, and
- reinforce decision making and capital approval governance.

2.1 JEMENA BUSINESS PLAN

This section presents information about the Jemena Business Plan, which provides:

- strategic direction for Jemena's Asset Management Policy, AMSO and AMP by detailing the corporate vision, values, objectives, policies, and key success measures, and
- a reference guide and a source of strategic direction for JEN to ensure the network strategy and objectives and the asset management strategic approach are consistent with the corporate strategy as a whole.

2.1.1 STRATEGY, OBJECTIVES AND SUCCESS MEASURES

Jemena's vision is to be recognised as a world class owner and manager of energy delivery assets. Jemena plans to realise this vision through developing a corporate culture that achieves the following specific objectives for its (electricity) network:

- Embed a world-class safety culture.
- Be a high performing and engaged workplace that attracts, develops and retains industry leaders.
- Deliver operational and financial efficiencies aligned to business plan.
- Deliver energy services that are safe, reliable, affordable and responsive to our customers' preferences.
- Grow scale to be an influential market leader with strong customer, regulatory, stakeholder and community relationships.
- Deliver financial performance that is superior to our industry peers.

These objectives are supported by a strategy that establishes the core operations of the Jemena business, pursues industry leadership and extends the business to capitalise on new opportunities. In turn, the strategy is aligned to the objectives by which the business' performance is measured.

The Jemena strategy which links the vision, strategy and key success measures is detailed below in Figure 2–2. It summarises how Jemena plans to establish a strong foundation, become a leader in the energy delivery industry as a world class owner and manager and extend the business to capitalise on new opportunities.

Figure 2–2: The Jemena Strategy

The success of this strategy will be measured with five key success measures detailed below in Figure 2–3.

Figure 2–3: Key Success Measures

2.2 ASSET MANAGEMENT SYSTEM

The AMS has been established to conform to the requirements of PAS 55, which facilitates the determination of the asset management system's scope and boundaries.

The AMS represents a series of documented policies and objectives comprising the:

- Asset Management Policy
- AMSO, and
- Asset Management Plan (comprising of the 20-Year SAMP, the 5-Year AMP and the COWP).

Figure 2–1 shows the JEN AMS (within the overall Asset Management Framework), which involves providing a clear understanding of how strategy, planning and delivery activities, and supporting enablers and controls, deliver the optimum lifecycle outcomes for electricity assets. It also outlines the scope of the requirements for continuous review, while the AMS itself is updated annually.

The Asset Management System Review Committee (AMSRC) maintains the governance of the JEN AMS.

2.2.1 ASSET MANAGEMENT POLICY

Jemena produces several key policy documents, one of which is the Asset Management Policy. This document provides a statement about Jemena's intentions and the principals for asset management as they are applied throughout the business. The Asset Management Policy document supports the Jemena Business Plan and Jemena Values. Jemena's Asset Management Policy is provided in Appendix B.

2.2.2 ASSET MANAGEMENT STRATEGY AND OBJECTIVES

JEN's AMSO document sets out the strategy for managing JEN's assets to deliver the Jemena Business Plan. It details JEN's strategy and objectives, expenditure drivers, network service levels (including reliability of supply, customer service, and quality of supply) and the existing performance and condition of the asset management system and assets. JEN's asset/network development strategies consider existing asset utilisation and load growth capacity, new customer connections, existing asset performance and condition management, asset maintenance, refurbishment and replacement, and network safety and environmental risk management.

The AMSO aims to:

- identify the electricity network and asset management strategies and objectives based on the overarching business drivers, the Jemena Business Plan and compliance requirements, and
- provide governance within the business by providing relevant plans with strategic direction.
- The AMSO is used to inform key stakeholders about JEN's asset management strategy and to facilitate the development of the:
  - asset class strategies
  - network development strategies
  - strategic planning papers, and
  - 5-Year AMP and the COWP.

2.2.2.1 Asset Class and Network Development Strategies

JEN develops asset class strategies and network development strategies that provide key information about each asset/network area, including risk, performance, capital expenditure and operational expenditure. They also establish a connection between the Jemena Business Plan, and the JEN Asset Management Policy, AMSO and AMP.

Asset Class Strategies

The asset class strategy documents describe asset performance and risks (enabling the optimum development of strategies and plans) and provide information about:

- asset class profiles, including information about the type, specifications, life expectancy and age profile of the asset class in service across the JEN
- asset strategies, including key strategies and plans that support Jemena's Business Plan, Asset Management Policy, strategies and objectives, and inform the development of expenditure plans and programs of work
- asset risks, issues and criticality
- asset performance, including information about performance objectives, measures and analysis
- asset expenditure assessments, including expenditure decision-making processes (and how expenditure options are analysed)
- historical and forecast expenditures, and
- whether to renew or dispose of assets that have reached the end of their economic life based on their performance, risks and/or supply security or service level requirements.

JEN's aim is to ensure that the electricity network and assets are managed optimally to the benefit of the customer. The asset class strategies use leading asset management techniques to ensure an appropriate balance of capital and operational expenditure through the consideration of total lifecycle management costs.

Asset acquisitions occur in relation to reliability improvement projects, gross demand connections, network augmentation, and asset replacement. Network augmentation and asset replacements require a decision about whether to maintain or replace, which are based on considerations involving asset reliability, network risk, and anticipated cost.

Different asset classes have different lifecycle management strategies. JEN's network is divided into approximately 25 different asset classes.

Network Development Strategies

JEN produces network development strategies for specific JEN regions. Each region's network development strategy document provides information about supply capacity risks and options for economically mitigating them (including a preferred option). They also provide information about:

- specific investment drivers
- the assessment methodology and assumptions (including information relating to economic planning, demand forecasts, asset ratings, Value of Customer Reliability (VCR)[1], network outage rates, discount rates, and costs)
- a summary and analysis of each credible option (including assessments of gross market benefits, net market benefits, and a sensitivity analysis), and
- a proposed option.

The network development strategies are developed in accordance with the JEN Network Planning Criteria [12].

2.2.2.2 Strategic Planning Papers

A more detailed Strategic Planning Paper is produced when asset class or network development strategies identify specific issues and risks. Each Strategic Planning Paper:

- provides an overview of a project/program and covers either replacement or augmentation-driven projects, and
- includes details about the identified need, options analysis, benefits and risks, and a recommended approach prior to seeking financial approval via a business case (see Section 3.4).

2.2.3 ASSET MANAGEMENT PLAN

Asset Management Plan is informed through the following documents:

- the 20-Year SAMP which informs the long term operational and asset management trends, the long term customer preferences as well as influence of new technology and policy changes on the business operations
- the 5-Year AMP which provides a medium term outlook of operational environment, asset conditions and asset investment plans, and

[1] VCR values are developed annually by AEMO.

- the COWP which provides the 2-Year plan of activities to be performed by JEN in designing, constructing, operating, maintaining and supporting JEN's electricity distribution network.

2.2.3.1 20-Year SAMP

The purpose of a 20-year SAMP is to:

- provide a comprehensive analysis of potential future trends
- identify our customers' long-term preferences and ensure that they are shaping our longer-term planning
- identify innovations and changes in technology, policy, and regulation, and their likely influences on how we provide services
- ensure network safety and service quality
- assess expenditure scenarios on our overall network performance, and
- forecast service costs over the next 20 years, cognisant of the changes in the operating environment.

2.2.3.2 5-Year Asset Management Plan

The 5-Year AMP sets out an integrated approach to the activities undertaken by JEN to manage its asset lifecycles to ensure the efficient, JEN-wide delivery of optimum outcomes.

The purpose of the 5-Year AMP is to:

- detail the operating environment and levels of service, and summarise the risks and opportunities, contingency planning, and governance
- identify the type, number, condition and performance of JEN's assets, and the associated technical and commercial risks
- outline the asset management plans for the next 5 years (JEN develops a 7-year portfolio plan while the AMP captures 5 years of projects and programs)
- deliver the JEN AMSO, including formal obligations and regulatory requirements
- inform operational and capital expenditure as well as the Capital and Operational Work Plan (COWP)
- define the plan for optimally and sustainably managing assets and asset systems considering long-term customer interests, and
- ensure investment decisions and strategies are aligned to the operational and capital expenditure objectives, criteria and factors as set out in clauses 6.5.6 and 6.5.7 of the National Electricity Rules.

The 5-Year AMP is developed in accordance with the process described in Appendix C, in parallel with the capital governance processes described in Section 4. Once categorised, Jemena's Funding Committee reviews a project or program and approves or rejects it. These decisions are supported by information and endorsement from the Executive General Manager, Asset Management (a Funding Committee member).

In terms of scope, the JEN 5-Year AMP focusses on network assets while providing cross-references to strategies related to non-network expenditure such as IT business systems and Advanced Metering Infrastructure (AMI).

Capital expenditure decisions and the identification of projects and programs for inclusion in the 5-Year AMP are driven by:

- growth and capacity demand projects
- asset replacement projects
- technical compliance, and
- technological developments.

Growth and capacity demand projects

Aspects of growth and capacity demand that drive expenditure include the following:

- **New customer connections, numbers and growth.** JEN is obliged to connect new customers to its network, ranging from individual properties and urban residential developments through to new large commercial and industrial customers.
- **Embedded generation and demand-side management initiatives (including AMI)**. Existing and new installations influence demand levels and technical characteristics across the network in a dynamic and complex manner.
- **Customer demand and energy forecasts.** This directly and materially informs augmentation and required increases in capacity of the integrated assets.
- **Maintaining supply and asset utilisation through augmentation.** Pre-defined, risk-based planning criteria are used to assess the economic merit of investment compared with the potential for unserved energy. This informs the overall level of asset utilisation, which must be maintained at a level that ensures suitable supply following outages of key assets.

Generally, customer-initiated connection growth is identified by:

- medium-term demand forecasts developed by ACIL Allen and the Australian Construction Industry Forum's Construction Forecasting Council (CFC), which provides estimates of business and residential customer growth
- historical knowledge of specific customer projects, such as significant load increases by commercial and industrial customers, as well as those initiated by local councils and Vic Roads, and
- trend analysis and historical expenditure on various categories of projects.

Network augmentation projects are identified by:

- medium-term demand forecasts
- application of planning criteria and demand forecasts as part of the annual transmission and distribution network planning processes
- the Distribution Annual Planning Report (DAPR)[2], which provides more details about Jemena's network planning process
- implementation of network strategies, and
- regulatory obligations.

[2] http://jemena.com.au/what-we-do/assets/jemena-electricity-network/planning.aspx.

Asset replacement projects

Asset replacement projects are identified within asset class strategies by:

- programs required to meet regulatory compliance
- 'Whole of Life' asset management
- application of appropriate risk assessments based on asset criticality, and
- asset performance reviews.

Technical compliance

Aspects of technical compliance that drive expenditure include the following:

- **Supply reliability, quality and customer service standards.** Prescribed service levels are mandated through license conditions and regulations. There is a service target performance incentive scheme (STPIS), also known as the S-factor scheme, which is a mechanism enabling the Australian Energy Regulator (AER) to financially reward or penalise for better or poorer service performance. The targets for a given year are approved by the AER based on the performance over the previous year/regulated period.
- **Maintaining the asset performance and condition.** Supply reliability and quality is dictated by how the assets perform their intended functions. Failures can directly lead to customer interruptions.
- **New failure modes for assets.** As assets age and are subject to environmental conditions, new failure modes can arise, which must be managed based on the safety and reliability risks involved.
- **Mandated compliance and safety obligations.** Various standards relating to matters such as security and safety impact on both the design of existing and new plant and operational expenditure activities.
- **Bushfire mitigation and vegetation management**.
- **Environmental obligations.** This involves greenhouse gas emissions, noise, contaminants, vegetation, and bushfires.
- **Emergency response capability**.

Technological developments

Technological developments include the following:

- **Information technology-based systems**. This involves network operations, engineering and capital works, customer management, retailer management, billing, and corporate services.
- **Network monitoring and control**.

2.2.3.3 Capital and Operational Work Plan

The purpose of the COWP is to define:

- JEN's regulated standard control service activities to be carried over a 2-year period
- the scope of these activities and the various categories that are used to group and present expenditures, and
- the associated projects and budgets.

The scope of the COWP is limited to the activities performed by JEN in designing, constructing, operating, maintaining and supporting JEN's electricity distribution network. Expenditure is associated with both capital and operational activities.

3. CAPITAL PLANNING GOVERNANCE

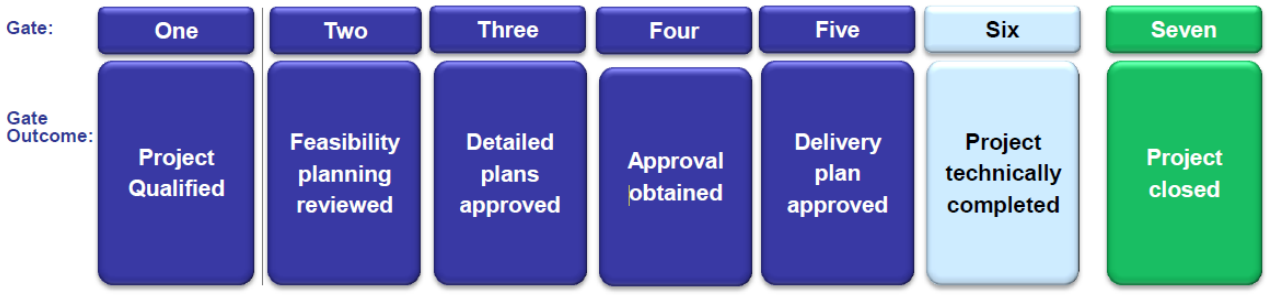
This section provides information about JEN's governance in regards to capital expenditure. In parallel with the AMS and associated investment planning process, capital governance is maintained by:

- a gating process
- capital project prioritisation
- cost estimates
- business case assessments (including technical, financial and economic analysis)
- risk management
- procurement
- plan delivery, and
- customer engagement.

3.1 GATING PROCESS

To drive investment efficiency, a standardised project gating process is currently in use for managing JEN capital projects, with review and approval occurring at each gate (as shown in Figure 3–1).

Figure 3–1: Jemena Project Gating Process



The gating process is a system by which each 'gate' provides authority to proceed. This ensures the necessary checks and balances at critical stages of project/program development and the approval lifecycle, ensuring the integrity of the business case on behalf of the board.

The various gate stages, aims and processes are shown in Appendix D.

The monthly project management meetings and reports associated with this process involve:

- an operational review forum
- capital program governance
- capital and operation works program planning and scheduling
- summer preparation

- bushfire preparedness
- network reliability, and
- asset and public safety.

As part of the 'project closed' stage of a project, a built asset is incorporated into the relevant asset class strategy. This ensures the effective transition of the new asset and enables its management over its lifecycle.

Project Management Methodology (PMM)

JEN is in the process of implementing a new Project Management Methodology (PMM) system as part of our continual business improvement process.

The new PMM, which will enhance the current gating process, will be applied during the 2016–20 regulatory period and will deliver improved and standardised scoping, cost estimation and delivery management of network infrastructure programs and projects through their lifecycle. The new PMM will allow a project's risk profile (determined using a high-level project risk assessment) to determine the governance requirements, with higher risk projects potentially being required to pass through additional gates, or incur a higher level of scrutiny (where required).

3.2 CAPITAL PROJECT PRIORITISATION

JEN's Capex Project/Program Prioritisation Methodology [4] is used to rank projects proposed for inclusion in the capital works plan. The process forms part of a quantified framework for applying specific risk management techniques and methodologies to the development of the wider program of capital works (Capital Works Program), and the principles of this approach articulate how JEN prioritises and optimises its investments.

High-level steps involved in the risk ranking process include:

- identifying all potential capital projects, including gross demand connections, asset replacement and network augmentation
- identifying mandatory projects, such as customer initiated connections projects and projects commenced in the previous financial year
- defining projects sufficiently to enable their comparison with all remaining projects
- identifying risks, threats, chronic losses, impacts, controls, sensitivities and options for each project;
- performing a 'design review' on each of the items identified in the step above;
- applying the project prioritisation methodology to each project to produce a priority ranking score
- ranking the projects in order of priority ranking score, and
- eliminating or deferring projects where the priority ranking scores are relatively low and not sensitive.

This process ensures an optimum investment plan for the provision of an integrated, coordinated and prioritised Capital Works Program aligned to the corporate strategy, delivering the maximum benefits and efficiency to our customers.

3.3 COST ESTIMATES

JEN uses four key inputs to estimate the cost of projects in the 5-year Capital Works Program:

- benchmarked prices
- actual costs of completed projects that are of a similar scope
- input from experienced engineering, design and construction personnel, and
- actual quotations from external service providers.

Benchmarked prices have been established for all major components of zone substation and distribution projects. During the development of the 5-year Capital Works Program, benchmarked rates are consistently applied to a project's scope by using building blocks to develop each project's cost budget.

Specific project estimates are developed where there are unique project components, or a benchmark does not exist.

Estimated costs are developed by providing experienced engineering, design and construction personnel with a design brief and functional scope, while some projects are costed by obtaining actual quotations from service providers.

These approaches ensure that various alternative options are investigated with the same rigour and transparency, to arrive at a recommendation for the preferred investment decision.

Capital expenditure over the life of a project

The Capital Works Program is also timed to account for capital expenditure as it is incurred over the life of a project, given the necessary commissioning dates. Factors taken into consideration include:

- the coordination of projects at the same location and with other distribution or transmission business requirements
- identifying projects that must be commissioned prior to summer
- network load constraints
- identification of plant items that have long lead times, and
- the commencement of identification and acquisition of land and easements.

Project coordination

To maximise efficiency, JEN coordinates projects at the same location, usually a zone substation and/or terminal station. This most commonly occurs with asset replacement projects, such as switchboard and secondary equipment replacements, but is equally applicable to many network augmentation projects, such as additional transformation and safety and compliance projects, where significant secondary equipment replacement is required.

Commissioning prior to summer

JEN identifies projects that must be commissioned prior to summer, typically involving new transformers, new zone substations, new distribution feeders, augmentation of 66 kV sub transmission lines, establishing tie lines between distribution feeders, and thermally uprating distribution feeders.

Often projects such as zone substation switchboard replacements can only be performed during limited time windows. These projects often face network constraints at the distribution feeder level and are most often performed during winter and spring.

Long lead times

Zone substation transformer and switchboard replacements have long lead times. The duration between the time of placing an order and the delivery of the equipment can be up to 18 months. By factoring this into the timing of the works program, this ensures that the equipment is available at a competitive price and the project is commissioned by the required date.

Identification and acquisition of land and easements

JEN commences the identification and acquisition of properties and easements for zone substations well in advance of construction of assets to ensure their availability and the certainty of planning permits. Some new zone substation sites will be required in established areas where land may be scarce or in high demand. Changing community and stakeholder expectations also require consideration to be given to visual amenity, electromagnetic field (EMF) exposure, perceived reductions in property value, and environmental impacts.

JEN is committed to early and rigorous community and stakeholder engagement to provide transparency and to reinforce the need for and benefits of proposed works.

3.4 BUSINESS CASE ASSESSMENTS

The purpose of a business case assessment is to identify four key elements:

- The project need, which involves:
  - discussion of any potential issues (for example, deteriorating asset condition, failure rates, and capacity constraints)
  - any relevant regulatory obligations that the project will address, and
  - project objectives with reference to Jemena's Business Plan, strategic objectives and capital expenditure objectives (under NER 6.5.7).
- Required capital investment, which involves:
  - conducting a financial evaluation to determine if the project is financially viable, and
  - identifying mechanisms by which the project will be funded, including Delegation of Financial Authority (DFA) approvals.
- Options to address the project need, which involves:
  - quantifying the costs and risks for each option, and
  - assessing the cost benefits to determine the optimum timing for the investment to deliver long-term benefits to customers.
- A recommended optimum solution that maximises benefits.

Business case assessments use a combination of technical, financial and economic analysis to determine the optimal timing for projects and programs.

Also, the evaluation of projects is important to ensure that limited resources are used in the most efficient manner.

Projects and investment decisions are evaluated in the light of the regulatory regime the business operates within, the benefits that are provided to customers, the tax system that applies to the business and the potential for projects to be unregulated.

Business case financial and economic evaluations consider the factors outlined in Table 3–1.

Table 3–1: Business Case Financial and Economic Evaluation

Key Consideration Factor	Attributes
Capital inputs	Capital inputs considered include: – capital investment, and – profit or loss on sale or disposal of assets.
Benefits	Benefits considered include: – unregulated revenue – return on assets – regulatory incentive scheme benefits – reduction in fault restoration costs – operational expense reduction – avoided capital costs – avoided risk – avoided lost load, and – list of unquantifiable benefits.
Non-capital costs	Non-capital costs considered include: – unregulated costs – regulated costs, and – regulatory incentive scheme costs.

3.5 RISK MANAGEMENT

JEN recognises risk management as an integral part of its business operations and strategic planning. Risk management, including risk evaluation, treatment and documentation, is undertaken in a systematic manner in conformance with AS/NZS 31000:2009.

All risk management activity within the company is governed by the Jemena Risk Management Policy [9] outlined in Figure 3–2. It is important for all credible risks to be identified, evaluated and appropriately managed. As a result, operational risks are effectively and efficiently managed to ensure they are acceptably mitigated.

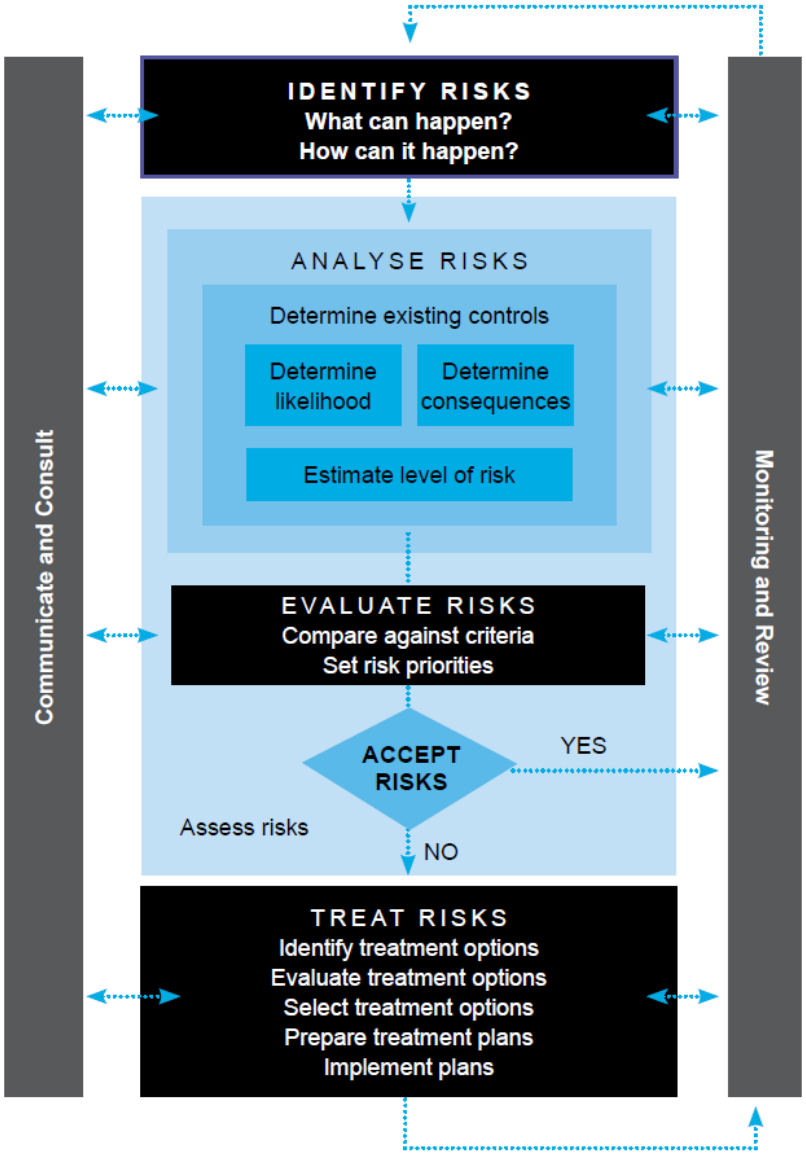
Risk management is guided by the document entitled 'SGSP Australian Assets Pty. Ltd. Summary of Consequence Materiality' [14]. Risks are assessed in group workshops using risk criteria tables. Risk action plans are developed by a nominated risk owner for the purpose of planning, monitoring and reporting on the implementation of identified treatment actions.

Identified risks are recorded in risk registers, from which risk mitigation is categorised and planned as a 'capital development', a 'maintenance/operational enhancement', a 'contingency plan', or 'hold and review'.

Since external events may impact on extended areas of the network, risk management also extends to considering catastrophic risk events (transmission failure, terminal station failures, system black, solar storms, sub-transmission failure and major storms) and external supply transmission risks.

Investment-based solutions to conveyance and other risks are not the only alternative considered. Non-asset based factors, such as procedures and work flows, may be preferable to more expensive capital solutions.

Figure 3–2: Jemena Risk Management Policy



Risk management and organisational culture

A conscious effort is made to integrate risk management into the culture of the organisation. Workshops are conducted on a regular basis to identify and assess risks and determine action plans. For each planned action, the responsibility for implementation is allocated to a member of staff, with progress usually being monitored at six-monthly intervals and more frequently in the case of critical tasks.

Risk assessments are also carried out as a part of change management when there are significant changes to processes, equipment or materials. All significant projects undergo a risk assessment phase, with risk management concepts influencing all decision-making processes within JEN, including contractor management. Field-based activities completed by contractors are monitored through targeted, risk-based audits.

The concept of risk management also influences the development of JEN's asset management strategies.

Risk assessment

Risk assessments are determined by establishing each risk's rating for likelihood (Table 3–2) and consequence (Table 3–3), and combining the result via a risk matrix to determine an overall risk rating (Table 3–4).

Table 3–2: Risk Likelihood

Likelihood	Descriptions	Examples
5 –Almost Certain	Event is expected to occur in most circumstances.	Will almost certainly occur once or more within the current business plan.
4 – Likely	Event will probably occur in most circumstances.	Will probably (>50%) occur once or more within the current business plan.
3 – Possible	Event should occur at some time.	May occur once or more within the current business plan (once every 3-10 years).
2 – Unlikely	Event could occur at some time.	May occur once or more within the current business plan (once every ~10 years).
1 – Rare	Event may occur only in exceptional circumstances.	May occur only in exceptional circumstances (once every 200 years).

Table 3–3: Risk Consequence

Consequence Rating	Description	SGSPAA ($million)[1]	RMC[2]	General Manager Oversight
Catastrophic	Would threaten survival of Jemena or one or more of its business units.	> $50	Possible	Unlikely
Major	Would threaten the effective operation of Jemena for a period of up to one year or have a significant effect on how Jemena would operate in the future.	$20 - $50	Likely	Possible
Severe	No threat to the effective operation of Jemena, but would expose Jemena to unacceptable cost consequences.	$5 - $20	Almost certain	Likely
Serious	No material impact on Jemena and issues are dealt with internally.	$1 - $5	Escalations only	Almost certain
Minor	No material impact on Jemena and issues are routinely dealt with by operational areas affected.	<$1	-	Escalations only

Notes:
1. SGSPAA - SGSP Australian Assets Pty. Ltd – financial impact.
2. Risk Management Committee (RMC).

Table 3–4: Risk Rating

Legend	
Extreme	• Modify the frequency or consequence of the threat to reduce risk rating • RMC oversight of risks and mitigations proposed
High	• Review risks and where practical reduce rating by additional mitigation measures, such as insurance, etc. • General Manager review of risks – escalate to RMC when no mitigation exist
Significant	• Where commercially viable, implement mitigations to reduce risk • Group Manager review • Escalation to General Manager when no mitigation exists
Moderate	• Management responsibility must be specified. Risk owner to reassess risk annually
Low	• Risk Champions to maintain register of Low risks and reassess annually.

(1) RMC is the Risk Management Committee

3.6 PROCUREMENT

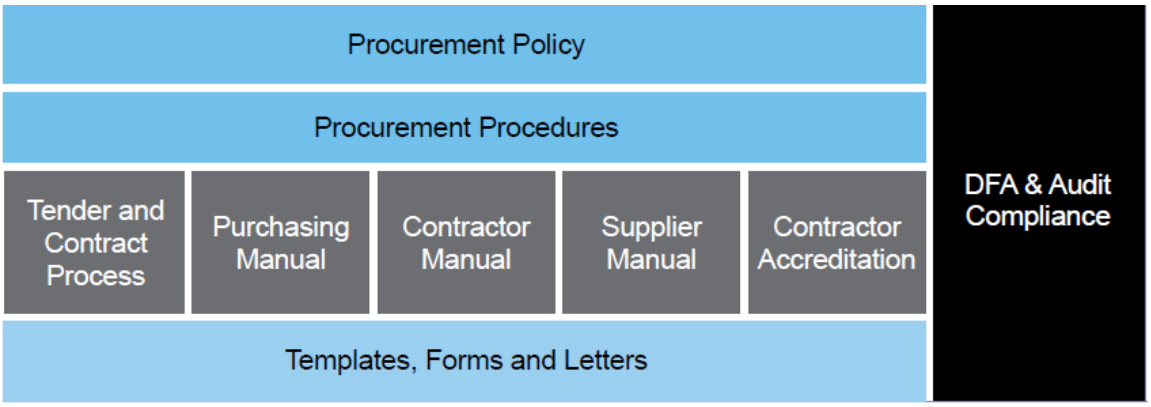
JEN operates competitive tenders for the supply of all goods or services to be provided or supplied by third parties with a contract value in excess of a defined threshold (for that item or class of items or service in any financial year). Irrespective of this threshold, JEN also ensures that all procurement processes have the cost effectiveness of the purchase as the primary criteria.

Jemena has established a Corporate Services Group that performs the following functions:

- **Strategic Procurement.** This group is responsible for identifying procurement opportunities across the business that drive benefits through the aggregation of demand and the standardisation of ordering and logistics processes. Strategic procurement is a proven method for managing large-scale, medium to long-term procurement activities. It has been adopted as standard practice by numerous organisations in Australia and internationally.
- **Contracts Development.** This group supports the business in the development and implementation of contracts and service level agreements. Following standardisation of equipment specifications and tendering, period contracts have now been established for major plant items such as Cables (underground and overhead), transformers and kiosks, electrical conduits and cover slabs, protective clothing, branded items, electricity meters, RM6 switchgear, switchboards, insulators, gas switches and high voltage fuses.
- **Outsourced Contracts.** Jemena has partnered with service providers to supplement its internal workforce for delivery of works programs to JEN and other clients.
- **Competitive Tendering.** It is standard practice to apply competitive tendering for the delivery of the major components of significant zone substation or distribution projects. Jemena's Service Delivery Group is responsible for the tendering of these works, with assistance from the Contracts Development Group.

Category management focuses on managing contracts to ensure that the negotiated contract benefits are realised, and drive continuous improvement in contract benefits each year. Supporting the implementation of the policy are other policies, extensive good practice guidelines, and comprehensive tools and templates, including standard contracts and tender documentation. The structure of documentation and activities employed by Jemena's Strategic Procurement Group is shown in Figure 3–3.

Figure 3–3: Procurement Framework



Strategic procurement has been applied in developing, establishing and managing all strategic sourcing and procurement contracts, and other significant procurement projects that will benefit from a strategic procurement approach. This includes projects (typically high complexity, high risk purchases over $250,000) for which strategic procurement is more beneficial than alternative planning and purchasing methodologies.

3.7 CAPITAL WORK PROGRAM DELIVERY

Project and program delivery plans are developed to:

- assess JEN's ability to deliver the Capital Works Program;
- confirm the timing of proposed work within a budget or regulatory period, and
- identify the most efficient mix of internal and external resources.

Projects and programs are scheduled for completion to deliver the best outcomes for the business and its customers.

JEN allocates resources using available internal resources by specific work type while using external contractors for work overflows. This model allows JEN to match resources to program requirements for both the short and long term.

The resources required to meet a project or a program are matched to the expected availability of resources from within JEN's Service Delivery Group and key external contractors.

Plan delivery strategies include:

- ensuring that the accountabilities exist within the business to adequately manage the investment portfolio and to control and track the delivery of specific projects and the overall Capital Works Program;
- packaging work activities to ensure the most efficient use of internal and external resources
- undertaking the overall management of the Capital Works Program and individual projects via governance forums and review processes established to monitor and track delivery performance, and
- where practicable, coordinating work on adjacent networks, transmission, sub-transmission and distribution assets, capital projects, maintenance and seasonalised works programs to maximise cost efficiency.

3 — CAPITAL PLANNING GOVERNANCE

JEN aims to deliver an efficient Capital Works Program by balancing business constraints with the needs of the network and our customers.

Capital Works Program delivery processes

The ability to deliver the Capital Works Program depends on business case production, project planning, tendering, material delivery, and field construction resources. To ensure Capital Works Program is delivered, the following processes are in place:

- COWP publication
- Capital Works Program Governance Forum
- project forecasting and scheduling meetings
- business case and gate progress status reporting, and
- period contracts for major materials.

Specifically, these processes include reviewing:

- the financial dashboard associated with the delivery of the work plan by major category, including ‘customer initiated projects’, ‘asset replacement’, ‘network augmentation’, ‘metering’, ‘non-network’ and ‘maintenance’.
- variations between the work plan and forecasts (by major category)
- business case delivery timings, where the business case is on the critical path for work plan delivery
- forecast expenditure timings, and
- the progress of summer-critical projects, gate processes and project approvals, and work plan delivery (and reforecasting projects in the master work plan where required).

The processes also provide commentary for the end-of-month reporting, ensure that resources have been scheduled for upcoming works, and identify specific project issues.

Status reporting

Financial forecasting and scheduling meetings occur at an operational level and involve the project managers who are responsible for delivering each project. The purpose of the meeting is to confirm and discuss issues associated with a project’s forecast expenditure and delivery date.

Gate process status reports are distributed fortnightly to key stakeholders in the work plan delivery process. The purpose of the report is to:

- review each capital project in the work plan and the current gate status for that project (the project initiator and project manager are responsible for the progress of the project through the gate process to the agreed time frames), and
- identify where corrective action is required to ensure delivery is achieved.

Works Program delivery reports are produced and distributed monthly to key stakeholders. The purpose of these reports is to:

- monitor and ensure the compliance of planned maintenance and asset inspection program delivery with the schedules identified through the Reliability Centred Maintenance (RCM) regime, and
- monitor and ensure delivery of the Capital Works Program.

3.8 CUSTOMER ENGAGEMENT

One of Jemena's Key Success Factors is proactive customer and market engagement, and Jemena's Asset Management Policy states that Jemena will 'actively engage with customers and key stakeholders to understand and respond to their requirements to ensure outcomes are achieved that are in their long term interests'.

JEN's customer engagement objectives are to:

- strive to understand and meet the reasonable expectations of customers and customer groups and reasonably balance their competing interests, and
- ensure that customer and stakeholder engagement plays an important role in the prudent optimisation of our costs, services and prices.

JEN considers and balances the competing interests of a range of customers, customer groups and other stakeholders who include:

- end users of the electricity we distribute, including households and small, medium and large businesses
- stakeholders and groups who represent our end-user customers, including various consumer advocacy groups and business associations
- local governments, who are customers of our public lighting services, and
- energy retailers, who collect revenue from small customers on our behalf.

The interests of other stakeholders (regulators, the Federal Government, state governments, and the energy ombudsmen) are also considered.

Gauging customer preferences

In 2014, JEN designed an in-depth engagement exercise to assess customers' preferences on a range of issues, including their preferences regarding the services we provide. This activity took the form of a deliberative forum and a focus group, both of which were attended by a broadly-representative sample of residential and smaller commercial customers.

The key high-level findings regarding our customers' long-term preferences are:

- maintaining safety as our top priority
- maintaining our current service levels (including areas such as reliability, responsiveness and visual amenity), and
- exploring new ways of more efficiently delivering our services and enabling customers to use those services more efficiently. This involves leveraging new AMI technology to empower customers to more efficiently use electricity and also incentivise usage behavioural change to reduce traditional 'poles and wires' expenditure and focus more on smart technology use.

JEN ensures that the AMP reflects and responds to these preferences by planning to maintain our current service levels over the next five years, and by laying a foundation for us to leverage and respond to new technology in the future and explore new ways to more efficiently deliver our services and enable customers to use our services more efficiently.

JEN is committed to proactively building on the engagement activities already undertaken using a range of engagement methods. This includes strengthening existing avenues allowing customers and stakeholders to provide feedback as well as exploring new ways of engagement with our customers and stakeholders, in line with their expectations. This will help ensure that we understand and respond to customers' and stakeholders' preferences and requirements in our planning, and that outcomes are achieved that are in their long-term interests.

4. ASSET MANAGEMENT SYSTEM GOVERNANCE

This section provides information about JEN's governance regarding developing and improving the AMS and the AMP. It also explains the decision making process structures, including roles and responsibilities, and discusses management practises and processes involving documentation, change, and risk.

4.1 STRUCTURES, AUTHORITIES AND RESPONSIBILITIES

The responsibilities and authorities of key functions within Jemena are defined through an organisational structure underpinned by position descriptions managed via Jemena's Human Resources (HR) management systems. In addition, we have a comprehensive RASCI (Responsible, Accountable, Supportive, Consulted, Informed) mapping of these positions to processes (the identification of who is responsible, accountable, supporting, consulted and informed).

Structures, authorities and responsibilities include the following:

- **Jemena's Leadership Team**. Responsible for the management, maintenance and operation of JEN assets, the leadership team is actively involved in all aspects of the AMS, through the approval of documentation, communication of its elements, and the continual review of the system's outcomes.
- **Jemena Business Objectives, Vision and Values**. Developed by the corporate strategy team and signed off by the Managing Director (accountable for the management of Jemena) under the guidance and support of the Board of Directors.
- **Jemena Asset Management Policy**. Developed by the Executive General Manager, Asset Management, and signed off by the Managing Director.
- **Executive General Manager, Asset Management**. Accountable for the Jemena Asset Management System and chairs the Asset Management System Review Committee (AMSRC), which has responsibility for the Asset Management System.
- **AMSRC**. Provides general and senior management with a forum to monitor and review the Asset Management System to ensure it is fit for purpose and delivers the Jemena Business Plan.
- **Executive General Manager, Asset Management.** Accountable for ensuring appropriate resourcing for the completion of the asset management functions.
- **Asset & Public Safety Committee**. Responsible for ensuring the control of asset-related risks.
- **Funding Committee.** Responsible for approving project/program funds.

4.2 STAKEHOLDER COMMITTEES AND OPERATIONAL FORUMS

This section provides information about the roles and responsibilities of the committees that contribute to and direct our capital planning and asset management system governance.

4.2.1 JEMENA ASSET MANAGEMENT SYSTEM REVIEW COMMITTEE

The AMSRC is responsible for JEN's AMS, and has the task of strengthening it by providing governance, alignment with business objectives and review of processes.

The AMSRC:

- directs the on-going development and implementation of the AMS and incorporating other statutory assets including Jemena pipeline and gas distribution assets
- promotes the AMS across Jemena while managing any interdependencies with corporate initiatives, strategies and objectives, developments, and business functions
- evaluates and ensures the AMS's sustained performance and continual improvement with respect to business policy, strategy, objectives, and planning, and
- implements quality assurance via audits, including tracking compliance with legal and regulatory requirements and ensuring the completion of audit recommendation actions.

Management review of the AMS is also completed through the AMSRC, the membership of which includes senior members of Jemena's asset management team and executive and general management.

4.2.2 FUNDING COMMITTEE

The Funding Committee has responsibility for approving project/program funds, including the AMP and the COWP. Its purpose is to:

- provide project/program funding reviews to ensure alignment of Jemena's internal business, and
- ensure funding is consistent with regulatory, customer, shareholder and other stakeholder requirements by linking the business planning process (strategy, budgetary and asset management).

Within Jemena, all approvals are in accordance with the Jemena Delegation of Financial Authority (DFA) [13] including the funding committee approvals. The Jemena DFA ensures:

- control over the organisation's finances, and
- guidance for transaction approvals across the Jemena Group in consultation with shareholders.

4.2.3 CUSTOMER COUNCIL

Through our Customer Engagement Strategy, JEN aims to:

- understand our customers' expectations
- apply this understanding in managing our electricity network, and
- provide transparent feedback to customers.

Objectives of our Customer Engagement Strategy is to strive to understand and meet the reasonable expectations of customers and customer groups and reasonably balance their competing interests, and ensure that customer and stakeholder engagement plays an important role in the prudent optimisation of our costs, services and prices.

To better understand customer expectations and tailor our 5-year plan accordingly, we seek to engage with our customers through a variety of forums including the Customer Council. The Customer Council is a regular forum to engage peak bodies, individual organisations and individuals that represent key segments of JEN's customer base. This engagement relates to overall pricing and service offering and the way JEN delivers services to the community in compliance with its regulatory and commercial drivers.

4.2.4 OPERATIONAL FORUMS

The following operational forums monitor the performance of the relevant service elements and programs.

- **Non-routine capital management.** This forum monitors the performance and progress of JEN's routine and non-routine capital program (excluding IT) and KPIs, including prompting business case approvals for projects as required.
- **Network Performance.** This forum monitors the network performance of JEN assets, and KPIs including reliability, power quality, and guaranteed service levels (GSL).
- **Risk and Compliance.** This forum monitors the performance of JEN's compliance functions including Electricity Safety Management Scheme (ESMS) and Energy Safe Victoria (ESV) obligations, OH&S, Environmental, the Jemena Compliance and Risk System (JCARS), the audit program and risk register, and KPIs as required.

The asset life required of the equipment used to construct and maintain the distribution network requires a risk based approach to the introduction of engineering changes and new technologies. Standard development and modification is undertaken by a number of specialist areas within JEN that have responsibility for particular asset groups.

New assets are constructed in accordance with a set of pre-defined technical standards in order to minimise the number of different assets across the network, thereby reducing procurement costs and operational and maintenance costs (including responses to plant failure), as well as minimising the number of spares holdings.

For example, protection standards are developed by the protection and control group and primary plant standards are developed by the primary plant and distribution systems group. A system of standardisation committees has also been used for the development of standard designs, policies and procedures associated with the design and construction of primary plant and distribution system assets.

The standardisation committees comprise stakeholders from the asset management and service delivery groups within Jemena to ensure a broad cross-section of input into standards development. These expert/stakeholder committees undertake standardisation activities in a collaborative manner in accordance with the JEN Standards Development and Modification Procedure [15]. Risk assessments form part of the standard development process.

4.2.5 STANDARDISATION COMMITTEES

There are seven constituted standardisation committees. The level of activity in each area determines committee meeting frequency and meeting formality. Membership of the committees can vary depending on the issue under consideration and the expertise required. New committees can be established to address particular issues if required.

The standardisation committees are as follows:

1. **Cables and Ground Mount Substations Standardisation Committee.** The focus of this committee is the standardisation and design of sub transmission (ST), high voltage (HV) and low voltage (LV) underground cable systems and indoor, ground mount and kiosk-type distribution substations. This includes the materials and equipment associated with these systems and the civil requirements for distribution substations.

2. **Overhead Lines Standardisation Committee.** The focus of this committee is the standardisation and design of structures and engineering systems associated with the ST, HV and LV distribution networks. This includes the materials and equipment associated with these systems. The scope extends to the customer's service connection to the network.

3. **Servicing Standardisation Committee.** The focus of this committee is the standardisation of the design and construction of overhead and underground servicing arrangements for customer installations and includes services supplied direct from substations.

4. **Zone Substations Primary Standardisation Committee.** The focus of this committee is on the design and construction of primary plant and facilities associated with zone substations and terminal stations that contain JEN assets. This includes the material and equipment associated with these installations and the civil and structural requirements.

5. **Protection and Control Standardisation Committee.** The focus of this committee is on the development and maintenance of secondary design standards for protection and control systems associated with primary plant, network lines and cables. This includes the definition of the required protection schemes and the implementation standards.

6. **SCADA and Real Time Systems Standardisation Committee.** The focus of this committee is on the development of new technical policies, procedures, technical standards and material applications related to all SCADA and RTS issues. This includes the material and equipment associated with these installations.

7. **Substation and Distribution Automation (SDA) Standardisation Committee.** The focus of this committee is on the development and maintenance of the substation and distribution automation design and installation standard. This includes the definition of the substation and distribution automation technical policies, procedures, and implementation standards.

4.3 CONTENT MANAGEMENT, DOCUMENTATION AND RECORDS

JEN's content management framework is heavily informed by the AMS. Records are either kept electronically in the Electronic Content Management System (ECMS) or stored/archived in hard copy.

Record retention timeframes are determined by either statutory or commercial requirements, or by individual areas within JEN, depending on the information contained within the records and how it is used for asset management decision making.

The Human Resources and Health, Safety, Environment and Quality function within Jemena is responsible for maintaining the ECMS document and record management system.

The electronic content management technologies and systems used to store and maintain content in the business include:

- HSEQ, a quality management system
- ECMS, an enterprise content management system
- Drawbridge, a drawing management system
- SAP, business operations and customer relations management system
- the JEN intranet team site, and
- network drives.

In terms of JEN asset management:

- all key asset management documents are managed, tracked, reviewed and continuously improved via the Key Asset Management Document Register
- all JEN project and asset management documents are managed through an ECMS controlled area, and
- drawings and geographical asset information are managed through the Drawbridge and GIS management systems.

4.4 ASSET INFORMATION MANAGEMENT

JEN requires certain information to ensure the effectiveness of the AMS and asset management activity and to support asset management decisions and activities. It requires this information to be of the necessary quality and accessible in the appropriate format to those responsible for planning and delivery.

Some of the asset information that may be required to inform asset class strategies (including the asset performance and the asset risks) includes:

- performance measures (based on the criticality of the asset class and the selected lifecycle strategy, this may include failure rates, plant availability, plant defects, and corrective maintenance rates)
- asset identification numbers
- design parameters
- the functional location of the asset
- asset descriptions, including vendor details

- voltage level and operational requirements
- spatial references
- individual asset condition records
- design parameters
- ratings
- commissioning dates
- operational expenditure
- capital expenditure
- regulatory reporting information
- risk management, and
- contingency and business continuity planning.

The Information Management System Manual

JEN uses a number of systems for managing its asset information, which are outlined in the JEN Network Information Management System [7].

The objective of information management systems is to introduce common terminology for financial and non-financial information, enabling vertical information flows from senior management to operational areas, and horizontal flows between the asset management, financial management and risk management functions. The aim is to facilitate efficient communication and better integration of information sources to enable more effective planning, operations and reporting.

4.5 CHANGE MANAGEMENT

An effective process of continuous improvement requires any associated change to be implemented in a seamless and effective way to minimise the risk of unexpected outcomes. Internal or external changes affecting assets, asset management or the AMS can impact JEN's ability to achieve its asset management strategy and objectives. As a result, planned changes require evaluation and management to mitigate potential issues prior to implementation.

Some of the key areas requiring change management include:

- continuous improvement to or changes arising from a review of asset management policy, the AMS, AMSO, AMP, and the delivery of the AMP
- organisational structures, roles or responsibilities
- processes or procedures for asset management activities
- new assets, asset systems or technology (including obsolescence)
- factors external to the organisation (including new legal and regulatory requirements)
- supply chain constraints
- demands for products and services, contractors or suppliers, and

- demands on resources, including competing demands.

4.6 ASSET RISK MANAGEMENT

Risk management is a central component of any asset management system because it involves a structured process of thinking about what can go wrong and the:

- identification of preventative actions and controls, and/or
- minimisation of the impacts if they do.

Consistent risk management is an organisation-wide requirement that extends beyond the AMS. As a result, any reference to risk management or a systematic review of risk within the AMS or its components will be in accordance with Jemena's Risk Management Policy [9], the Jemena Risk Management Manual [10] and the JEN Risk Management Guidelines [11].

Risk management and reporting

The Finance business unit is Jemena's risk management custodian. The General Manager, Risk is accountable for the management of corporate risks. The Asset Risk and Assurance Manager is responsible for the management of risk on the electricity network.

JEN uses the Risk Management Framework to develop individual risk matrices (see Section 5.7 for more information). Via this framework, risks are monitored and reported to the Leadership Team, the Executive Risk Management Committee, and the Board Risk Management Committee.

4.7 ASSET MANAGEMENT SYSTEM COMPLIANCE

Jemena's Compliance Management Framework [8] ensures compliance with licence and licence-related obligations that apply to its operations. All of Jemena's material licence and licence-related compliance obligations are recorded and managed in the Jemena Compliance and Risk System (JCARS), which is designed to comply with AS3806. Jemena also has a number of designated Compliance Program Managers (CPM) who manage and maintain the system and monitor and report on Jemena's compliance in their designated areas.

JEN's compliance and safety procedures are described in the Electricity Safety Management Scheme (ESMS). Electricity Safety Management Plans (ESMPs) are used to address key compliance risks.

Additionally, the Jemena Risk Committee monitors, reviews, and evaluates the implementation of the Risk Management Framework, which facilitates the development of a common, organisation-wide risk management approach by:

- implementing the framework
- sharing information with broad applicability across all areas of the business
- reporting on the progress of risk management framework implementation
- chairing the Executive Risk Management Committee, and
- integrating risk management with business-as-usual activities.

Each Risk Management Framework compliance audit (see Section 5.8 for more information), produces a detailed report, makes recommendations, and identifies any non-conformance for consideration by the Asset Management System Review Committee and, where relevant, incorporation into the AMS.

4.8 ASSET MANAGEMENT SYSTEM AUDIT

Jemena's internal audits are designed to assess the effectiveness of controls put in place as a consequence of a particular management system, which include the following:

- **Jemena Compliance and Risk System.** As per the evaluation of compliance, all audit actions are monitored and tracked through JCARS with formal reports generated monthly to track their progress. Once an action is closed, the Internal Audit team reviews the outcomes at a later date.
- **Asset Management System Review Committee.** In addition to the Internal Audit team reviews, the AMSRC is responsible for reviewing the asset management system and its continued 'fit for purpose' status.
- **Audit and Risk Management Committee**: This committee governs and controls the internal auditing procedures, approves and prioritises regular audit action reports, and conducts completed action reviews.

As part of the compliance program, Jemena conducts a systematic review of compliance through its audits. The Internal Audit team is responsible for non-technical audits within Jemena and reports to the Audit Committee directly to ensure transparency.

In addition to this, both internal and external audit programs are conducted to ensure safe field work practices are maintained.

4.9 SYSTEM IMPROVEMENTS

A key component of Jemena's process of continuous improvement involves ongoing performance monitoring, with corrective and preventive actions resulting from audits (technical and risk) and incident investigations being input into JCARS. Opportunities for improvement may also derive from external and internal sources. As a result:

- the AMS has been designed to be readily adaptable to easily accommodate change, and
- a simple and effective method for identifying improvements has been implemented.

The role of the Asset Management System Review Committee

The AMSRC is responsible for determining opportunities and assessing, prioritising and implementing actions to achieve continuous improvement and reviewing its subsequent effectiveness.

This role may include:

- non-conformity and corrective action, in particular emergency, failure and incident investigation
- examining trends in performance
- evaluation of compliance
- internal and external audits
- management review

- stimulating employees to make suggestions, and
- change management.

The approach to continuous improvement

As a further approach to continuous improvement, JEN actively seeks to acquire knowledge about new asset management-related technology and practices, including new tools and techniques. These are evaluated to establish their potential benefits and are incorporated into both the Strategic Asset Management Plan (SAMP) and the individual asset class strategies.

Examples include:

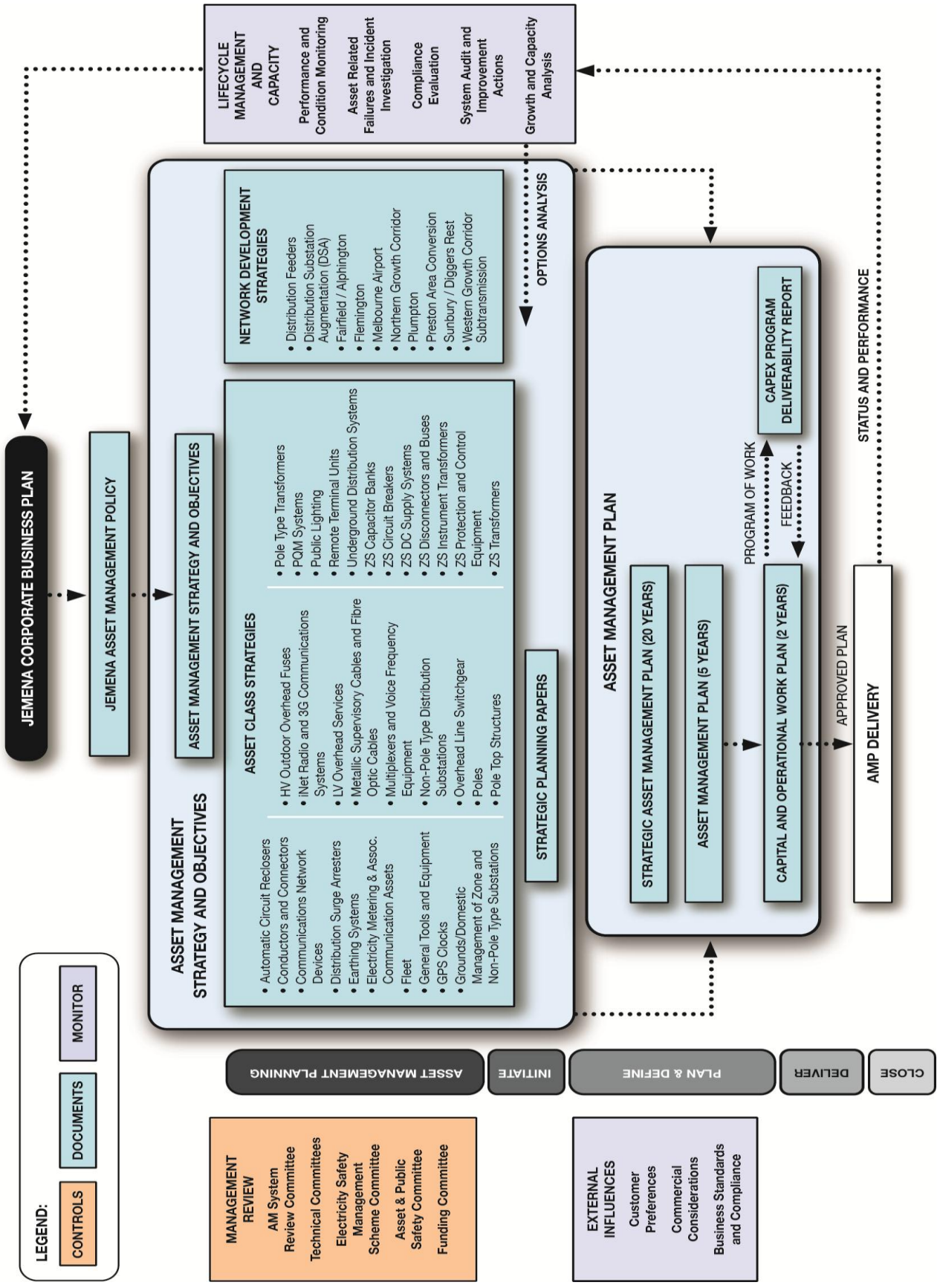
- active participation in professional bodies and industry associations
- conferences, seminars, publications, (online) forums, and journals
- benchmarking and technology transfer initiatives, and competitor check-ups
- engaging specialist organisations to provide advisory or audit services
- research and development, and
- consultation with suppliers and clients.

5. REFERENCES

1. Asset Management Plan - ELE PL 0004
2. Asset Management Strategy and Objectives - JEN PL 0012
3. Asset Management System Manual - JEN MA 0001
4. Capex Project/Program Prioritisation Methodology – ELE PR 0002
5. Electric Line Clearance Management Plan (ELCMP) – JEN PL 0101
6. Electricity Safety Management Scheme – JEN PR 0900
7. JEN Network Information Management System – JEN MA 0008
8. JEN Compliance Management Framework – DR RC ASHU 2012 120
9. Jemena Risk Management Policy – JAA PO 0050
10. Jemena Risk Management Manual – JAA MA 0050
11. Jemena Risk Management Guidelines – ELE GU 0902
12. Network Planning Criteria – JEN PR 007
13. SGSP Australian Assets Pty Ltd Delegations of Financial Authority
14. SGSP Australian Assets Pty. Ltd. Summary of Consequence Materiality
15. Standards Development and Modification Procedure - JEN PR 0016

Appendix A
Jemena Document Map - Electricity

Jemena


LEGEND:
CONTROLS
DOCUMENTS
MONITOR
JEMENA CORPORATE BUSINESS PLAN
JEMENA ASSET MANAGEMENT POLICY
ASSET MANAGEMENT STRATEGY AND OBJECTIVES
ASSET MANAGEMENT STRATEGY AND OBJECTIVES
ASSET CLASS STRATEGIES
• Automatic Circuit Reclosers
• Conductors and Connectors
• Communications Network Devices
• Distribution Surge Arresters
• Earthing Systems
• Electricity Metering & Assoc. Communication Assets
• Fleet
• General Tools and Equipment
• GPS Clocks
• Grounds/Domestic Management of Zone and Non-Pole Type Substations
• HV Outdoor Overhead Fuses
• iNet Radio and 3G Communications Systems
• LV Overhead Services
• Metallic Supervisory Cables and Fibre Optic Cables
• Multiplexers and Voice Frequency Equipment
• Non-Pole Type Distribution Substations
• Overhead Line Switchgear
• Poles
• Pole Top Structures
• Pole Type Transformers
• PQM Systems
• Public Lighting
• Remote Terminal Units
• Underground Distribution Systems
• ZS Capacitor Banks
• ZS Circuit Breakers
• ZS DC Supply Systems
• ZS Disconnectors and Buses
• ZS Instrument Transformers
• ZS Protection and Control Equipment
• ZS Transformers
NETWORK DEVELOPMENT STRATEGIES
• Distribution Feeders
• Distribution Substation Augmentation (DSA)
• Fairfield / Alphington
• Flemington
• Melbourne Airport
• Northern Growth Corridor
• Plumpton
• Preston Area Conversion
• Sunbury / Diggers Rest
• Western Growth Corridor Subtransmission
STRATEGIC PLANNING PAPERS
LIFECYCLE MANAGEMENT AND CAPACITY
Performance and Condition Monitoring
Asset Related Failures and Incident Investigation
Compliance Evaluation
System Audit and Improvement Actions
Growth and Capacity Analysis
OPTIONS ANALYSIS
ASSET MANAGEMENT PLAN
STRATEGIC ASSET MANAGEMENT PLAN (20 YEARS)
ASSET MANAGEMENT PLAN (5 YEARS)
CAPITAL AND OPERATIONAL WORK PLAN (2 YEARS)
PROGRAM OF WORK
FEEDBACK
CAPEX PROGRAM DELIVERABILITY REPORT
APPROVED PLAN
AMP DELIVERY
STATUS AND PERFORMANCE
ASSET MANAGEMENT PLANNING
INITIATE
PLAN & DEFINE
DELIVER
CLOSE
MANAGEMENT REVIEW
AM System Review Committee
Technical Committees
Electricity Safety Management Scheme Committee
Asset & Public Safety Committee
Funding Committee
EXTERNAL INFLUENCES
Customer Preferences
Commercial Considerations
Business Standards and Compliance

Appendix B
Jemena Asset Management Policy

OUR POLICY

Jemena Asset Management Policy

Jemena is committed to being recognised as a world class owner and manager of energy delivery assets.

To deliver on this commitment, it is the policy of Jemena to:

- Manage our assets without compromising our employees, contractors and public safety, as per the Jemena Health and Safety Policy
- Manage our assets in an environmentally sustainable manner in support of the Jemena Environmental Policy
- Comply with all relevant regulatory and legislative requirements
- Actively engage with customers and key stakeholders to understand and respond to their requirements to ensure outcomes are achieved that are in their long term interests
- Develop asset management plans that deliver the corporate objectives and business plan
- Facilitate continual improvement in the safety and performance of the assets, through the establishment, maintenance and governance of effective asset and safety management systems
- Make best practice asset management an accepted and important part of our "business as usual" approach, and measure it against an internationally recognised asset management framework
- Apply the Jemena risk management approach to asset management activities
- Develop and maintain asset information systems that support asset management decisions and activities throughout the asset lifecycle
- Establish a consistent, collaborative and integrated approach to the management of the lifecycle of the assets, to ensure that the optimum outcomes are delivered in an efficient way across Jemena
- Develop the skills and knowledge of our people to sustain and reinforce our asset management capabilities

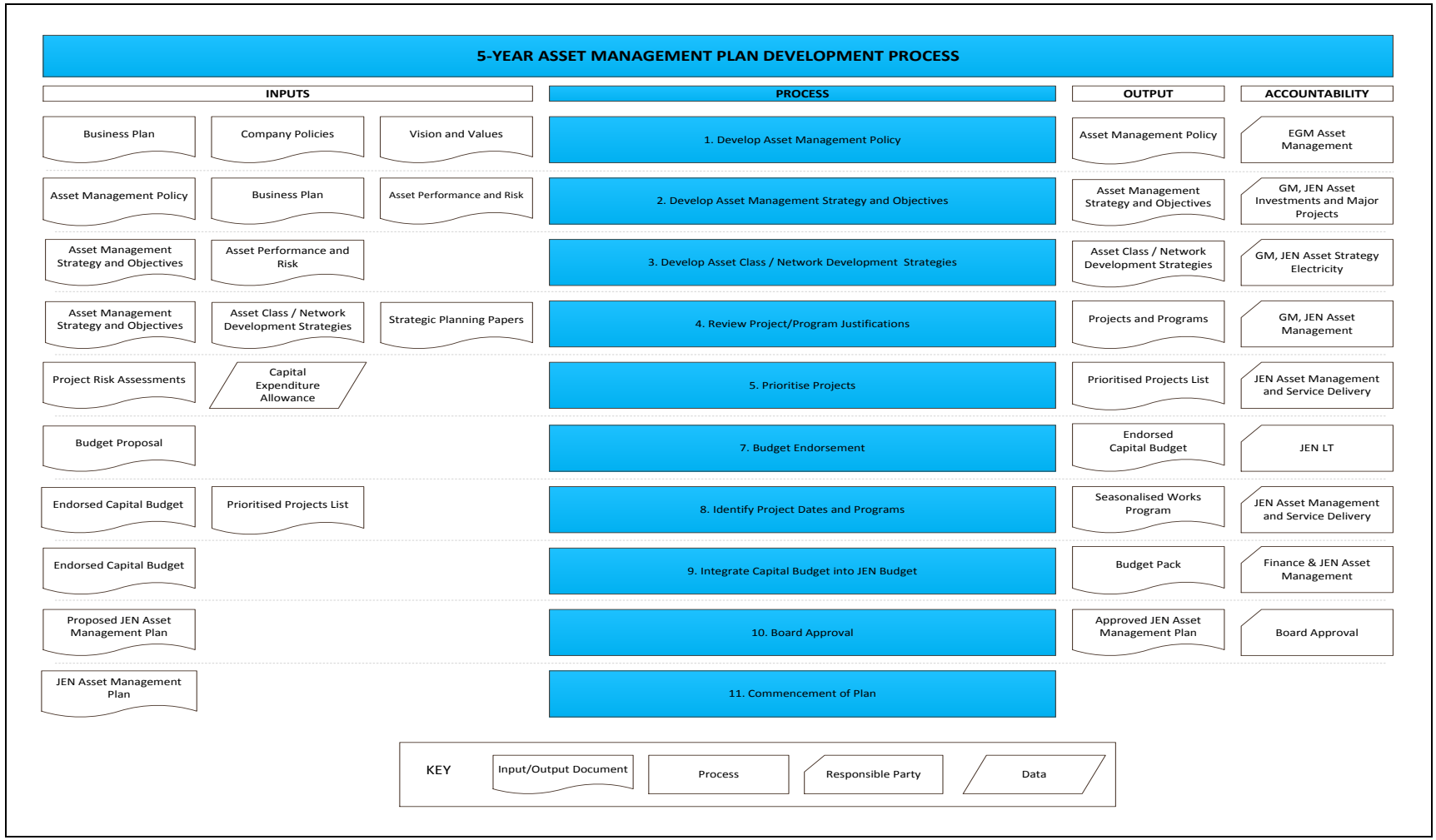
Paul Adams
Managing Director
Jemena Limited
January 2014

Jemena produces detailed policies which support this policy statement.

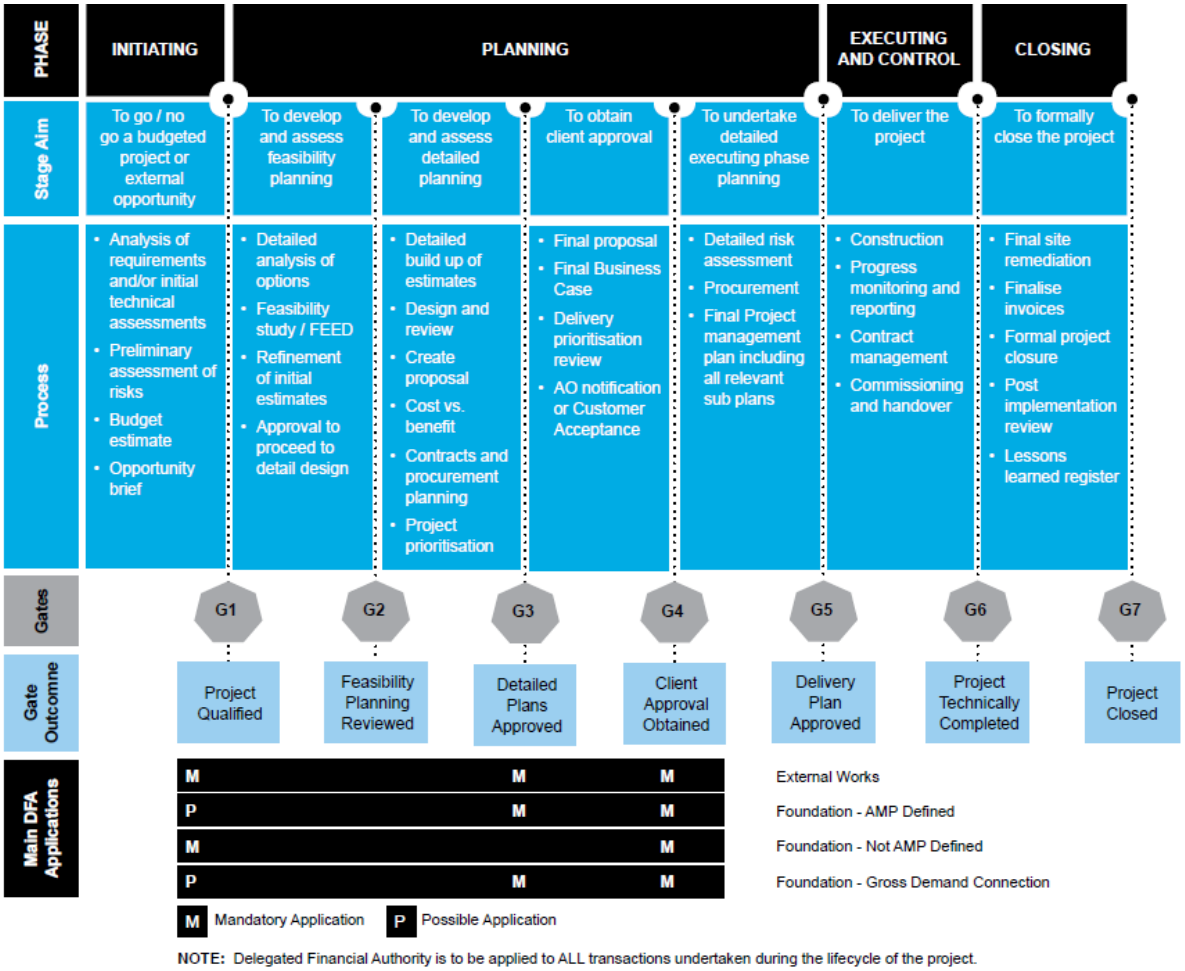
Vital Service. Vital Planet.

Appendix C
Jemena 5-Year AMP Development Process -Electricity

Jemena



Appendix D
Jemena Gating Process - Electricity



NOTE: Delegated Financial Authority is to be applied to ALL transactions undertaken during the lifecycle of the project.

Gate 1 - Project Qualified

The purpose of the Review Gate 1 requirements process is to confirm that all the necessary gate requirements have been satisfied during the 'project qualification' stage

Gate 2 - Feasibility Planning Reviewed

The purpose of the Review Gate 2 requirements process is to confirm that all the necessary gate requirements have been satisfied during the 'feasibility assessment' stage.

Gate 3 - Detailed Plans Approved

The purpose of the Review Gate 3 requirements process is to confirm that all the necessary gate requirements have been satisfied during the 'detailed planning' stage.

Further Delegation of Financial Authority (DFA) requirements or JEN approval may need to be confirmed prior to any sign-off of the Gate 3 certificate.

The key output from Gate 3 is a developed business case that clearly identifies a preferred option. The business case should also clearly detail the benefits of undertaking the project and commit the Project Manager to deliver the project to the approved cost, scope and delivery targets.

Gate 4 - Approval Obtained

The purpose of the Review Gate 4 requirements process is to confirm that all the necessary gate requirements have been satisfied during the 'obtain approval' stage. Relevant supporting documentation is required and may be in the form of a business case, customer offer or connection agreement. The key output from Gate 4 is the approved business case or customer offer. The approval of these documents will identify the preferred option to be pursued and the scope of how the work will be delivered. All of this information will be provided as part of the formal handover to Jemena's Service Delivery Group.

Gate 5 - Delivery Plan Approved

The purpose of the Review Gate 5 requirements process is to confirm that all the necessary gate requirements have been satisfied during the 'delivery planning' stage. Gate 5 concludes the planning phase of the project where a number of key project documents are generated and approval obtained for all project plans and designs.

A key outcome of the Review Gate 5 requirements process is that all the relevant documentation is completed prior to the commencement of construction. Some key documents that may be referred to in this process include risk management plans, signed drawings, health and safety plans and environmental plans. The key deliverable of this review is the issuing of the design and construction orders. The approval of these documents will release the project to the relevant Construction Manager for commencement of the project.

Gate 6 – Project Technically Completed

The purpose of the Review Gate 6 requirements process is to confirm that all the necessary gate requirements have been satisfied during the 'executing and controlling' phase and to verify that the project has been delivered.

During the executing and controlling phase, the key activity relates to the delivery, monitoring and reporting of the construction work. The key outcome of the gate 6 review process is that all relevant documentation has been adhered to and that the project is ready for commissioning and handover. The key deliverable of this review is the commissioning and handover of the project. The approval of these documents will deem the project to be commissioned, recognising that project finalisation activities will continue until the project is formally closed at Gate 7.

Gate 7 – Project Closed

The purpose of the Review Gate 7 requirements process is to confirm that all the necessary gate requirements have been satisfied during the 'project closing' phase and to verify that the project has been formally closed.

During the closing phase, a number of key tasks are undertaken including the financial settlement of the project and post implementation review. The key outcome of the Gate 7 review process is that all relevant documentation has been adhered to during the closing phase and that the project has undergone formal project closure.

The key deliverable of this review is the formal closure of the project. The approval of this gate certificate will deem the project closed.