

Company Policy

NETWORK	Document No : 9.2.8 Amendment No : 6 Approved By : CEO Approval Date : 14/08/2017 Review Date : 14/08/2020	Review Cycle Risk Rating: HIGH
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(Supersedes Company Policy (Network) 9.2.8.am5)

9.2.8 DEMAND MANAGEMENT

1.0 POLICY STATEMENT

The company will develop, investigate and implement cost-effective demand management solutions to either permanently defer network investment or temporarily defer investment to achieve the optimal timing and utilisation of network investments whilst meeting regulatory, statutory obligations, stakeholder and customer expectations. This will include consideration and potential adoption of new technologies and innovative approaches that can provide those solutions.

2.0 PURPOSE

To outline how demand management solutions are investigated and implemented where cost effective by:

- developing the capability to utilise efficient demand management solutions;
- identifying network limitations where non-network options will be investigated;
- evaluating network and non-network options as part of the Regulatory Investment Test for Distribution (RIT-D) process;
- implementing targeted demand management programs for network investment deferral or avoidance and to manage load at risk;
- developing innovative demand management initiatives incorporating existing as well as new technologies and techniques to support network planning;
- investigating and developing customer incentives or price signals for efficient and cost reflective pricing;
- utilising the Demand Management Innovation Allowance (DMIA) to fund innovative projects that have the potential to deliver ongoing reductions in peak demand;
- utilising the Demand Management Incentive Scheme to fund relevant non-network options relating to demand management that have the potential to defer or avoid network investment; and
- engaging the market and stakeholders to better understand the market capacity and allow all stakeholders the opportunity to submit demand management proposals that maximises the net-market benefits.

3.0 REFERENCES

Internal

[Company Policy \(Network\) 9.0](#) – Network Asset Management

[Company Policy \(Network\) 9.2.1](#) – Network Planning

External

Electricity Supply Act 1995 (NSW)

National Electricity Rules – Chapter 5 Part B

4.0 DEFINITIONS

Aggregator

A company or entity that provides bulk customer demand reduction when requested during a demand response event.

Australian Energy Regulator (AER)

The national body charged with regulating the provision of energy within Australia.

Business Management System Website

The single point of access to the current approved policies, procedures, workplace instructions and forms.

Demand Management (also known as a Non-network option)

A program or initiative that reduces the peak demand on the electricity network (temporarily or permanently). This can be achieved by a variety of solutions including, but not limited to, reducing customer demand, by incorporating a separate energy source downstream of the network constraint or by providing network energy storage or customer power factor correction. This type of solution is implemented as an alternative to a network option.

Demand Management Innovation Allowance (DMIA)

An allowance provided by the AER to encourage the investigation of innovative demand management solutions.

Demand Management Incentive Scheme

The scheme is administered by the AER to incentivise and reward distribution businesses for implementing relevant non-network options relating to demand management.

Distribution Annual Planning Report

A public report prepared by a Distribution Network Service Provider under clause 5.13.2 of the National Electricity Rules.

Document Control

Employees who work with printed copies of documents must check the Business Management System Website regularly to monitor version control. Documents are considered “UNCONTROLLED IF PRINTED”, as indicated in the footer.

Load control

The hardware and software used to switch electrical load to shift demand from peak to off-peak and shoulder period in order to reduce peak demand and improve network utilisation.

Load at risk

The level of demand that exceeds the firm kVA rating of the network measured in kVA.

National Electricity Rules (NER)

The National Electricity Rules govern the operation of the National Electricity Market, and provide the regulatory framework for network connections. The Rules are constituted under the National Electricity Law.

Network Option

A network option has the same meaning given to that term in the NER.

Non-network option

A peak demand reduction solution implemented without any direct investment in the distribution network that addresses a network limitation. This type of solution is implemented as an alternative to a network option.

Non RIT-D project

A network investment that does not meet the criteria for a RIT-D project but where a non-network option will be investigated.

Review cycle

The review cycle is the frequency with which a document is reviewed. The review cycle risk rating displayed in the title block indicates the document has been risk assessed as follows:

Risk Rating	Review Cycle
High	1, 2, or 3 years
Medium	5 years
Low	As required

A review may be mandated at any time where a need is identified due to changes in legislation, organisational changes, restructures, occurrence of an incident or changes in technology or work practice.

Regulatory Investment Test for Distribution (RIT-D)

The RIT-D is a process that identifies the credible option that maximises the present value of the net economic benefit to all those who produce, consume and transport electricity in the National Electricity Market (the preferred option). For the avoidance of doubt, a preferred option may, in the relevant circumstances, have a negative net economic benefit (that is, a net economic cost) where the identified need is for reliability corrective action.

RIT-D project

A RIT-D project has the same meaning given to that term in the NER.

5.0 KEY REQUIREMENTS

Following are the broad areas covering where and how demand management will be investigated and implemented in this company. The Asset Strategy and Planning, Asset Standards & Design, Network Regulation Branches, key customer focused stakeholders and external service providers are to interface in developing Demand Management Programs.

5.1 Demand management considerations

The Network Planning and Expansion Framework detailed in NER Chapter 5 Part B, requires all identified network limitations to be screened for non-network options. The screening process will consider all variables and options for deploying demand management solutions to address the network limitation under investigation.

The following principles will be considered as part of the demand management deployment process:

- load forecasts will be used to identify network demand limitations, the timing of the network need, and to carry out the timely deployment of demand management solutions;
- proposed demand management solutions will only be deployed where viable and cost effective and will be regularly assessed against updated load forecasts with appropriate network monitoring to facilitate optimal deployment timing;
- a suite of standard demand management initiatives will be developed to simplify the implementation process of an in-house non-network option. A public consultation process will be used to identify alternative cost-effective non-network options prior to the implementation of in-house initiatives for RIT-D projects. Where appropriate, one or more of these initiatives may be selected for deployment based on their assessed cost effectiveness to defer or avoid network investment;
- demand management programs may utilise controllable loads, and the support and maintenance of these solutions will continue as long as economically viable in managing the ability of the network to supply load;
- in accordance with the NER, the company will investigate demand management initiatives for all RIT-D projects and non RIT-D project investments (where appropriate) to ascertain whether it would be cost-effective to avoid or postpone the network investment by implementation of these initiatives; and
- as part of the non-network investigation process, the company will explore engagement with customers, interested parties and/or aggregators to modify electricity usage behaviour, the use of controllable loads, embedded generation and network tariff options that promote the efficient utilisation of network assets by signalling the economic cost of network congestion. The company will also consider broader stakeholder and market engagements outside project specific consultation to better understand broader demand management issues for the ongoing development and communication of programs.

5.2 Targeted demand management

A demand management solution will be used to assist with the management of an identified network limitation in one of the following ways:

- specific targeted solution – where a specific or linked network element, such as a zone substation, has been forecast to exceed its defined firm rating or is classified as a RIT-D project; or
- broad based targeted solution – where a network area, such as a broader distribution area, has been forecast to exceed network capacity limitations within the area.

5.3 Demand management economic evaluation

In order to validate the benefit of deploying a demand management program either of the following cost benefit approaches may be used:

- specific targeted solution – the cost and certainty of the program will be balanced against the savings from deferring the investment in the network (avoided distribution cost); and

- broad based targeted solution – an averaged benefit value, based on the average long term cost of the network, will be used to evaluate the cost effectiveness of a demand management option but will still be based on the network need and benefit.

The averaged costs for network investment will be used in the cost benefit analyses at various network infrastructure layers and specific load supply areas.

Evaluation of solution options must also align, as appropriate, with the principles outlined in the RIT-D process. Any AER approved demand management incentives will be incorporated into the cost benefit analysis and the RIT-D process.

5.4 Development of innovative demand management initiatives

The company will investigate and develop innovative demand management initiatives that will support the effective management of peak demand across the network. If proven effective, the demand management initiative will form part of the suite of demand management initiatives that can be incorporated into a non-network option to allow the deferment of network investment.

These solutions may either be:

- customer related – behind the meter solutions that involve the reduction or shifting of customer electricity peak demand such as through direct load control of appliances, embedded generation, energy storage solutions, customer based power factor correction or tariffs; or
- wide control related – solutions that are deployed in the network or by aggregation and control of individual customer appliances such as multiple energy storage and distributed load systems, and large embedded generators directly connected to the network.

The company will explore new demand management solutions that:

- suit the characteristics of typical load constrained areas;
- have identified demand management outcomes;
- are cost effective; and
- are feasible.

These solutions will be structured such that they encourage customer engagement and will result in benefits to both the consumer and the company. Appropriate tariffs and incentives will be factored into the solution.

Trials and pilots may be utilised to test the value of alternative demand management initiatives.

Typically, trials will be undertaken to initially test the business value of the proposed solution or new technology, whereas a pilot will be used as an initial deployment step to test technology or business integration issues as part of a broader “business as usual” deployment.

Trial projects will be undertaken where one or more of the following outcomes needs to be determined:

- cost effectiveness;
- size and reliability of demand reductions;
- assess stakeholder engagement;
- test and demonstrate the business value;
- evaluate technology capability and suitability;
- identify business processes impacts; and
- develop and test deployment methods.

Trial projects will be designed so that they deliver the required outcomes in the most cost effective way.

Projects will adhere to the following principles:

- trial locations will be consistent with the outcomes sought;
- trials will have minimal impact upon business as usual systems and processes; and
- trial infrastructure will be minimised whilst achieving consistency with the outcomes required.

The company will seek an allocation for DMIA funding from the AER for projects that have potential benefits and acceptable cost to the customer.

5.5 RIT-D process

The NER requires that any potential network investment projects, where the most expensive potential credible option is greater than \$5 million, that increases capacity of the network must consider non-network options when determining the preferred option. The preferred option must maximise the present value of the net economic benefit to the NEM as required by the RIT-D process.

The company will conform to a consistent interpretation and application of the RIT-D process (specified within the National Electricity Rules). This includes:

- the development of credible options that address network constraints;
- screening for non-network options;
- implementation of the consultation process for soliciting non-network options through the issue of a Non-Network Options Report;
- the economic evaluation to identify the preferred options; and
- the implementation process.

The company will develop a Demand Side Engagement Strategy and make this document publicly available in accordance with the requirements of RIT-D. The company will also maintain a Register of Interested Parties and allow any interested party to register to obtain notices and any correspondence regarding non-network options and network planning decisions.

6.0 ACTIONS TO ACHIEVE IMPLEMENTATION OF THIS POLICY

6.1 Demand Management Plan

The Demand Management Plan is developed annually in conjunction with the company's operational and capital investment plans that identify areas where non-network options will be investigated for the planning period. This is performed as part of the annual planning process that identifies network limitations and network options. The Demand Management Plan lists the network limitations as either RIT-D or Non RIT-D projects that will require an investigation to determine the feasibility of non-network options.

6.2 RIT-D

The company will comply with the requirements of the RIT-D process guidelines, and the interpretations described above. The RIT-D process includes a public consultation process that includes the publication of documents and requesting submissions for proposals of alternative options.

6.3 Non-network options

As per the obligations placed upon the company, screening for non-network options will be conducted in accordance with the NER chapter 5 Part B, including the request for submission via the consultation process. If the results of the non-network option screening shows that no feasible options exists, a screening report will be prepared and placed on the company's web site. If the screening shows that a non-network option is feasible, a Non-Network Options Report will be produced and issued. This report will be the company's tender process to obtain submission. All parties on the Register of Interested Parties will be notified of all reports issued as part of the consultation process with stakeholders and interested parties.

The preferred non-network option will be identified via the evaluation and economic analysis process of all submissions received from the Non-Network Options Report. This will feed into the RIT-D evaluation process to determine the most cost effective option.

In cases where the company is not obliged to undertake a formalised screening for non-network options under the RIT-D, an investigation of non-network options will be undertaken outside the RIT-D process, and where cost-effective, a demand management program will be developed and implemented in a timely fashion.

6.4 Distribution Annual Planning Report

The Distribution Annual Planning Report is prepared annually in accordance with NER chapter 5 schedule 5.8. This document provides to the market place all relevant information regarding the companies planning process and planning investigation outcomes. The report details all network limitations together with the network and non-network options. Submissions are requested from interested parties for non-network and alternative options that address the identified limitations. All submissions will be included in the evaluation process.

6.5 DMIA programs

The company will annually review new innovative technologies and strategies that are suitable for demand management purposes and may be used as part of a non-network option. If shown to be feasible, approval will be sought to undertake a trial or pilot to test the concept. Cost recovery for the trial will be requested through the DMIA.

6.6 Demand Management Incentive Scheme

The objective of the incentive scheme is to incentivise distribution businesses to undertake efficient expenditure on relevant non-network options relating to demand management.

The company will annually review and implement relevant non-network options that can address the network limitations and deliver cost savings to the company where it is efficient to do so. Cost recovery for non-network options relating to demand management will be requested through the Demand Management Incentive Scheme.

7.0 AUTHORITIES AND RESPONSIBILITIES

Chief Executive Officer has the authority and responsibility for approving this policy.

General Manager Asset Management has the authority and responsibility for:

- endorsing this policy;
- implementing appropriate policies and standards to support the application of this policy;
- providing appropriate resources to achieve the objectives of this policy;

- monitoring that appropriate processes, standards and procedures are in place to achieve the objectives and specific requirements of this policy are met; and
- approving DMIA trials.

Manager Network Regulation has the authority and responsibility for supporting the implementation of demand management solutions via development of appropriate tariffs which are compatible with the company's tariff strategy and/or regulatory incentives consistent with the company's regulatory strategy.

Manager Asset Standards & Design has the authority and responsibility for:

- managing the investigation and development of innovative technology solutions for peak demand management;
- managing the investigation and development of non-technology related solutions for demand management; and
- supporting the implementation of these solutions as appropriate.

Manager Asset Strategy & Planning has the authority and responsibility for:

- investigating network limitations;
- investigating network and non-network options;
- producing the Distribution Annual Planning Report;
- providing business requirements for innovative technology solution development for demand management;
- managing the investigation and selection of the appropriate demand management program; and
- managing the effective and timely deployment of demand management program.

Manager Customer Service has the authority and responsibility for supporting the implementation of demand management solutions that have been developed with customer engagement and deliver customer focused outcomes.

8.0 DOCUMENT CONTROL

Content Coordinator : Manager Asset Strategy & Planning

Distribution Coordinator : GRC Process Coordinator