Attachment A

Energex

Demand Side Participation Information Guidelines: Issues Paper

January 2017

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Energex Limited (Energex) is a subsidiary of Energy Queensland, a Queensland Government Owned Corporation. Energex builds, owns, operates and maintains the electricity distribution network in the growing region of South East Queensland, including the poles and wires and underground cables used to connect houses and businesses to the electricity network. We provide distribution services to almost 1.4 million domestic and business connections, delivering electricity to a population base of around 3.2 million people.

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Table of Contents

1 Introduction

On 21 November 2016 the Australian Energy Market Operator (AEMO) released an Issues Paper on the Demand Side Participation Information Guidelines. AEMO is required under Clause 3.7D(e) of the National Electricity Rules (Rules) to develop, maintain and publish guidelines that require Registered Participants to provide Demand Side Participation (DSP) information to AEMO which it will take into consideration when developing its electricity load forecasts.

The issues paper seeks feedback from Registered Participants to help AEMO assess the costs and impacts of the proposed data reporting requirements on Registered Participants. Feedback on the likely timeframe for Registered Participants to prepare for compliance is sought along with comments on the timing of the information submission each year.

AEMO has invited interested stakeholders to make submissions on the questions raised in the issues paper by Thursday 19 January 2017. Energex's responses to the specific questions raised in AEMO's issues paper are provided in Section 3 of this submission.

2 General comments

Energex recognises that the DSP Information Guidelines are required under the Rules. Energex also acknowledges that greater knowledge of connected embedded generation, controlled loads and distributed energy resources will become increasingly important in optimising network operations and forecasting. However, Energex has a number of concerns over the granularity of the information requested in the proposed data model.

For Energex to generate the level of data required by AEMO under the proposed data model it would need to dedicate significant resources to the task. Energex has over 700,000 customers (NMIs) with hot water load control spread across 246 zone substations each with up to 100 channels on which to signal activation/deactivation of loads at different times during the day. A requirement to capture and specify the operation of loads across these 700,000 NMIs throughout the year would involve a significant amount of work; refer to Section 3 Question 1 for details. In order to produce the required information an automated system would ultimately be required. In general, systems changes can take up to 2 years. It is unclear to Energex that the requirements will add value and care should be taken that the costs of compliance will be outweighed by the expected benefits to energy market stakeholders and consumers of electricity.

The Issues Paper presents only a high level description on how the DSP Information will be used to produce forecasts. Hence, it is difficult to see how the detailed data requested would be of benefit compared with providing data at an aggregated level. Energex currently provides AEMO with solar PV, load transfers, embedded generation and block loads aggregated by Transmission Node Identifier (TNI) for input into the development of forecasts. Energex maintains a mapping of individual NMIs to their TNI. The provision of aggregated data would be more manageable and usable by AEMO certainly in the interim until systems could be developed to automate the production of the DSP Information. Again, these system changes should only be undertaken if the benefits to the electricity market outweigh the costs.

Questions have been raised regarding how the accuracy of the DSP Information is to be maintained throughout the year, or if indeed this is an expectation of Registered Participants. Energex periodically changes load control schedules and now more frequently utilises load under control to help manage demand in response to network conditions on a day-to-day basis. Should Energex be expected to provide updates to the DSP Information throughout the year the administrative impact of this obligation on the business would increase.

In Energex's view the granularity of data requested under the proposed DSP Information Guidelines would require a significant manual data gathering effort and care should be taken to ensure that the requirements will add value to the energy market and consumers of electricity. A staged approach commencing with aggregated data and working towards more detailed reports through the development of appropriate systems is preferred however, the cost/ value implication needs to be considered. A staged approach would also allow time for all parties to better understand how the DSP information can be applied to optimise network operations and forecasting and allow for further refinement of the data requirements and timing prescribed

under the DSP Information Guidelines depending on the criticality of different elements of the information to AEMO's operations.

3 Response to specific questions raised

Issue for consultation	Energex response
Question 1 What are the costs and impacts of AEMO's proposed data requirements? Please break down and describe these costs based on: a) Upfront once-only costs versus ongoing costs b) Separation of internal labour costs, contracted labour, system improvement	An estimate of costs was determined based on the data model presented in Appendix A of the Issues Paper. Energex has demand management programs operated via an Audio Frequency Load Control (AFLC) system to manage hot water load, peak smart air conditioning and pool pumps and on a smaller scale other appliances such as EVs. These programs are associated with a particular tariff which mandates a minimum required number of hours of supply per day. An AFLC schedule is configured for each zone substation (246 zone substations) with up to 100 channels available from which to activate/deactivate subsets of customers and load types connected to the substation. As an example, hot water loads can be activated/deactivated up to 3 times per day from multiple channels. There is also some random time delay variation built into the relays to prohibit large step changes in load from occurring. Assuming 30 mins of work to generate a Section 2 table for each of these channel groupings per zone substation this amounts to 12,300 man hours (0.5hr x 100 channels x 246 substations). At a rate of $130/hr including overheads this equates to $1.6 million. (Initially and on-going year on year cost for manual production) Energex believes that an automated system would be the most feasible means to produce the required information on an ongoing basis.
Question 2 What time of year should the information be submitted to AEMO?	Energex currently provides AEMO with information aggregated for each TNI for input into connection point forecasting. The information includes solar PV, load transfers, embedded generation and block loads. The information is provided in March and it would be desirable to align these submissions. A mid-year input (June/July) is least desirable due to an already large workload addressing other regulatory and reporting requirements.
Question 3 What would be the incremental cost if AEMO	The incremental cost were AEMO to require the data twice annually rather than once annually would be highly dependent on: 1) the level of automation which can be achieved in producing the

Issue for consultation	Energex response
requested the data twice annually, rather than once annually?	requested data; and 2) the level of granularity of the requested data. Certainly if the data is to be compiled manually Energex view a twice annually submission as excessively costly.
Question 4 How much time do Registered Participants think they will need to prepare for compliance with the DSP Information Guidelines? If longer than three months, please provide evidence-based reasons.	Manual collection of this information on an annual basis at the granular level requested would be viewed as an inefficient use of resources. Ultimately some form of automatic report combining the data from multiple systems as well as adding new fields and relationships to produce the information in the requested format would be needed. In order to accommodate the required system changes a two year timeframe would not be unreasonable. A 12-month minimum window would be necessary to produce the required information if it is to be collected manually which would certainly be the case for the inaugural report if it is to be produced in 2017.
Question 5 What DSP information do Consulted Persons want to see published by AEMO?	At this time Energex has not identified any additional specific information that it would want to see published by AEMO from the DSP Information submissions. Provision of the economic forecasts used by AEMO are very useful for comparison to other purchased forecasts used by the distribution authorities.