

## Company Policy

(NETWORK)

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### CECP0007.01 DEMAND MANAGEMENT

#### 1.0 POLICY STATEMENT

Demand Management offers an alternative to network investment that can, if properly implemented, deliver net benefits to customers, as well as effectively managing load at risk.

The company will develop, investigate and implement demand management solutions that make sure the optimal timing and utilisation of network investments are achieved whilst meeting regulatory, statutory obligations, stakeholder and customer expectations. This will include consideration and potential adoption of innovative approaches which can provide those solutions.

#### 2.0 PURPOSE

This policy's purpose is to outline how demand management solutions are investigated and implemented where cost effective by:

- developing the capability to utilise efficient demand management solutions;
- utilising targeted demand management for network investment deferral or avoidance, and to manage load at risk;
- developing innovative demand management solutions incorporating existing as well as new technologies and techniques to support network planning; and
- investigating and developing customer incentives or price signals for efficient and cost reflective pricing.

#### 3.0 REFERENCES

##### Internal

CEOP1121 Demand Management Strategy

##### External

*Electricity Supply Act, 1995 (NSW)*

National Electricity Rules – Chapter 5 Part B

#### 4.0 DEFINITIONS

##### **Australian Energy Regulator (AER)**

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

##### **Business Management System (BMS)**

The integrated policy and procedure framework that contains the approved version of documents.

**Demand Management Innovation Allowance (DMIA)**

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

**Document Control**

Employees who work with printed copies of document must check the BMS regularly to monitor version control. Documents are considered “uncontrolled if printed”, as indicated in the footer.

**Executive Leadership Team (ELT)**

Chief Executive Officer, Executive Manager Engineering, General Manager Network Services, Company Secretary & General Counsel, General Manager Safety Human Resources & Environment, Chief Financial Officer, Chief Information Officer, General Manager Customer Service & Stakeholder Engagement, General Manager Strategy, Regulation & Transformation.

**Load control system**

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 and/or kWh.

**Managing demand**

The overall process of managing the peak demand placed on network assets.

**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 (NEL).

**Non-network solution**

A peak demand reduction solution implemented without any direct investment in the Essential Energy electrical network. This type of solution may be provided by a major customer agreeing to a peak load reduction scheme.

**Peak demand reduction (also called demand management)**

An initiative that reduces the peak demand on the electricity network (temporarily or permanently). This can be achieved by a variety of current and future 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 power factor correction.

**Recordkeeping**

Making and maintaining complete, accurate and reliable evidence of business transactions in the form of recorded information (Source: AS Records classification handbook – HB5031 – 2011).

**Regulatory Investment Test for Distribution (RIT-D)**

The RIT-D is to identify 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.

**Review date**

The review date displayed in the header of the document is the future date for review of a document. The default period is three years from the date of approval however 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.

## 5.0 KEY REQUIREMENTS

Following are the broad areas where demand management will be investigated and implemented in this company. The Network Compliance and Risk, Planning, Network Regulation branches and key customer focused stakeholders 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 alternatives. The screening process will consider all variables and options for deploying demand management solutions. 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 make sure 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 make sure optimal deployment timing;
- a suite of standard demand management solutions will be developed, and as required by the NER, investigation of non-network options will include public consultation to identify alternative demand management solutions. Where appropriate, one or more of these solutions may be selected by the Network Planners for deployment based on their assessed cost effectiveness to defer network investment;
- demand management solutions may utilise controllable loads, and the support and maintenance of these solutions will be retained 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 alternatives for all major network infrastructure investments to ascertain whether it would be cost-effective to avoid or postpone the expansion of the network by implementation of these alternatives; and
- as part of the non-network investigation process, the company will explore engagement with customers to modify electricity usage behaviour, network tariff options that promote the efficient utilisation of network assets by signalling the economic cost of network congestion and the use of controllable loads.

### 5.2 Targeted demand management

The use of demand management solutions will be used to assist with the management of an identified network load constraint in one of the following ways:

- specific targeted solution – where a specific or linked network element, such as a zone substation transformer, has been forecast to be load constrained; and
- broad based targeted solution – where a network area, such as a broader distribution area, has been forecast to be load constrained.

### 5.3 Demand management economic evaluation

In order to validate the benefit of deploying a peak demand reduction solution either of the following cost benefit approaches may be used:

- specific targeted solution – the cost and certainty of the solution will be balanced against the savings from deferring the augmentation of the identified network element (avoided distribution cost); and
- broad based targeted solution – an averaged benefit value, based on the average long term cost for a network solution, will be used to validate the decision to preference a demand management solution but will still be based on the network need and benefit.

A series of averaged costs for network augmentation will be developed for use in cost benefit analyses at various network infrastructure layers and specific load supply areas.

Evaluation of solution options should also align, as appropriate, with the principles outlined in the RIT-D process.

#### **5.4 Innovative demand management solution development**

The company will investigate and develop innovative demand management solutions that will support the effective management of peak demand across the network and allow deferment of network augmentations.

These solutions may either be:

- customer related – solutions that involve the reduction or shifting of customer electricity peak demand such as through direct load control of appliances, embedded generation, customer based power factor correction or tariffs; or
- network related – solutions that are deployed in the network, such as energy storage and network based power factor correction.

The company will explore new demand management solutions that suit the characteristics of typical load constrained areas, have identified demand management outcomes and implementation costs that are cost effective and feasible. These solutions will be structured such that they encourage customer engagement and will result in benefits to both the consumer and Essential Energy. Appropriate tariff and incentives may be factored into the solution.

Trials and pilots may be utilised to test the value of alternative demand management solutions. 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 to the customer at an acceptable cost to the customer. All DMIA projects will be regularly reviewed across Essential Energy's network to make sure alignment, sharing of knowledge, ongoing validity and elimination of duplication of effort.

## **5.5 RIT-D process**

The NER requires that any potential network projects that augment the network or replace network assets must consider non-network options when determining the preferred solution to the need. The preferred option should 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) across Essential Energy's network. 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.

## **6.0 ACTIONS TO ACHIEVE IMPLEMENTATION OF THIS POLICY**

### **6.1 Demand management plan**

Develop demand management plans and review them annually in support of the company's operational and capital investment plans that identify areas where non-network alternatives are to be investigated for the planning period. This is performed as part of the annual planning process that identifies network limitations and network options.

### **6.2 RIT-D**

Essential Energy will comply with the requirements of the RIT-D process guidelines, and the interpretations described above.

### **6.3 Non-network solutions**

As per the obligations placed upon the company, screening for non-network solutions will be conducted in accordance with the NER chapter 5 Part B, including the request for submission via the consultation process. The preferred non-network solution will be identified via a predetermined evaluation and economic analysis process.

In cases where the company is not obliged to undertake a formalised screening process, investigations of non-network solutions will be undertaken, and where appropriate potential service providers will be engaged in a timely fashion.

## 6.4 DMIA programs

Annually review strategies and programs of work to trial new innovative demand management programs.

## 6.5 Demand management solutions

A standard suite of demand management solutions will be developed and reviewed as necessary.

## 7.0 AUTHORITIES AND RESPONSIBILITIES

**Chief Executive Officer** has the authority and responsibility for:

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

**Executive Manager Engineering** has the authority and responsibility for:

- endorsing this policy; and
- implementing appropriate policies and standards to support the application of this policy.

**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 Network Optimisation** has the authority and responsibility for:

- managing the selection of the appropriate demand management solutions;
- managing the effective and timely deployment of demand management solutions; and

**Manager Network Strategy and Risk** has the authority and responsibility for:

- providing business requirements for technology solution development for demand management;
- managing the development of non-technology related solutions for demand management.
- managing the development of standard technology solutions for peak demand management; and
- supporting the implementation of these solutions as appropriate.
- reviewing and confirming alignment of demand management programs across Essential Energy's network to meet the objectives of this policy.

**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** : Executive Manager Engineering

**Distribution Coordinator** : GRC Process Coordinator