ActewAGL for you

Demand Side Engagement Strategy

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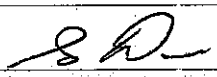
Version Control

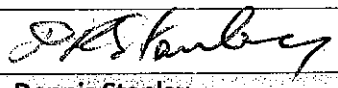
Date	Version No.	Author	Description of Change
16/07/2013	0.1	Y. Jayathilaka	Initial Draft.
23/07/2013	0.2	P. Cunningham	Revised draft
21/08/2013	0.3	Y. Jayathilaka	Revised draft
29/08/2013	0.4	Y. Jayathilaka	Final

Related Documents

	Title	Reference
I		
II		
III		

Document Authorisation

Authorisation:	
Name:	Stephen Devlin
Position:	General Manager Asset Management
Date:	29/8/13.

Authorisation:	
Name:	Dennis Stanley
Position:	Senior Branch Manager Asset Strategy and Planning
Date:	29/8/13

Authorisation:	
Name:	
Position:	
Date:	

Glossary

ActewAGL	ActewAGL Distribution
AEMO	Australian Energy Market Operator
AER	Australian Energy Regulator
DAPR	Distribution Annual Planning Report
DMP	Demand Management Process
DNSP	Distribution Network Service Provider
DR	Demand Response
DSES	Demand Side Engagement Strategy
DSM	Demand Side Management
DSMP	Demand Side Management Planning
EOI	Expression of Interest
NER	National Electricity Rules
NPV	Net Present Value
PFC	Power Factor Correction
RDSE	Register of Demand Side Engagement
RIT-(D)	Regulatory Investment Test (Distribution)
TOU	Time of Use
TUOS	Transmission Use of System

1 Purpose

The purpose of this document is to outline ActewAGL's demand side engagement strategy for engaging with our customers and industry proponents to provide non-network options in addressing ActewAGL's network limitations. This document describes the potential of DSM and the opportunities that enable customers and non-network proponents to earn a revenue stream from reducing their electricity demand.

2 Introduction

ActewAGL is obliged by its DNSP licence conditions to ensure that its electrical distribution network meets designated reliability and performance standards and has sufficient capacity to meet electricity demand.

ActewAGL conducts an annual planning review in which it forecasts rates of peak demand and energy growth for the ActewAGL distribution network for a 10 year period. Using these forecasts an analysis of the ActewAGL network system capacity is conducted to identify specific areas that will become constrained over the forecast period. A preliminary investigation is conducted of these constrained network areas to determine economically and technically feasible solutions.

The options that may be available to solve a network constraint are:

1. A network solution (supply side option) or
2. A non-network solution (demand side option) or
3. A combination of both.

A network option may involve solutions such as increasing the supply capability into an area by constructing a new high Voltage feeder, augmenting an existing high Voltage feeder, constructing a new 132/11kV zone substation or similar capital projects. These projects are generally financed internally by ActewAGL.

A non-network option may involve reducing demand overall or at critical times in the particular geographic zone by DSM including DR programs, peak shaving generation, embedded generation, energy storages connected at customers' premises or to the distribution network or other DSM solutions.

ActewAGL considers that reliable electricity supply to customers can be maintained by the effective use of DSM. Customers and non-network proponents who are involved with effective DSM will be able to access a revenue stream developed through the deferring of costly network solutions. This approach reduces the overall cost to maintain the network and results in lower electricity costs to customers.

ActewAGL has planned to launch DSM including DR programs by actively engaging customers and third party service providers through the implementation of a demand side engagement strategy. The ActewAGL DAPR, which is published on the ActewAGL website, provides information on expected network performance criteria, the planning processes followed and summary planning information for forecasting network expansion requirements over the next 10 year period.

3 Demand Side Engagement Strategy

ActewAGL's demand side engagement strategy aims to create a co-operative and pro-active relationship with customers and proponents of non-network solutions and involve them with ActewAGL's network planning and expansion. ActewAGL will then encourage customers and potential non-network service providers to participate in the ActewAGL demand management activities with the objective that future network problems can be met by a full range of solutions to achieve optimal economical and technical outcomes.

ActewAGL's demand side engagement strategy objectives are:

1. Embrace DSM and provide opportunities to our customers and non-network service proponents to participate in resolving network and customer supply limitations,
2. Develop and apply a transparent DSMP for network planning and development,
3. Identify DSM options for individual & broad based demand management situations,
4. Provide proponents of non-network solutions with simple and effective mechanisms for obtaining information on network development proposals, and
5. Develop demand management tools and industry alliances to readily facilitate non-network options.

ActewAGL has developed a DSMP process, detailed in Attachment A, which describes how ActewAGL will investigate, assess, develop, implement, and report on non-network options. The DSMP process is integrated early into the overall network planning process to allow sufficient time for the development of non-network and DSM programs from conceptual to more detailed stages.

4 Engagement & Consultation with Non-Network Proponents

ActewAGL considers that effective engagement and consultation plays an important role in achieving the success of the demand side engagement strategy. Through engagement and consultation ActewAGL will seek to identify potential cost effective and customer driven DSM options that may defer the supply side investment.

To facilitate this process ActewAGL will maintain the following:

4.1 Register of Demand Side Engagement

Individuals, private companies and government departments may register online through our RDSE to receive information on the progress of ActewAGL's non-network activities. The RDSE is intended to facilitate public consultation on network constraints in a timely fashion and to inform stakeholders and other interested parties about potential non-network opportunities.

Registered parties will also be informed when a new request for proposal under the RIT-D has been posted on ActewAGL's website.

4.2 Register of Contracted Affiliates

ActewAGL intends developing a register of suitably qualified non-networks proponents able to provide technical, documentary and costing support for selected non-network options.

4.3 Expression of Interest

In addition to the above, ActewAGL intends issuing requests for information or initiates public consultations on the DSM options being investigated. The aim of a request for information or public consultation is to obtain customers and third party suggestions, inputs and support for the proposed options that will assist in the technical feasibility evaluation and economic benefit analysis of the proposed DSM options.

4.4 Information on ActewAGL Website

ActewAGL produces a variety of information and reports that may be useful for customers and proponents of non-network solutions. The following are some examples of the types of report and information that may be made available on our website:

1. Distribution Annual Planning Report,
2. Publications and requests for information,
3. Case studies on non-network proposals,
4. Avoided customer TUOS charges and methodology to determine charges,
5. Investigation reports for network augmentation requirements including RIT-D submissions,
6. Information to be included in a non-network proposal and a sample of non-network proposals,
7. Embedded Generator Connection Code, and
8. Details of embedded generation connection application and agreement.

5 Demand Side Management Options

ActewAGL's demand side engagement strategy aims to identify DSM options and assess their potential to solve network limitations and constraints for broad based and more specific local situations.

DSM options may be to reduce demand or supply the increasing demand from alternative sources. Some practical DSM options have been identified and categorised into the following groups.

5.1 Demand Reduction

The following DSM options are examples of schemes that aim to reduce demand and may be applicable to residential, commercial and industrial situations.

1. Demand response programs,
2. Power factor correction,
3. Pool pump controls,
4. Water heating load controls,
5. Air conditioning controls,
6. Automated feeder load sharing,
7. Interruptible load controls and pricing,
8. Critical load reduction controls and pricing,
9. Tariff realignment.

5.2 Alternative Supply

The following DSM options are examples of where demand may be shifted by using alternative sources of supply.

1. Fuel switching to gas and diesel for energy,
2. Energy and thermal storage using battery banks and fuel cells,
3. Standby electricity supply,
4. On site / scheduled generation using co-generation and tri-generation,
5. Leasing generators by ActewAGL or non-network proponents, and
6. Small, medium and large scale embedded generation.

It is anticipated that customers and non-network proponents will be able to respond to DSM options and programs, or propose new innovative DSM options, by participating in the demand side management process. We may include actual and worked examples of cost-benefits for implementing DSM options on our web site.

6 Principles of Incentive Payments Schemes

The main principle that will be considered in a Demand Side Engagement pricing proposal is that the costs and benefits will need to jointly accrue to all parties.

This may be achieved by:

1. An incentive scheme that distributes ActewAGL and/or a proponent implementation costs and avoided distribution cost benefits towards funding of the demand management initiatives and allows ActewAGL and/or the proponent to retain a share of the net value created. This provides a positive financial incentive for the proponent to pursue cost effective demand management alternatives, and

2. A cost recovery mechanism that distributes the implementation cost and avoided distribution cost benefits to the customer through new tariffs.

7 Existing Applicable Payment Schemes

7.1 Power Factor Correction Incentive

ActewAGL has developed a PFC incentive scheme for customers to assess the suitability of power factor correction at their premises based on power consumption data.

The PFC project is intended to reduce the reactive power consumption of large commercial customers on demand tariff with power factors less than 0.9 at peak load. ActewAGL determines and recommends to each identified customer, suitable PFC equipment which when installed will reduce their demand. A portion of the PFC equipment cost will be funded by ActewAGL as an incentive.

Attachment A - Demand Side Management Planning Process

This planning process describes how ActewAGL will investigate, assess, develop, implement and report on non-network options as a part of the demand side engagement strategy. This planning process undergoes strategic and tactical planning stages. The non-network options including demand side management are developed through these planning stages before implementation as final solutions. Depending on the type and nature of the network constraint non-network options, including DSM programs may require some time upfront to investigate, assess and develop as robust solutions to alleviate the network constraint and compare with the network supply side solutions.

Figure 1 shows ActewAGL's DSMP process for any given network constraint scenario. This planning process consists of the following three phases:

1. Evaluation phase,
2. Assessment phase, and
3. Implementation phase.

Evaluation Phase

The main objective of the evaluation phase is to identify the non-network options and DSM opportunities that may address increasing network demand or identified network constraints and evaluate their potential for development as DSM programs.

Initially the potential to alleviate any broad based network constraints using current broad based DSM programs will be evaluated. A broad based DSM capability study is undertaken and then current DSM programs will be updated if the potential to further alleviate constraints is identified.

The second step is to carry out detailed DSM capability studies involving customer cohort research to address the remaining peak and broad based network constraints identified through the 10 year demand forecasts which were developed as a part of the annual distribution system planning review. The customer cohort research is a critical part of studying DSM capability and is aimed at identifying customers' priorities and the drivers that engage them in demand side management. The DSM capability studies may recommend potential options and provide details such as participants' willingness to participate in the identified DSM options.

The next step is to customise the options identified by evaluating their potential in terms of demand reduction (MVA) and duration (hrs) on an annual basis. To further develop confidence that a customised DSM option will alleviate a network constraint an initial test will be carried out on the requirements of the constraint.

The requirements may be based on:

1. Project Size (Capacity –MVA),
2. Upstream available network capacity,
3. Forecast year that solution is required,
4. Seasonal, time of day and duration variations,
5. Projected growth rates, and
6. Predominant load type.

The initial test will involve an analysis of the main requirements behind the emerging constraint, determination of the extent to which demand is driving investment (including the amount of supply side investment that could be deferred) and the demand reduction required to resolve the constraint.

Public Consultation

Initial public consultation is aimed at gathering additional information to determine the level of incentives which should be offered to the participants to make DSM schemes attractive. ActewAGL and proponents will co-operatively conduct technical studies to determine the suitability and effectiveness of the solutions. The financial benefits for all parties will be calculated at this stage to determine financial viability.

Assessment Phase

The assessment phase aims to select credible DSM programs for the economic evaluation (NPV) alongside feasible network supply side solutions or implement as broad based solutions. The assessment phase recommends feasible DSM programs which have been validated and developed to a specification driven by the specific network constraint.

ActewAGL will assess all viable options from evaluation phase in relation to all applicable costs and benefits and select the options that maximises the economic and market benefits. All DSM options are summarised and analysed according to size (MVA), cost (both NPV and $/kVA), time of day, seasonality, time frames of delivery (anticipated plan approved date & anticipated completed by date) and reliability/risk. The technical studies will be based on published ActewAGL guidelines.

This investigation is considered to be a feasibility study and the accuracy of data and cost estimates must be commensurate with this level of analysis. We will use commercial & industrial alliances and a variety of analysis tools at this stage. Public consultation and EOI may be carried out at this stage to confirm the demand reduction product offers under these DSM programs and the level of commitment by participants. If required a pilot scheme will be developed and implemented to assess the performance of the selected DSM program and test the effectiveness of applied tariffs and financial incentives. If the DSM programs prove to be technically and commercially feasible then they may be approved in principle as standard future demand management solutions.

In the final stage of the assessment phase the feasible non-network or DSM programs developed for specific peak based network constraints will be assessed along with supply side options for the highest NPV option where feasible broad based DSM options will be available for implementation. If the estimated cost of the most expensive credible option exceeds $5 million then the RIT-D process and guidelines must be applied to the assessment.

Implementation Phase

The implementation of a non-network option is subjected to the approval by ActewAGL and other necessary planning authorities. If a non-network or DSM option is selected as a preferred solution for the alleviation of a specific network constraint then ActewAGL will request the detailed design and an implementation plan with clearly defined deliverables, schedule and cost estimates. ActewAGL technical guidelines will be made available for the non-network proponent or the appointed engineering consultants for the design of the solution.

The broad based options will be implemented across the ActewAGL network with tariff based financial incentives to customers.

Negotiation Process

Negotiations may be necessary during the development of non-network options. Any non-negotiable conditions are to be identified and agreed upon early in the engagement and consultation stage. Our process for negotiation will adhere to the following principles:

1. Provide fair and reasonable conditions and requirements for the non-network options to be developed and connected into the ActewAGL network,
2. Ensure all legal, licence and regulatory conditions are complied with in addition to all applicable industry and other relevant standards. These requirements are non-negotiable, and
3. Ensure that the non-network options can be developed as sound and robust solutions to meet the specific requirements of the ActewAGL network.

Figure 1: ActewAGL Demand Side Management Planning Process