NETWORK INVESTMENT GOVERNANCE FRAMEWORK

Document Control

Document Control Log

Version	Date	Author(s)	Summary of Changes
1.0	12 August 2004	Matt Cooper	Final Version 1.0
2.0	13 September 2004	Matt Cooper	Changes to reflect sub- program management issues.
3.0	24 September 2004	Matt Cooper	Revised Document Numbering System
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Document Approval

Name and Position	Date	Signature
Manager — Asset & Investment Management	24 September 2004	Trevor Armstrong

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General Manager — Network	24 September 2004	George Maltabarow

1. Framework Summary

1.1. Background

EnergyAustralia's Network Line of Business operates as a regulated business, where all Capital Works expenditure is subject to the approval of regulators. Currently, the Independent Pricing and Regulatory Tribunal (IPART) and the Australian Competition & Consumer Commission (ACCC) are the economic regulators of the monopoly distribution and transmission networks respectively and determine appropriate revenue entitlements for these network businesses. The National Electricity Code operates as a regime to allow customers access to monopoly infrastructure and participate in network planning and development decisions. On July 1 2004, it is proposed that the administration of the National Electricity Code (NEC) will pass from the National Electricity Code Administrator (NECA) to the Australian Energy Regulator (AER).

EnergyAustralia's operations are also governed by the Electricity Supply Act 1995 and by the conditions of its Distributor's Licence issued under the Act. A licence holder is required to:

- Undertake investigations to ascertain whether it is cost-effective to avoid or postpone an anticipated expansion by implementing demand management strategies.
- To prepare and publish annual reports in relation to system investigations.

A "NSW Demand Management Code" has been developed and endorsed by the Minister for Energy that as a guideline for complying with this licence condition. Although it is not mandatory, it reinforces the NEC requirements for forecasting, option development (including DM alternatives) and robust economic analysis. It also expands the requirements for transparency and public consultation. In addition, it is a licence requirement to prepare Network Management Plans that are reviewed by the Department of Energy, Utilities and Sustainability (DEUS).

On the basis of the above analysis, plans and reports, regulators determine if the proposed investments are consistent with the distributor meeting:

- Statutory obligations (including public and employee health and safety).
- Customer performance delivery standards.
- Consideration of all options to meet system requirements via an open and accountable process.

In assessing the prudence and efficiency of expenditure both before and after the expenditure is committed, it can also be anticipated that regulators will take the above requirements into account in their analysis and assessment.

In addition, as a publicly owned commercial enterprise, shareholder representation, in the form of Treasury and the Board, have a responsibility for sound governance arrangements which can confirm that investments are both a prudent and efficient use of public funds.

Accordingly, this document sets out the steps to be taken when considering Network investments. Since the detail into which the regulator will check the review process is not clearly specified, EnergyAustralia (EA) has decided to introduce this Network Investment Governance Framework (the framework) to manage and control all regulated Network investments.

1.2. Objectives and Scope

The objective of this investment governance framework is to provide guidance to officers of EnergyAustralia in the development, determination and authorisation of regulated Network investments. It will serve to inform regulatory agencies and other stakeholders of the processes by which we determine investment decisions and to enable them to assess the prudence of decisions made under the process. In addition it will provide confidence to our Board and Shareholder that capital investment decisions are made prudently and with greater regulatory certainty.

The scope of this investment governance framework is to define the process adopted by the Network Line of Business to manage and control its investments in regulated business assets. It is intended to apply primarily to the project management of all Network system investments and is to be observed and implemented by all EnergyAustralia personnel involved in the planning and delivery of Network investments.

The framework has been designed to facilitate and reinforce the following approaches and behaviours of all those involved in the investment process:

- A framework that consistently demonstrates prudence, value and compliance with the National Electricity Code.
- Promotion of transparency by providing clear information on the drivers, strategic choices, risks and constraints associated with investments.
- A full lifecycle approach to investment. (The framework is intended to incorporate asset disposal but specific requirements relating to this are yet to be developed.)
- A collaborative approach to planning and design with clearly defined transition and hand-over points.
- Consistency of process leading to predictable outcomes.
- Full documentation of decision processes.
- A commitment to public consultation.
- Integrated transmission, sub-transmission and distribution solutions.

In order to meet shareholder and regulator prudence requirements, it is necessary to manage investments both at a program level as well as at a project level. Program management is required to prioritise projects to ensure the prudence and efficiency of the overall investment portfolio.

In addition to this framework, a separate Guide to Network Planning and Development under the National Electricity Code has been developed and should be referred to in conjunction with this framework. A checklist of these Code requiremetns is set out in Appendix A.

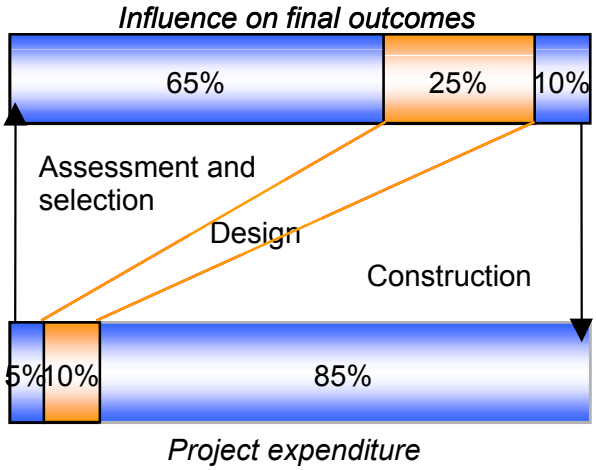
1.3. Principles

Key principles embodied in this framework are:

- The consideration of a wide range of options, including demand management, embedded generation and non-network alternatives as a means to provide greater scope for cost effective solutions and increased assurance of regulatory compliance.
- Robust and consistent economic decision making based on whole of life costs;

- Alignment of individual investment decisions with corporate priorities in terms of performance and customer outcomes.
- A strong focus on ensuring investments is implemented efficiently and outcomes are delivered.

The framework is designed to give appropriate attention to the early stages of the investment process. The cost of a project, including operation and maintenance, is largely determined before it is executed. As a result, the greatest scope for managing the costs of a project is in the development and planning stages. In addition, as shown in the figure below, typically two-thirds of the influence on investment outcomes is determined by assessment and selection, even though only a small proportion of the actual spend occurs in these stages.



1.4. Investment Portfolios

Network has the following three broad investment portfolios:

Duty of Care – Compliance and obligations relating to safety and environmental management.

Customer Connections - Obligations relating to customer connections, supply augmentation and customer specific standards of service. Much of this work is contestable and these activities must be carried out in accordance with IPART's determination on Capital Contributions.

Network Performance – Investments that augment capacity or replacing assets in order to achieve system performance and customer outcomes.

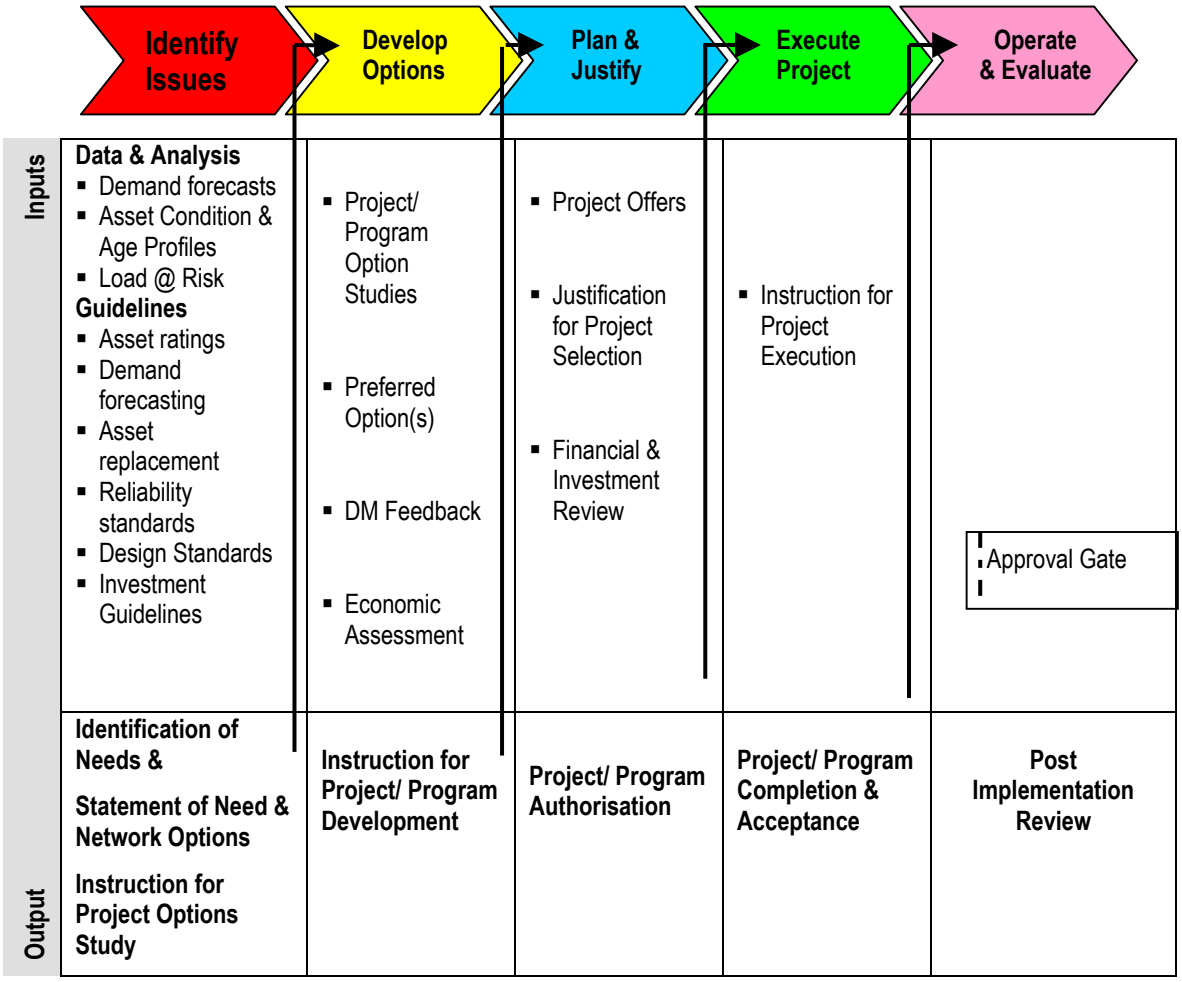
The investment portfolios can be viewed in terms of a program, regulatory or asset view. The program view has been developed to provide a strategic view of the investment portfolio. The regulatory view is required to provide regulators with information relating to investment in a form that they have traditionally evaluated capital investment programs. The asset view is required for technical and accounting purposes.

Table 1. Program Views

Program View	Regulatory View	Asset View (Examples)
Duty of Care		
▪ Major Substation Security ▪ Distribution Substation Safety ▪ Regulation 2000 ▪ Fire Stopping ▪ Fire Mitigation ▪ Bushfire Mitigation	OH&S Compliance	▪ Security Fencing ▪ Oil Containment Systems ▪ Fire Stopping
▪ Noise Abatement ▪ Oil Containment	Environmental Compliance	▪ Water Crossings ▪ Aerial Bundled Cabling ▪ Easements
Network Performance		
▪ Replacement of Aged Infrastructure ▪ Servicing General Load Growth ▪ Major Network Developments ▪ Specific Reliability Programs ▪ Minor Augmentation and Replacement Programs	Replacement Reliability General Load Growth	▪ Transmission Mains ▪ Transmission Substations ▪ Distribution Mains ▪ Zone Substation ▪ Distribution Centre ▪ Communications, Control Systems & SCADA ▪ Metering
Customer Connections		
▪ Customer Connections ▪ Major Customer Projects	New Load	▪ Distribution Substations Demand ▪ Low Voltage Distribution System Demand
Metering		
▪ Meter replacement ▪ TOU Roll-out	Metering	▪ Meters

1.5. Governance Framework Outline.

The Investment Governance process is characterised by **five** stages:



Identify Issues

The first stage involves the identification of issues and gathering of all data required to inform the investment process. This data is then analysed and will result in an 'Identification of Needs' document that clearly outlines anticipated network requirements in terms of:

- Capacity constraints
- Reliability improvements
- Duty of care
- Equipment condition
- Customer Connections.

The 'Identification of Needs' (discussed in more detail in the next section) occurs initially at the program level and represents the foundation of the investment framework. This process identifies the potential investment needs by forecasting instances where network performance will fall short of the desired standards. Individual issues are analysed to determine related issues and packaged into projects for which options are developed in the following stages. Documentation produced and published at these stage forms an important part of the regulatory compliance trail, and requirements for the level of public consultation, economic decision making and publication are set for each project.

In the case of demand projects a 'Statement of Needs & Initial Network Solution' is prepared which in addition to the 'Identification of Needs' contains an initial system solution with planning estimates. The purpose of this to provide a benchmark target cost for network performance investments within which demand-side and non-network solutions can be developed. This benchmark cost will be used in screening projects as to their suitability for a non-network option investigation.

Develop Feasible Options

This stage involves the development of feasible options to address the 'Identification of Need' and the 'Statement of Need & Network Options' produced in the first stage.

'Project Option Studies' are developed detailing a number of feasible options and their likely cost, including both demand management and network options. These project option studies documents how the options were developed, reviewed and the criteria used to identify the preferred option. It should be noted that the economic assessment approach used to rank options must be consistent with the economic decision making methodology prescribed for the final decision, based on the size of the project.

The outcome of this stage is an 'Instruction for Project Development' calling for Project Offers from appropriate service providers. This instruction may call for the development of one or more selected project options. These may include variations on a single option or multiple unrelated options.

Plan & Justify

This stage involves the preparation and analysis of the Project Offer submitted in response to the 'Instruction for Project Development'.

Project Offers should include details of costs, project delivery timetables and project risks for each project option and variation.

The project offers will be reviewed for compliance with the required technical outcomes and investment evaluation guidelines. Where the project offers do not meet the requirements or cost estimates differ significantly from planning estimates the selected options may need to be reviewed to ensure that they still represent the preferred option.

The outcome of this stage is a 'Justification for Project Selection' and 'Authorisation of Selected Project'.

An "Independent review of Project Selection" will also be conducted for projects greater than $10m.

Execute Project

The Execution stage commences with the preparation of an 'Instruction for Project Execution''. The service provider is required to acknowledge the receipt of this Instruction. The outcome of this stage is the Project Completion & Acceptance Report This stage involves the delivery of the project. Performance in executing the project is assessed on the basis of delivery of the project in accordance with the defined scope, the program schedule and actual cost compared to authorised expenditure.

Operate & evaluate

This stage involves the operation and evaluation of investment projects. This stage is important since Network revenue is dependent on verifying that investments made are both prudent and represent efficient solutions.

A Post Implementation Review (PIR) is required for projects with a value in excess of $2M and for those selected by the General Manager - Network.

Approval Gates

An important element in the framework is the use of **approval gates** between each stage. Those accountable for various stages of a project do not allow a project to advance to the next stage until the requirements for that stage have been met.

The person accountable for approving each document is outlined as part of the detailed description of each stage in Chapter 3 of this document.

Document Templates

Examples of the various reports to be provided are located on the Network Lotus Notes Database (Network/ Asset & Investment Management/ Investment Management. In addition, terms are defined in the glossary.

Program Management

In order to meet shareholder and regulator prudence requirements it is necessary to manage investments both at a program level as well as at a project level. At the program level it is necessary to:

- Ensure that programs are prioritised in terms of prudence and efficiency within investment portfolios.
- Identify scope for integrating programs across investment portfolios.
- Prioritise projects in terms of timing.
- Manage program contingency.

The management of investment at the program level mirrors the management at the project level. At the program level strategic plans are developed for each investment portfolio. These strategic plans will be used to develop investment programs for a particular regional, asset or other issue.

This Prioritisation of investment programs is the responsibility of Manager, Investment Strategy.

2. Investment Strategy

As previously noted, EA now adopts three key investment portfolios when considering the acquisition of new Network assets. Specifically, the portfolios are:

- Duty of Care
- Customer Connections, and
- Network Performance.

The General Manager – Network is responsible for approving the annual investment plans for each portfolio.

2.1. Duty of Care

EA must comply with the legislative and licence requirements as detailed in Network Management Plans.

Duty of Care comprises projects required to meet environmental obligations, and OH&S and Public Safety obligations.

These obligations arise from legislative and licence requirements as well as the prudent assessment of potential risk areas. The implementation design and schedule to meet these obligations are negotiated with the appropriate regulators (Environmental Protection Authority - EPA and the Department of Energy, Utilities & Sustainability - DEUS). It should be noted that scope might exist to negotiate the timing of these investments with the appropriate regulator or to integrate these programs with other investment programs in order to deliver them in an efficient manner.

In the case of new projects, effort should be made to ensure that OH&S, Public Safety or environmental risks are identified and managed and the costs associated with these are allowed for. Increasingly, environmental standards are a significant factor in Network design, construction and operating requirements.

Duty of Care obligations is managed at both a Strategic level and at a Business Unit level.

At a Strategic level, the Manager - Duty of Care within the Asset & Investment Management branch is responsible for developing an **Annual Plan** for compliance investment to be published by the end of October each year for the following financial year. In addition, a rolling **10-year strategic plan** is to be developed by the end of August and to be updated annually.

These plans are to be approved by the General Manager - Network.

Each business unit is responsible for the detailed assessment and monitoring of risks associated with their responsibilities under the Corporate Business Risk Management Policy and Procedure (BRM01).

2.1.1. Occupational Health and Safety & Public Safety

EnergyAustralia has a responsibility to conduct its business in a way that addresses the safety of staff, customers and the public at large. Examples include access control (fences, barriers, locks), electrical safety (clearance control on "live" circuits), restricted working areas (pits, tunnels, basements) and safe working practices (use of lifting devices, adequate lighting, safe tools etc.).

A range of standards, codes, regulations and laws defines OH&S & Public Safety requirements that must be adhered to when designing all new projects. This portfolio of investments applies to existing assets where OH&S and public safety requirements have changed.

Projects will be prioritised on the basis of corporate risk assessment frameworks.

2.1.2. Environmental

The Environmental Service Unit within Enerserve is responsible for developing EnergyAustralia's environmental compliance strategy that is then approved by Manager, Asset & Investment Management. The environmental risks of a wide range of activities are assessed and published in the Environmental Risk Assessment Policy & Procedure (ENI001). The Manager - Duty of Care uses this risk assessment framework to assist in prioritising environmental compliance investments.

While the requirements of such regulations and laws are incorporated into new facilities as part of the design process, some requirements will be retrospective and must be fitted to existing plant and equipment. The driver for the commencement of the project is the identification and assessment of an environmental risk or the impact of the legislative requirements.

The preferred options should represent efficient solutions over the life of the investment, in terms of both capital and operating costs.

2.2. Customer Connections

This category relates to investments that are required in order to meet a change in customer requirements such as applications for new or augmented load, and includes metering. These investments are partly funded by customers and partly by the Network business. The conditions relating to these funding arrangements are regulated by IPART and are set out in the **Capital Contributions Guidelines (ES8) and Charges for Network Monopoly and Miscellaneous Services (ES5).**

Manager - Pricing and Customer Connection Policy is responsible for establishing the policy relating to these investments. To comply with this policy, the following plans need to be developed by October each year:

- An annual customer connection investment plan is the responsibility of the Manager — Customer Supply.
- An annual metering investment plan is the responsibility of Manager – Metering.

In addition, the Manager - Pricing and Customer Connections Policy is responsible for developing **a long-term strategic plan** that identifies how these investments will be managed in the next 5-10 years. This plan is to be prepared by the end of August and updated annually and approved by the General Manager - Network.

2.3. Network Performance

Network Performance refers to those investments required to address the following:

- Ensure adequate capacity to meet demand (including contingency failures).
- The need to replace an asset on the basis of condition and performance.
- Identified needs to improve system reliability.

Global network targets are identified in the Network Strategic Plan. Examples are provided below.

Targeted minimum service standards are contained within the **Network Performance Standards (ES2) and the Network Reliability Planning Standards**, which reflect the requirements of the National Electricity Code[1].

Table 2. Example of Targeted Investment Performance Outcomes

Network Performance Metrics	Current Performance 2002/03	Proposed Performance 2008/09
Energy at Risk	$100M	$95M
Average SAIDI	102	101
Average SAIFI	1.25	1.25
Guaranteed Customer Service Standards (Network Reliability)		< 9 (Urban) < 15 (Rural)

Manager - Network Investment is responsible for developing an **Annual Plan** for network investment to be published by the end of October each year. In addition, the Manager – Network Investment is responsible for developing a **long-term (10-year) strategic plan** by the end of August and to be updated annually. Details of how these plans are to be developed are discussed in Section 3.1. These plans are to be approved by the General Manager – Network.

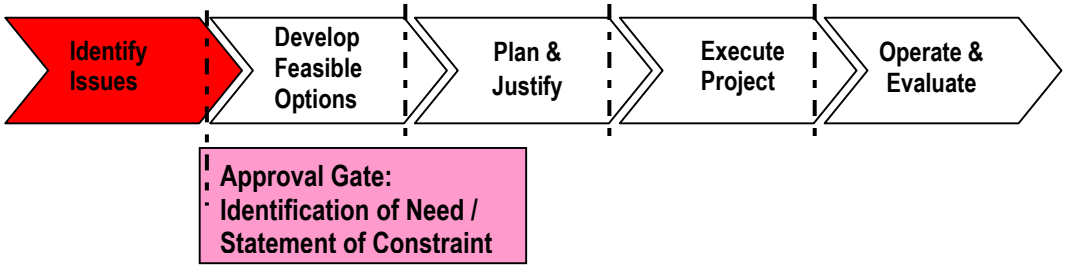
Manager – Operations Investment is responsible for establishing Replacement Priorities as input to the Annual and 10 Year Capital Planning process. Once the Capital Plan has been developed it is then possible to complete the annual and 10-Year Operational Works Plan that would project future annual and long term maintenance requirements.

[1] N.E.C Schedules 5.1.a to 5.3

3. Network Investment Governance Processes

The same five-stage framework shall be applied to **all** regulated Network investments.

3.1. Stage 1 — Identify Issues



3.1.1. Objective

Stage 1 involves the collection and analysis of key data and the application of network guidelines to produce a concise and clear Identification of Need.

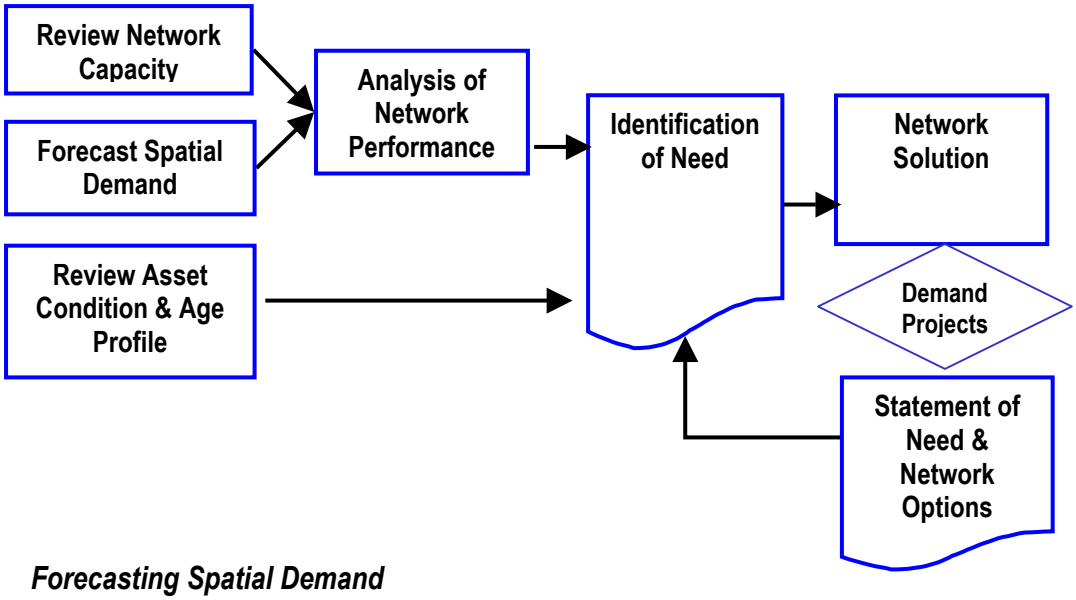
For each project, the Identification of Need outlines the required outcomes of each investment in terms of:

- Capacity
- Reliability
- Duty of care
- Asset condition
- Customer Connections

3.1.2. Key Processes

The process consists of assembling the necessary data, forecasting future network performance and comparing that performance with network performance standards to identify shortfalls. The process should also address the annual planning review obligations of DNSP's and TNSP's under the National Electricity[2]. Identified shortfalls are packaged into programs within an investment portfolio for which solution options need to be developed and ascribed an indicative project value that represents the estimated capital cost of a system solution which is used as an indicator to determine the option development path and regulatory processes required.

[2] Refer to Compliance Checklist in Appendix A and 'Network Planning & Development under the Code', EnergyAustralia



Forecasting Spatial Demand

Spatial Demand Forecasting provides a rolling 10-year forecast of annual summer and winter peak demands at each significant point in the system. The forecasting approach projects historical load trends with adjustment for anticipated load changes from known customers and where appropriate weather correction.

Forecasts are developed on the basis of EnergyAustralia's spatial demand forecasting methodology, which is outlined in the Standards & Guidelines section (Section 1.1.5).

Key inputs required by the forecasting process include historical system load data, customer information on new demands, details of committed demand management projects and the system demand forecast, which provides an overall crosscheck on spatial forecasting.

The preparation of these forecasts is the responsibility of Manager - Asset & System Performance and is to be approved by Manager - Network Engineering. The results of this process are documented as the Spatial Demand Forecast, which is to be completed by May 30 (summer load) and November 30 (winter load) annually.

System Demand Forecasts

System forecasts are developed on the basis of internal research and external agencies such as the Department of Infrastructure Planning & Natural Resources, BIS Shrapnel, NIEIR etc. These system forecasts are used to verify that the spatial demand forecasts are consistent with global forecasts.

The preparation of these forecasts is the responsibility of Manager - Network Forecasting and is to be approved by Manager - Pricing and Customer Connection Policy.

Asset Condition Report

The Asset Condition Report should document the current condition of assets based on condition assessments undertaken consistent with the Equipment Condition Assessment Guideline.

This report is to be prepared annually by the end of July as input into the investment planning process.

This is the responsibility of Manager – Operations Investment.

Review of Network Capacity (Rating Assessment)

The review of network capacity provides an updated forward view of network capacity based on currently installed assets, committed changes to the system and known issues that affect asset performance.

EA nominally adopts IEC and Australian standards for the permissible maximum loading of all assets but adopts appropriate environmental conditions for such assessments and makes judgements on probable history of emergency events that may influence the nominally assigned ratings.

The preparation of asset rating assessment is the responsibility of Manager - Asset & System Performance.

Load at Risk Assessment

The Load at Risk Assessment is the analysis that considers the magnitude, duration and likelihood of outages on the basis of current system capacities and forecast demand levels.

The preparation of these forecasts is the responsibility of Manager - Asset & System Performance.

System Solution Development

The development of a system solution is required to provide an indicative project value that is then used as an indicator to determine the option development path and regulatory processes required. The indicative project value is required to undertake demand management screening tests and the removal of non-viable options required to ensure the efficient use of design resources.

Sub-Transmission and Distribution System Planners within the Network Engineering branch are responsible for the development of the system supply solutions.

3.1.3. Guidelines – Standards and Methodologies

Asset Ratings Guideline

EA nominally adopt IEC and Australian standards for the permissible maximum loading of all assets but adopts appropriate environmental conditions for such assessments and makes judgements on probable history of emergency events which may influence the nominally assigned ratings.

The Asset Rating Guideline is designed to provide practical assistance to achieving a balance between technical, economic and operational requirements.

The preparation of the Asset Rating guideline is the responsibility of Manager - Asset & System Performance.

Spatial Demand Forecasting Guideline

The methodology for developing Spatial Demand forecasts is designed to provides a structured and transparent mechanism for developing demand forecasts. This is required to meet regulatory and statutory obligations in relation to planning and justifying the prudence of investments. A sound demand forecasting methodology also assists in consulting with the community and other interested parties to establish the need for proposed network developments.

The Spatial Demand Forecasting Guideline is located on the Network Procedures Database (A&SP 02).

The Manager – Asset & System Performance is responsible for developing and maintaining this guideline.

Asset Replacement Priorities

EnergyAustralia has adopted a Reliability Centred Maintenance Policy and is progressively implementing a less intrusive maintenance program with targeted condition-based testing and asset appraisal. This policy is designed to ensure that maintenance and replacement activities are prioritised on the basis of the known failure characteristics of individual assets and condition assessments.

EnergyAustralia's maintenance policy incorporates sound risk management practices. The process seeks to address the requirements of the National Electricity Network Safety Code "ESAA NENS 01-2001" – in particular Section 6 Maintenance.

The principal documents underpinning our maintenance process are Network Subsidiary's "Maintenance Requirements Analysis Manual" and EnergyAustralia's "Technical Maintenance Plan" (TMP), which are available to EA staff on the Engineering Intranet Balin. This core documentation and associated documents (such as Maintenance Standards and relevant Network Standards) and processes will be progressively aligned and made compliant with the detailed requirements of the NENS Code. This involves a migration from EnergyAustralia's current compliance with the detailed requirements of the Electricity Association of NSW Code of Practice for Electricity Transmission and Distribution Asset Management.

The development of operating criteria under which investments are made is the responsibility of the Manager — Operations Investment.

Network System Reliability Standards (including Load at Risk Methodology)

The reliability planning standards are documented in the "System Reliability Planning Standards Procedure (SE-T001)" and are incorporated in Network Standards NS 109-112 available on Balin. The general planning criteria is a mixture of deterministic and probabilistic planning criteria and is designed to give guidance

The development, maintenance and updating of Reliability Planning Standards are the responsibility of Manager - Network Investment.

Network Design Standards

Energy Australia's is in the process of developing a system engineering approach to network system design standards that is consistent with our Reliability Centred Maintenance policy. This approach is designed to integrate the following major activities:

- Development phasing that controls the design process and provides baselines that coordinate design efforts,
- A systems engineering process that provides a structure for solving design problems and tracking requirements flow through the design effort, and
- Life cycle integration that involves the customers in the design process and ensures that the system developed is viable throughout its life.

Network design standards are also based on the principles outlined in the National Electricity Network Safety Code published by the Energy Supply Association of Australia (ESAA) "ESAA NENS 01-2001". Core documentation (such as Network Standards and Electrical Standards) and associated processes will be progressively aligned and made compliant with the detailed requirements of the NENS Code.

The preparation of Network Design Standards is the responsibility of Manager – Network Engineering.

Investment Evaluation Guidelines

These guidelines are currently in development by Manager – Investment Strategy and will incorporate the National Electricity Code requirements for the development and assessment of options and in particular the application of the Regulatory Test. [3]

[3] This should include relevant requirements from the framework for assessing capex agreed with the ACCC for TNSP assets. For DNSP assets requirements will be developed on the basis of the IPART review process.

3.1.4. Outputs

Identification of Needs

The Identification of Needs document represents a concise and clear definition of the of a program of work in terms of:

- Defined capacity constraints within a particular region or area.
- Required reliability levels for a particular region or area.
- Duty of cares requirements.
- Replacement or refurbishment of a particular group of assets on the basis of their condition.
- Customer connection requirements.

For each investment program, the Identification of Need document identifies the underlying network requirements and forecasts, the nature of the need, the timing by which a solution should be implemented and the budget cost of a default investment solution. From this information, the regulatory and governance process path required is identified (eg level of public consultation, level of investigation to identify options etc).

In the case of programs of work, the Identification of Need should include an assessment of the network performance benefits and risks associated with the work involved. The Identification of Need should clearly identify the criteria under which the work has been prioritised.

The Identification of Needs statement has a fundamental role in establishing the justification for an investment project or program and establishing the prudence of that investment.

The appropriate Investment Manager for each portfolio is responsible for coordinating and preparing the Identification of Need document for each investment program. In addition, the appropriate Investment Manager is responsible for obtaining the acceptance of the Manager, Network Engineering before being finalised by Asset & Investment Management.

Statement of Need & Network Options (Demand Projects only)

The Statement of Need & Network Options is a summary of the key supply constraints identified in the Identification of Need combined with an initial network solution (including planning estimates). The Statement of Need & Network Options provides baseline information upon which the scope for non-network and demand side options can be determined. Manager – Network Investment, prepares the Statement of Need & Network Options and is responsible for obtaining the acceptance of Manager – Demand Management before being finalised by Asset & Investment Management.

Instruction for Project/Program Options Study

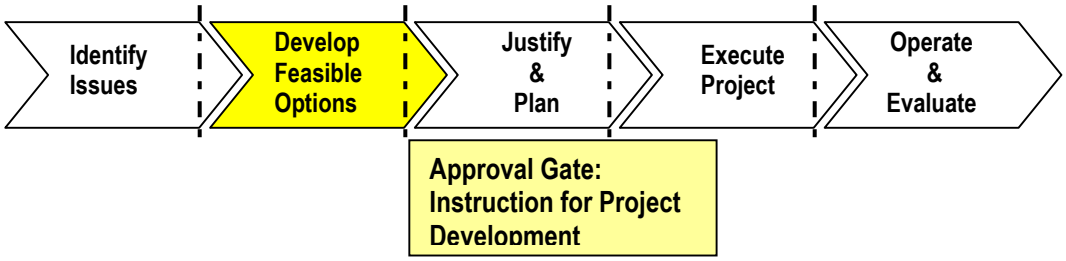
In situations where there is no obvious network solution it may be necessary to commission a Project Options Study by Design Services or other suitably qualified consulting engineers.

3.1.5. Accountabilities

Table 3. Stage 1 Documentation & Approval Requirements: Identify Issues

Document	Prepared by	Endorsed by
Inputs		
Spatial Demand Forecasts	Manager – Asset & System Performance	Manager – Network Engineering
Review of Network Capacity (Rating Assessment)		
Load at Risk Assessment		
System Demand Forecasts	Manager – Network Demand Forecasting	Manager - Pricing & Customer Connections
Asset Condition Report	Manager – Operational Investments	Manager - Asset & Investment Management
Guidelines		
Asset Rating Guideline	Manager – Asset & System Performance	Manager – Network Engineering
Network System Design Requirements	Manager – Engineering Standards & Research	
System Reliability Requirements	Manager – Network Investment	Manager - Asset & Investment Management
Asset Replacement Priorities	Manager – Operational Investments	
Investment Evaluation	Manager – Investment Strategy	
Outputs		
Identification of Needs		
Major Projects/ Programs (>$5M)		
Network Performance	Manager - Network Investment	Manager – Asset & Investment Management
Duty of Care	Manager - Duty of Care	
Customer Connections	Manager - Customer Supply	
Projects/Sub-Programs (<$5M): For projects/program within a defined Program and Investment Strategy		
Network Investment	Network Investment	Manager – Network Investment
	Operations Investment	Manager – Operations Investment
Duty of Care	Duty of Care	Manager – Duty of care
Customer Connections	Customer Supply	Manager - Customer Supply
Statement of Needs & Network Options (Demand Projects Only)	Network Investment	Manager – Network Investment
Instruction for Project/Program Option Study	Network Engineering	Manager - Network Engineering

3.2. Stage 2 — Develop Feasible Options



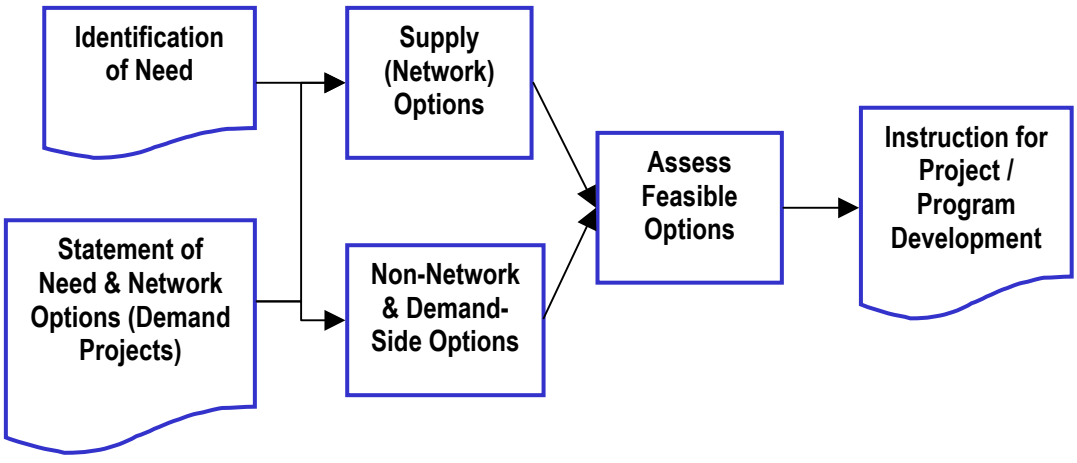
3.2.1. Objective

The objective is to develop a wide range of options, including non-network alternatives, demand management and embedded generation as well as a range of network augmentation options to address the issues identified in the Identification of Needs statement. A preferred option will be selected on the basis of a sound economic and investment evaluation process. Value Management techniques are to be used for developing investment options for projects or programs of work with an estimated value in excess of $5M or of strategic significance. The resulting 'Instruction for Project Development' provides the scope for the development of detailed designs and cost estimates for the preferred project options.

3.2.2. Key Processes

This stage operates at the project level. For each project identified in the "Identification of Needs", options for solutions are developed and assessed leading to one or more clear 'Instructions for Project Development', that specifically addresses issues in the 'Identification of Need'.

Those responsible for undertaking Stage 2 of the framework in respect of a particular investment project will be nominated in the Identification of Needs document. Where appropriate this will involve demand management investigations. The specific elements required for this process vary depending on the level of project (determined by the indicative capital value of the default solution). Larger DNSP projects and all TNSP projects will include a public consultation element whether or not demand management options are considered reasonable.



Project/Program Option Studies

Project/Program Option Studies are studies prepared in response to the Identification of Needs statement or, in the case of demand related investments, the Statement of Need & Network Options. Their function is to identify a range of feasible project options, including delivery strategies and estimated costs, for projects within a defined investment program.

These studies are required to identify how the options were developed, reviewed and the criteria used to identify the preferred option. It is essential that projects be costed on a consistent basis to enable an independent review of this process. Demand Management options will be investigated according to the Demand Management Investigation Guidelines discussed in more detail below. A level of interactivity is required between the supply and demand management option development process to ensure information on budget costs remains current and to guide the development of combined options where appropriate.

Assessment of options within this stage for the purpose of short-listing must include technical, economic and commercial factors. A project option study should then recommend a preferred option from a technical and cost perspective. Typically, engineering analysts within Design Services (Enerserve), Demand Management or external consultants prepare these studies, under the guidance of Network Engineering. Project Options studies should be based on estimates that are accurate to within 25% of final cost.

Projects/Programs will be assessed in accordance with regulatory investment framework and Network's investment guidelines. The evaluation and selection of investment alternatives is the responsibility of Manager, Asset & Investment Management.

Demand Management Guidelines

Network Demand Management (DM) involves identifying and implementing options that reduce the peak demand for electricity – allowing optimisation of capital expenditure on network assets. This is an important element of ensuring the identification of a wide range of options. It is also required by DNSP licensing and the National Electricity Code and expected by our economic regulators as part of prudent investment management.

The methodology for investigating DM options is contained in the Demand Management Guidelines. They specify the type and depth of investigation to be undertaken at each stage for the various project levels and the decision-making criteria for ranking DM options against one another and against network alternatives.

The process that EnergyAustralia utilises is detailed in "EnergyAustralia's Demand Management Process" which is located on a Lotus Notes database "SEU key documents register" that is available to staff in the Network Venture Development branch. A general overview of EnergyAustralia's process is provided on the EnergyAustralia web-site. EnergyAustralia's network pricing initiatives are described in the Price & Service Report (now referred to as Network Strategy Statement) published in January on EnergyAustralia's web site. This includes the use of screening tests to determine if it is appropriate to commit resources to pro-active investigations for a particular project based on the preliminary information and budget costs in the Identification of Needs. Scoping studies, including public consultation will normally be the means of developing demand management options for consideration.

The Manager - Demand Management is responsible for the preparation and updating of the Demand Management Guidelines.

Public Consultation Requirements

The National Electricity Code contains varying requirements in relation to consultation on network augmentation proposals depending upon the anticipated expenditure on the proposed solution.

The first step is the public notification of the existence of the forecast shortfall of network performance. This is published either in the AESDR (for DNSP) or the Annual Planning Report (for TNSP) as part of the documentation and publications arising from stage one. It should be noted however that there is also a requirement to publish details of projects in the Annual Planning Report following the regulatory test analysis. Summary requirements are listed in Appendix A – Compliance Checklist. Further details are contained in Network Planning & Development under the Code – A Guide.

In this second stage of the process, however, public consultation is required in the development of options.

For DNSP projects, there must be an economic cost effective analysis of possible options to identify options to address the constraint or limitation. The analysis carried out must form part of the consultation on that project option. Whilst the relevant Code provision (5.6.2(f) is not totally clear, a reasonable interpretation is that consultation is only required in relation to new large network assets**For TNSP projects**, there must be consultation for all new small and new large network assets. For new small network assets the consultation should, where possible, be coordinated with the publication of a proposed new small network asset in the Annual Planning Report as required by clause 5.6.6A of the Code. It should be noted that the consultation process required is in addition to the publication of the details in the Annual Planning Report. If the project is not included in the Annual Planning Report then separate obligations apply to require the publication of and consultation on the proposal. For new large network assets the consultation must take place once the regulatory test analysis has occurred and involves the notification of a proposal to establish the new network assets though an "application notice" involving NEMMCO in addition to EA providing notification to affected Code participants and interest parties. [4]

[4] See 'Network Planning & Development under the Code – A Guide' for the detailed requirements of clause 5.6.6 of the Code in relation to the establishment of new large network assets including the process and timing for submissions and resolution of any disputes.

The determination process and final project option must be published in a final report under the National Electricity Code. For DNSP projects this report is required under clause 5.6.2(h) of the Code. For new large TNSP assets the report is required under clause 5.6.6(j) and for new small TNSP assets a further report is only required if there is a change to the project details published in the Annual Planning Report at the time of consultation. The timing of these reports will depend upon whether more than one option is still under consideration at the time of the project justification stage.

The Manager – Network Investment is ultimately responsible for ensuring the appropriate consultations take place at the appropriate times to ensure compliance with Code requirements.

Community Consultation

On the selection of the final options, Investment Managers are responsible for making timely contact with the Executive Manager – Major Projects to identify community consultation requirements (which may integrated with or separate from those discussed above) and develop a consultation plan.

Care should be taken to ensure that this point occurs well before significant costs have been incurred in investigating the selected option in Stage 3 of the process.

Such a practice will also enable determination of the likely environmental requirements and whether there are likely to be significant requirements that may result in revision of the options, major costs and timeframe impacts.

Following consultation, the Manager — Network Investment will then undertake a review of each of the options taking into account the outcomes of consultation and prepare an updated work scope and timing for each.

Strategic Property Assessment

The Manager – Strategy Assessment will initiate the investigation of property options for any projects or programs where property acquisitions are required. The Manager – Strategy Assessment is required to consolidate this advice and provide this to Manager – Network Investment as input to project option development.

Economic Assessment

The economic assessment and investment review process involves:

- Sound evaluation of investment options on a comparable basis
- Least net present life-cycle cost on the basis of an appropriate discount rate.
- Appropriate allowance for risk (eg: through the use of expected project estimates which incorporate the risks associated with alternative construction or project delivery methods)
- Review of financial impact of investment proposals

The purpose of this review is to ensure that the investment proposal is structured in a way that optimises the financial performance of the investment.

3.2.3. Output – 'Instruction for Project/Program Development'

The 'Instruction for Project/Program Development' is a clear and concise instruction requesting the development of either a Project Offer in response to a selected project option or project options study to address a defined need or constraint. The Instruction for Project/Program Development should include a request for technology and timing options.

In the case of investment programs it is necessary to for the Instruction for Project Development to define the program in terms of a prioritised scope of work and timing. This scope is important in being able to verify that the program of work has been optimised in terms of both scope and timing.

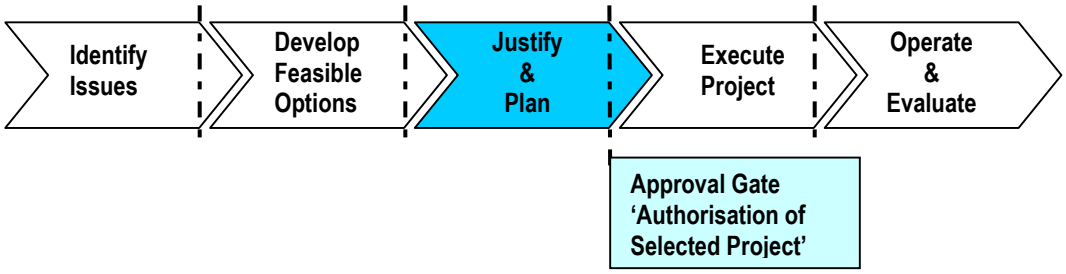
3.2.4. Accountabilities

Table 4. Stage 2 Documentation and Approval Requirements: Develop Feasible Options

Document	Prepared by	Approved by
Input: "Identification of Needs/ Statement of Need & Network Options"		
Major Projects/ Programs (>$5M)		
Network Performance	Network Investment Operations Investment	Manager – Asset & Investment Management
Duty of Care	Duty of Care	
Customer Connections	Customer Supply	
Projects/Sub-Programs (<$5M): For projects/program within a defined Program and Investment Strategy		
Network Investment	Network Investment Operations Investment	Manager – Network Investment Manager – Operations Investment
Duty of Care	Duty of Care	Manager – Duty of care
Customer Connections	Customer Supply	Manager - Customer Supply
Statement of Need & Network Options (Demand Projects Only)	Network Investment	Manager – Network Investment

Document	Prepared by	Endorsed by
Process		
Project/Program Option Studies		
Major Projects/Programs (>$1M): For projects within a defined Program and Investment Strategy		
Network Performance Duty of Care Customer Connections	Various	Manager - Network Engineering or Manager - Customer Service or As nominated in the "Identification of Needs"
Minor Project/Programs (<$1M): For projects within a defined Program and Investment Strategy		
Network Performance Compliance Customer Supply	Various	As delegated by Manager - Network Engineering or Manager – Customer Service or As nominated in the "Identification of Needs"
Demand Management Feedback	Manager - Demand Management	Manager – Network Investment
Economic Assessment	Manager – Investment Management	Manager – Asset & Investment Management
Output: "Instruction for Project/Project Development"		
Major Projects/Programs (>$10M)		
Network Performance Duty of Care Customer Connections	Manager - Network Investment Manager - Duty of Care Manager - Customer Supply	General Manager – Network
Major Projects/ Programs (>$5M <$10M)		
Network Performance Duty of Care Customer Connections	Manager - Network Investment Manager - Duty of Care Manager - Customer Supply	Manager – Asset & Investment Management
Projects/Sub-Programs (> $1M <$5M): For projects/program within a defined Program and Investment Strategy		
Network Investment Duty of Care Customer Connections	Asset & Investment Management Duty of Care Customer Supply	Manager – Network Investment or As delegated by Manager- Asset & Investment Management. Manager – Duty of Care Manager - Customer Supply
Minor Projects (<$1M): For projects within a defined Program and Investment Strategy		
▪ Network Performance ▪ Duty of Care ▪ Customer Connections	Various Various Regional Customer Service Representatives	As nominated by Manager - Network Engineering or Manager Customer Supply or As nominated in the "Identification of Needs" Manager -Duty Of Care Customer Service Regional Manager

3.3. Stage 3 — Justify and Plan



3.3.1. Objectives

The objective of this stage is to finalise the scope, timing, cost estimates and schedule of the preferred option, and the allocation of funds to implement the project. This may include the further detailed evaluation of more than one option.

3.3.2. Key Processes

Project/Program Offers

This process commences with the appropriate investment manager making arrangements for Manager - Commercial to engage Enerserve or another appropriate service provider to respond to the Instruction for Project Development with a Project Offer or offers.

The Project Offer is required to provide:

- Concept Designs
- Estimates accurate to within +/- 10%.
- Project risk assessment.
- Project delivery schedule.
- Results of Community Consultation.
- Details of Environmental Compliance Requirements.

Cost estimates and projected outcomes will form the basis of decisions to proceed and the prioritisation of projects as part of the overall investment portfolio.

In the case of program offers, the offer should comprise a schedule of rates for generic solutions under the program.

Where the Project Offer differs significantly from the planning estimate used in the project option study, it is necessary for the investment manager to seek confirmation from the project option development team that the selected option still represents the preferred option. Depending on the materiality of the change, it may also be necessary to revisit the regulatory test analysis. It should be recognised that this may be an iterative process that will require the revisiting of project options on the basis of the resulting project offers.

Where there is more than one project offer, resulting in more than one option still being under consideration then further regulatory test analysis and consultation may be required, particularly if the justification and planning process results in a change to the results of the application of the regulatory test. Further legal and project advice should be sought in these circumstances.

Justification for Project/Program Selection

The appropriate Investment Manger will assess the project offer on the basis of the Instruction for Project/Program Development and where it is acceptable:

- Prepare the Justification for Project Selection.
- Arrange an independent review of project selection and project offer (where appropriate).
- Arrange for project authorisation.

The Justification for Project/Program Selection is the document that summarises the justification for the preferred project/program option in terms of:

- Concept & Design.
- Cost.
- Timing.
- Risks.

At the same time as the Justification for Project/Program Selection arrangements should be made for the preparation and publication of final reports under the National Electricity Code to be made available to affected Code Participants and interested parties.

Contingency Management

The capital submission covers such a long time period that many of its components are presently only at a conceptual stage of development. Substantial cost variations are inevitable in many projects as a result of changes in project scope and costs. These probable variations in cost need to be captured in the capital program via an allowance for contingency.

The contribution to the portfolio contingency of any individual project will depend on its stage in the project life cycle.

Initial project option planning estimates are required to within +/- 25% (with a consistent cost base for each option). Final project offers are required to be accurate within +/- 10%.

Investment programs will be managed on a program basis with costs reviewed on the basis of the schedule of rates contained in the Program Offer.

Contingency will be managed across the entire portfolio, rather than on a project-by-project basis, to gain the full benefits of diversity in project risks. Budget approval for projects and programs should include contingency commensurate with delivery risks. The Manager – Commercial will manage the release of contingency amounts through a formal variation procedure as outlined in Stage 4 of this framework.

Financial & Investment Review

Once the preferred project option has been selected a financial and investment review of the investment proposal is prepared. The purpose of this review is to assess the strategic aspects of the investment and its financial impacts and to develop alternate ways of structuring the project from a financial perspective. This review is to be undertaken by Manager – Investment Strategy and is to be jointly endorsed by the General Managers of Network and Corporate Finance.

Independent Review

In certain cases, significant projects or programs of works may be subject to an independent review as determined by the General Manager – Network.

3.3.3. Output –Authorisation of Selected Project

Projects will be authorised in accordance with the delegated authority limits listed below.

It is important that the impact of authorised projects be considered in subsequent analysis of network capacity (in the case of network augmentations) and demand forecasts (in the case of demand management projects). These feedback loops are part of the process requirements for this stage. The Manager – Commercial is responsible for ensuring this happens and that this information is forwarded to Manager – Asset & System Performance.

3.3.4. Accountabilities

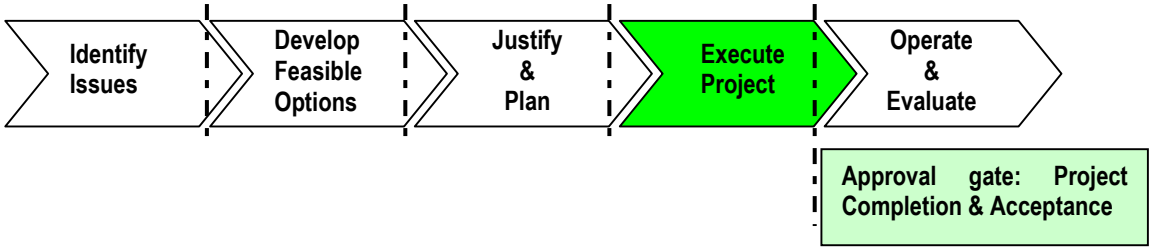
Table 5. Stage 3 Documentation and Approval Requirements: Selection and Planning

Document	Prepared by	Authorised by
Inputs		
Project Proposal "Instruction for Project Development"		
Major Projects/Programs (>$10M)		
Network Performance	Manager - Network Investment	General Manager – Network
Duty of Care	Manager - Duty of Care	
Customer Connections	Manager - Customer Supply	
Major Projects (>$5M)		
Network Performance	Manager - Network Investment	Manager – Asset & Investment Management
Duty of Care	Manager - Duty of Care	
Customer Connections	Manager – Network Investment	
Projects/Sub-Programs (> $1M <$5M): For projects within a defined Program and Investment Strategy		
Network Investment	Asset & Investment Management	Manager – Network Investment or As delegated by Manager – Asset & Investment Management
Duty of Care	Duty of Care	
Customer Connections	Customer Supply	

Document	Prepared by	Authorised by
Minor Project (<$1M): For projects within a defined Program and Investment Strategy		
Network Performance	Various	As nominated by Manager - Network Engineering or Manager Customer Supply or as nominated in the "Identification of Needs"
Duty of Care	Various	Manager – Duty of Care
Customer Connections	Regional Customer Service Representatives	Customer Service Regional Manager
Processes		
Project Offers		
Network Performance Duty of Care Customer Connections	Various	GM-Enerserve or as nominated by GM-Enerserve
Justification for Project Selection		
Major Projects (>$1m)		
Network Performance Duty of Care Customer Connections	Manager - Network Investment Manager - Duty of Care Manager – Customer Supply	Manager - Asset & Investment Management
Minor Project (<$1M) For projects within a defined Program and Investment Strategy		
Network Performance	Various	Manager - Network Engineering or Manager - Customer Supply or their nominated officer
Duty of Care	Various	Manager – Duty of Care
Customer Connections	Various Customer Service	Manager - Customer Service or nominated officer
Financial & Investment Review	Manager – Investment Strategy	General Manager – Network General Manager – Corporate Finance
Independent review of Justification of Project Selection	Independent Reviewer	General Manager - Network & General Manager – Corporate Finance

Document	Prepared by	Authorised by
Outputs		
Authorisation of Selected Project		
Major Projects (>$1m)		
Network Performance	Manager - Network Investment	In accordance with delegated authority and as specified in Identification of Need.
Duty of Care	Manager – Duty of Care	
Customer Connections	Manager – Customer Supply	
Minor Project (<$1M) : For projects within a defined Program and Investment Strategy		
Network Performance	Various	In accordance with delegated authority and as specified in Identification of Need.
Duty of Care	Various	
Customer Connections	Various Customer Service	

3.4. Stage 4 — Execute Project



3.4.1. Objective

The objective of this stage is to ensure that the selected project delivers the targeted outcomes in the required time and in line with the estimated budget.

3.4.2. Key Processes

The appropriate Investment Manager — Network Performance, Duty of Care, Customer Supply firstly ensures that a Project Authorisation has been prepared and that an authorised officer has approved the project.

Instruction for Project Execution

The Instruction for Project Execution is the document that outlines the technical, commercial and reporting requirements associated with a project. Approval of this document is the responsibility of the Manager – Asset & Investment Management. On receiving the Instruction for Project Execution, the service provider is required to return an acknowledgment of receipt.

Commercial Arrangements

Manager - Commercial is responsible for establishing commercial arrangements with Enerserve (or another service provider) and/or other assistance as may be required, to undertake the projects identified in Stage 3.

Program Management

The Asset & Investment Management group provide Program Management and Administrative support to the investment process. This includes ensuring that:

- Sufficient investment projects and programs have been developed and evaluated so ensure that an adequate volume of work is available to ensure that Enerserve and external resources are efficiently utilised.
- The progress of projects and programs of work is reported in a timely and accurate manner.
- Projects and programs or work are delivered in line with agreed requirements.

In the case of ongoing investment programs, performance will be assessed on the basis of progress against the defined scope of works in terms of prioritised activities and the schedule of rates contained in the program offer.

The Manager - Commercial will maintain accurate records of all expenditure, meetings and decisions taken in relation to the project/program.

Variation Procedures

Any variation outside the limits defined in the Instruction for Project Delivery is to be approved by the Manager – Commercial in consultation with the appropriate Network managers.

3.4.3. Output - Project Completion and Acceptance Report

On conclusion of the project, the service provider is required to complete a Project Completion & Acceptance report. This review should confirm that the project was delivered in accordance with the Instruction for Project Delivery and be endorsed by Manager - Commercial.

The issues arising from this report are to be entered in the Network databases for use in future projects.

3.4.4. Accountabilities

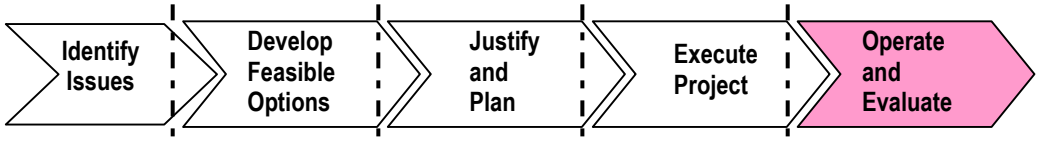
The Manager - Commercial is accountable for the management of the service provider. The Project Manager is accountable for project delivery.

The following table lists the documentation and approval requirements within this stage.

Table 6: Stage 4 Documentation and Approval Requirements: Selection and Planning

Document	Prepared by	Approved by
Inputs		
Authorisation of Selected Project		
Major Projects (>$1M)		
Network Performance	Manager — Network Investment	In accordance with delegated authority
Duty of Care	Manager – Compliance Investment	In accordance with delegated authority
Customer Connections	Manager — Network Investment	In accordance with delegated authority
Minor Project (<$1M): For projects within a defined Program and Investment Strategy < $1M		
Network Performance	Various	In accordance with delegated authority
Duty of Care	Various	In accordance with delegated authority
Customer Connections	Various Customer Service	In accordance with delegated authority
Instruction for Project Execution		
Major Projects (>$1M) Network Performance Duty of Care Customer Connections	Program Management Office	Manager – Asset & Investment Management
Minor Project (<$1M): For projects within a defined Program and Investment Strategy		
Network Performance Duty of Care Customer Connections	Various Various Various Customer Service	Authorising Officer. Copy to Program Office.
Output		
Project Completion and Acceptance	Service Provider	Manager -Commercial

3.5. Stage 5 — Operate and Evaluate



3.5.1. Objectives

The objective of this stage is to ensure that investments undertaken actually deliver the targeted Network Performance, Duty of Care and Customer outcomes.

3.5.2. Key Processes

In Stage 5 of the framework, the activities concentrate on tasks monitoring the technical and commercial operation of completed projects to assist in ensuring that these investments deliver targeted outcomes.

Assessment of Customer Outcomes

The Assessment of Customer Outcomes is a high-level assessment of the project/program that reviews whether the project/program actually delivered the agreed outcomes identified in the Instruction for Project Development. An Assessment of Customer Outcomes is required for all projects and programs of work with a value greater than $1M. This Assessment is to be managed by Manager - Commercial and undertaken in conjunction with the appropriate investment manager.

3.5.3. Output - Post Implementation Reviews

A Post Implementation Review (PIR) is carried out on selected projects to provide a detailed review of projects to ensure that investments were made on a sound basis and that the project was delivered in an efficient manner. This review should take into account the requirements of the relevant regulator for the assessment of the efficiency of project delivery. (See Appendix A for details of these requirements. General Manager – Network will select those projects that will be subject to a Post Implementation review.

The Manager - Strategic Assessments is responsible for coordinating Post-Implementation Reviews in conjunction with the appropriate Investment Manager.

3.5.4. Accountabilities

Table 7. Stage 4 Documentation and Approval Requirements: Operate & Evaluate

Document	Prepared by	Approved by
Inputs		
All output documents produced as part of the project	Service Provider	Manager - Commercial
All commissioning documents produced as part of the project	Service Provider	Manager - Commercial
Project Completion and Acceptance	Service Provider	Manager - Commercial
Output		
Assessment of Customer Outcomes	Managed by Manager – Commercial in conjunction with appropriate investment manager.	Manager – Asset & Investment Management
Post Implementation Review (selected projects)	To be determined by General Manager – Network	General Manager – Network

4. Glossary

Portfolio

An investment portfolio is the group of investment programs that are designed to address one of the three key investment drivers (network performance, duty of care or customer connections).

Program

An investment program is one of the nominated clusters of related projects or sub-programs to address a defined outcome or need eg: Distribution Mains replacement program (Program No. 10), Replacement of aged infrastructure and supplying increased demand in the Sydney CBD. (Program No.8), Urban reliability improvement (Program No.32).

Project

A component of a Program involving a discrete bundle of work affecting a specific asset with a defined duration and budget in excess of $1M eg: City North Replacement, Replacement of 33kV cables supplying Camperdown Zone Substation.

Sub-Program

A component of a Program involving a set of repetitive tasks affecting multiple assets (prioritised) with a unit cost of less than $1M eg: LV CONSAC cable replacement, Cubicle Switchgear replacement, LV service wire replacement, 33kV GCN Circuit Breakers replacement.

Regulatory View

The regulatory view relates to the investment categories previously provided to economic regulators and comprises:

- Replacement & Refurbishment.
- Reliability.
- General Load Growth.
- New Load.
- Regulatory (Environmental & OH&S).

Value Management

A structured, systematic & analytical process that seeks to generate value by providing required functions at the lowest total cost consistent with required levels of quality and performance.

Life-Cycle Cost

Total cost of an investment over its life including acquisition, operation & maintenance and disposal.

Instruction for Project Development

The 'Instruction for Project Development' is a document requesting the development of a Project Offer that addresses the identified need. The instruction requests that a project offer be developed.

Previously, the instruction for project development was referred to as a Distribution Network Project (DNSP's) and Sub-transmission Network Project (SNP's). It should be noted that the revised instruction clearly requires the project to be developed on the basis of a clearly identified need.

Program Management Office

The Program Management Office within Asset & Investment Management is responsible for providing program management and administrative support throughout the investment process.

5. Document Numbering

Documents are to be numbered as follows:

Alpha/Numeric	Description
1. Program Number	Program Number as identified in Network Capital Program.
2. Project/Sub-Program Identifier Number	Zone, STS, Feeder or Sub-Program Number
3. Year	Start year
4. Project/ Sub-Program Identifier (3 Digit Numeric)	001 – 999
5. 1. Alpha (N,D,I)	Alpha Code to identify document type; N: (Identification of) Need S: Statement of Need & Network Option D: (Instruction for Project) Development O: Option Study J: Justification for Project Selection A: (Network Project) Authorisation E: Instruction for Project/program Execution V: Variation Request C: (Project) Completion Review P: Post Implementation Review

6. Templates

Refer to Network Lotus Notes Database (Network/Asset & Investment Management/Investment Management)

Appendix A - Compliance Checklist

All clause references are to Chapter 5 of the National Electricity Code.

This checklist should be read in conjunction with the *"Guide to Network Planning and Development under the National Electricity Code", "the Guide"*

DNSP Planning & Development Obligations	
Forecasts for connection points to transmission network	
1. NSP must give at least 40 business days' written notice to each relevant Code Participant of the annual date by which that Code Participant must provide that NSP with the short and long term electricity generation, market network service and load forecast information listed in schedule 5.7 of the Code in relation to each connection point which connects the Code Participant to a transmission network and any other relevant information as reasonably required by the NSP (5.6.1(a)). 2. Provide relevant TNSP with the short and long term electricity generation, market network service and load forecast in relation to each connection point to the TNSP's network and any other relevant information as reasonably required by the TNSP (5.6.1(a)) NSPs may also request Code Participants to provide details of planned future generating units, market network services and loads regarding the proposed commencing date, active and reactive power capability, power transfer capability, operating times/seasons and special operating requirements (5.6.1(b)). Code participants must comply with these requests.	
Joint Annual Planning Review with TNSP's	
3. General obligation on NSPs to analyse the expected future operation of their transmission or distribution networks respectively over "an appropriate planning period" (5.6.2(a)).	
4. Participate in an annual planning review with each TNSP to which DNSP network is connected within the region (5.6.2(b)). This review must: (a) incorporate the forecast loads; (b) include a review of the adequacy of existing connection points and relevant parts of the transmission system and planning proposals for future connection points; and (c) adopt a minimum planning period of 5 years for distribution networks and 10 years for transmission networks. 5.6.2(d)	
5. Where the necessity for augmentation or a non-network alternative is identified by the annual planning review, joint planning must be undertaken by relevant NSPs in order to determine plans that can be considered by relevant Code Participants and interested parties (5.6.2(c)).	
Identify need for augmentations as part of annual planning review or as a result of separate analysis	
6. Extrapolate and analyse the forecasts provided by Code Participants for the purpose of Clause 5.6.2(e)	
7. Where the planning analysis indicates that any relevant technical limits of the transmission and distribution systems will be exceeded, the NSP must notify any affected Code Participants and advise the expected time required to allow the appropriate corrective network augmentation or non-network alternatives, or modifications to connection facilities to be undertaken (5.6.2(e)) as part of the Annual Planning Review. 5.6.2 (f) and (g). **Note: Compliance with the network planning and development processes is required irrespective of whether or not they were identified as part of the annual planning review. Code participants can be notified through the AESDR but it must be specifically brought to their attention, see the Guide for more detail.**	
Consultation on, and analysis of, distribution network augmentations	
8. Where the need for a corrective solution has been identified, the DNSP must within the corrective time period: (a) carry out an economic cost effectiveness analysis of possible options to identify options that satisfy the regulatory test and meet the technical requirements of schedule 5.1 of the Code (5.6.2(g)); and (b) "consult" with affected Code Participants and interested parties on the possible options, including but not limited to demand side options, generation options and market network service provider options to address the projected limitations of the relevant distribution system, together with the economic cost effectiveness analysis and allocation. **Note: Consultation is only required in relation to new large network assets (>$10mil). See the Guide for more detail on what is required to consult effectively.**	
9. The "regulatory test" requires a DNSP, in respect of a network augmentation proposed to meet an objectively measurable service standard, to analyse the available options to determine the options that minimise the net	

present value of the "cost" (as defined in the regulatory test) of meeting those standards. In respect of augmentation not proposed to meet an objectively measurable service standard, a DNSP is required to analyse the available options to determine the options that maximise the net present value of the "market benefit" (as defined in the regulatory test) of meeting those standards. **Note: The ACCC's issued a new regulatory test in August 2004, see the ACCC's decision "Review of the Regulatory Test for Network Augmentations- 11 August 2004", to ensure that the correct test is applied.**	
10. Following the conclusion of the economic cost effective analysis and consultation, DNSP must prepare a report that is to be "made available" to affected Code Participants and interested parties which: (a) includes assessment of all identified options; (b) includes details of the DNSP's preferred proposal and details of its economic cost effective analysis and determination, together with details of the consultations conducted for the purposes of that determination; (c) summarises the submissions from the consultations; and (d) recommends the action to be taken (5.6.2(h)). **Note: See the Guide for how a report is "made available", generally publishing on website and notifying affected Code participants and interested parties will be sufficient.**	
11. Where a Code Participant disputes a recommendation within 40 business days after the report in relation to a proposal which is a new large network asset >$10mil or is reasonably likely to change the DUOS charges to the disputing Code Participant by >2% at the next rice review, the DNSP and the affected Code Participants must negotiate in good faith with a view to reaching agreement on the action to be taken (5.6.2(i) and (j)).	
12. The relevant DNSP must arrange for the network options (if any) recommended in its corrective action report to be available for service by the agreed time: (a) following upon completion of the 40 business day period or on resolution of any dispute in accordance with clause 8.2 of the Code where the DNSP and affected Code Participants have had to negotiate in good faith to reach agreement,; and (b) upon completion of the corrective action report (in respect of all other network options), (5.6.2(k)).	
Impact of augmentation on connection agreements	
13. If a use of system service or the provision of a service at a connection point is directly affected by a distribution system augmentation, appropriate amendments to relevant connection agreements must be negotiated in good faith between the parties to them (5.6.2(l)).	
Implementation of generation option	
14. Where the relevant DNSP decides to implement a generation option as an alternative to network augmentation, the DNSP must register the generating unit with NEMMCO and specify that the generating unit may be periodically used to provide a network support function and will not be eligible to set spot sot prices when constrained on in accordance with clause 3.9.7 and include the cost of this network support service in the calculation of distribution service prices determined in accordance with Chapter 6 (5.6.2(m)).	
Planning and development obligations of TNSPs	
Forecasts for connection points to transmission network	
15. TNSPs must give at least 40 business days' written notice to each relevant Code Participant of the annual date by which that Code Participant must provide that TNSP with the short and long term electricity generation, market network service and load forecast information listed in schedule 5.7 of the Code in relation to each connection point which connects the Code Participant to a transmission network and any other relevant information as reasonably required by the TNSP (5.6.1(a)).	
16. TNSPs may also request Code Participants to provide details of planned future generating units, market network services and loads regarding the proposed commencing date, active and reactive power capability, power transfer capability, operating times/seasons and special operating requirements (5.6.1(b)).	
Annual planning review conducted jointly with DNSPs	
17. The Code imposes a general obligation on NSPs to analyse the expected future operation of their transmission or distribution networks respectively over "an appropriate planning period", taking into account the relevant forecast loads, any future generation, market network service, demand side and transmission developments and any other relevant data (5.6.2(a)).	

18. A TNSP must conduct an annual planning review with each DNSP connected to its transmission network within a region (5.6.2(b)). This review must: (a) incorporate the forecast loads submitted by DNSPs or subsequently modified by the relevant TNSP; (b) include a review of the adequacy of existing connection points and relevant parts of the transmission system and planning proposals for future connection points; and (c) adopt a minimum planning period of 5 years for distribution networks and 10 years for transmission networks.	
19. Where the necessity for augmentation or a non-network alternative is identified by the annual planning review, joint planning must be undertaken by the relevant NSPs in order to determine plans that can be considered by the relevant Code Participants and interested parties (5.6.2(c)).	
Identifying need for augmentations as part of annual planning review or as a result of separate analysis	
NSPs must extrapolate and analyse the forecasts provided by Code Participants for the purpose of planning. Where the analysis indicates that any relevant technical limits of the transmission and distribution systems will be exceeded, either in normal conditions or following the contingencies specified in schedule 5.1, the NSP must notify any affected Code Participants and advise those Code Participants of the expected time required to allow the appropriate corrective network augmentation or non-network alternatives, or modifications to connection facilities to be undertaken (5.6.2(e)). Note: Notification to affected Code participants can be through the Annual Planning Report published in June each year or separately. If the Annual Planning Report is relied upon then steps should be taken to bring the report to the attention of any affected Code participants, see the Guide for further details	
Annual Planning Report	
20. By 30 June each year all TNSPs must publish an Annual Planning Report setting out the results of the annual planning review (5.6.2A(a)). The Annual Planning Report must set out: (a) the forecast loads submitted by a DNSP in accordance with clause 5.6.1 or as modified in accordance with clause 5.6.1(d); (b) planning proposals for future connection points; (c) a forecast of constraints and inability to meet the network performance requirements set out in schedule 5.1 or relevant statutory requirements of a participating jurisdiction (collectively referred to as the "network performance requirements") over 1, 3 and 5 years; (d) for all proposed augmentations to the network the following information, in sufficient detail relative to the size or significance of the project and the proposed operational date of the project: ▪ project/asset name and the month and year in which it is proposed that the asset will become operational; ▪ the reason for the actual or potential constraint, if any, or inability, if any, to meet the network performance requirements, including load forecasts and all assumptions used; ▪ the proposed solution to the constraint or inability to meet the network performance requirements, if any; ▪ total cost of the proposed solution; ▪ whether the proposed solution will have a material inter-network impact - in assessing whether an augmentation will have such an impact a TNSP must have regard to the objective set of criteria published by the IRPC in accordance with clause 5.6.3(i) (if any); and ▪ other reasonable network and non-network options considered to address the actual or potential constraint or inability to meet the network performance requirements.	

(e) for all proposed new small network assets; ▪ an explanation of the ranking of reasonable options to the project including non-network alternatives. This ranking must be undertaken by the TNSP in accordance with the principles contained in the regulatory test; ▪ an augmentation technical report prepared by the IRPC in accordance with 5.6.3(j) if, and only if, the asset is reasonably likely to have a material inter-network impact and the TNSP has not received the consent to proceed with the proposed solution from all transmission networks materially affected by the new small network asset. And ▪ analysis of why the TNSP considers that the new small network asset satisfies the regulatory test and, where the TNSP considers that the new small network asset satisfies the regulatory test as the new small network asset is a reliability augmentation, analysis of why the TNSP considers that the new small network asset is a reliability augmentation. **Note:** The detail which can be provided in relation to proposed augmentations will depend upon the stage of the development of the proposal. For example it will not be possible to provide the detail in relation to proposed new small network assets referred to in (e) above until a regulatory test analysis has been carried out, which in turn can not occur until the 12 months before the proposed construction. Consequently until a regulatory test has been carried out only the details referred to in (d) could be provided.	
New Large Network Assets (Transmission Asset > $10M)	
21. TNSPs which want to establish a new large network asset must "consult" all Code Participants and interested parties about the proposed new large network asset in accordance with clause 5.6.6. As part of this consultation, the TNSP must make available to all Code Participants an application notice setting out: (a) a detailed description of: ▪ the proposed new large network asset; ▪ the reasons for proposing to establish the new large network asset (including, where applicable, the actual or potential constraint or inability to meet the network performance requirements, including load forecasts and all assumptions used); and ▪ all other reasonable network and non-network alternatives to address the identified constraint or inability to meet the network performance requirements; (b) all relevant technical details concerning the proposed new large network asset and the construction timetable and commissioning date for the new large network asset; (c) an analysis of the ranking of the proposed new large network asset and all reasonable alternatives - this ranking must be undertaken by the TNSP in accordance with the principles contained in the regulatory test; (d) an augmentation technical report prepared by the IRPC if, the asset is reasonably likely to have a material inter-network impact and the applicant has not received the consent to proceed with such construction from all transmission networks materially affected by the new large network asset (5.6.3(i)); and (e) detailed analysis of why the applicant considers that the new large network asset satisfies the regulatory test and, where the applicant considers that the new large network asset satisfies the regulatory test because the new large network asset is a reliability augmentation. Note: To effectively consult the existence of the application notice must be brought the attention of all Code Participants and interested parties and an opportunity given for submissions to be made. See the Guide for more detail on what is required to effectively consult.	
22. Provide a summary of the application notice to NEMMCO (which NEMMCO publishes on its website within 3 business days of receipt), and must upon request by an interested party provide that party with a copy of the application notice within 3 business days of the request (5.6.6(c)).	
23. Consider all valid submissions (within 30 business days) and must use its best endeavours to hold meetings with interested parties who have requested meetings within a further 21 business days if after having considered all valid submissions, it concludes that it is desirable or necessary to hold any such meetings or a meeting is requested by 2 or more interested parties (5.6.6(e)).	
24. Prepare a final report that is to be made available to all Code Participants and interested parties who responded to the application notice which must set out in detail the matters detailed in clause 5.6.6(b) and summarises the submissions received from interested parties and the applicant's response to each such submission (5.6.6(f)).	

25. The applicant must provide a summary of the final report to NEMMCO which NEMMCO publishes on its website (5.6.6(g)).	
26. In the event of a dispute, dispute resolution arrangements in Clause 8.2 of the Code apply as modified for the purposes of clause 5.6.6(h) by clause 5.6.6(i). Clause 5.6.6 of the Code sets out detailed provisions in relation to the type of matters which may be subject to dispute and the steps which must be taken following the resolution of a dispute. See the Guide for further details. 27. Following resolution of the dispute, must prepare final report incorporating any agreed or amended matters and any determination by the Dispute Resolution Panel. Final report to be given to NEMMCO for publication on NEMMCO's website. TNSP to provide report to interested party within 3 business days of request (5.6.6(j)-(k) 28. Code Participants and interested parties may dispute finding in a final report under 5.6.6(j) (within 10 business days after its publication) or under 5.6.6(f) (within 40 business days after publication of the summary of the report) that a new large network asset is not a reliability augmentation. Where such a dispute is raised, must apply to ACCC for determination whether new large network asset satisfies Regulatory Test prior to construction (5.6.6(j)-(m).	
New Small Network Assets ($1M < Transmission Asset < $10M)	
29. TNSPs which want to establish a new small network asset must "consult" all Code Participants and interested parties about the proposed new small network asset in accordance with clause 5.6.6A(a). This process should, as far as possible, be integrated with the inclusion of the proposed augmentation in the TNSP Annual Planning Report so that: • Details of the proposed new small network assets are included in the Annual Planning Report as required by 5.6.2A(4) and (5); and • To coincide with the publishing of the Annual Planning Report a notice is sent out to interested parties advising them of the proposal and inviting written submissions within 20 business days of the publication of the Annual Planning Report. At the end of the 20 business day submission period, the TNSP must republish a report on the matters set out in 5.6.2A (4) and (5), if there has been any material change in those matters, see 5.6.6A(b)(1). Any new small network assets which are not included in the Annual Planning Report must be the subject of a separate report which complies with 5.6.2A(4) and (5) of the Code and the subject of consultation so that interested parties may make a submission within 20 business days of the report being published. If there is any material changes following the consultation, a further report must be published. (5.6.6A(c) and (d).	
Impact of augmentation on connection agreements	
30. If a use of system service or the provision of a service at a connection point is directly affected by a transmission system augmentation, appropriate amendments to relevant connection agreements must be negotiated in good faith between the parties to them (5.6.2(l)).	
Implementation of generation option	
31. Where the relevant TNSP decides to implement a generation option as an alternative to network augmentation, the TNSP must: (a) register the generating unit with NEMMCO and specify that the generating unit may be periodically used to provide a network support function and will not be eligible to set spot sot prices when constrained on in accordance with clause 3.9.7; and (b) include the cost of this network support service in the calculation of transmission service prices determined in accordance with Chapter 6 (5.6.2(m)).	