

18 April 2013

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positive energy

Dear Ms Kwong

Value of Customer Reliability Issues Paper

Recent significant electricity price rises have prompted regulators and governments to re-evaluate electricity network planning and regulatory frameworks implemented across National Electricity Market (NEM) jurisdictions. Energex considers the Australian Energy Market Operator's (AEMO) Value of Customer Reliability (VCR) Review (the Review) to be a key component of this re-evaluation.

Robust VCR estimates provide direct evidence of the value of network investments to customers and support prudent and efficient network planning processes. Currently available VCR estimates are based on surveys undertaken in Victoria many years ago and so it is timely to undertake a new VCR study.

Energex notes that this Review will provide insight into customers' network reliability expectations during a period of relatively strong reliability performance and rising network prices. These expectations may change over time and therefore it is important to update the VCR study periodically. Energex strongly supports a high-quality VCR study which comprehensively assesses a representative cross-section of customer preferences, which is refreshed at least every 5 years.

Attachment A includes Energex's detailed responses to the questions raised in the Issues Paper. Given the importance, technical complexity and scope of the VCR study, the merits of involving the Australian Bureau of Statistics and/or choice modelling experts should be considered. Energex also notes the importance of directly engaging with customer representatives throughout the process.

In the meantime, if you require any further information in relation to this response, please do not hesitate to contact Mr Alex McPherson on 07 3664 4104.

Yours sincerely

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Attachment A

Question 1 – In what planning contexts should the VCR be applied?

Question 2 – In what network regulation contexts should the VCR be applied?

Consistent with the Productivity Commission's Draft Report on Electricity Network Regulatory Frameworks, Energex considers that reliability targets, whether incorporated into a reliability incentive scheme or not, could be informed by a robust and contemporary VCR measure. VCR estimates can be used to estimate the marginal benefit to customers of improved reliability. In combination with an estimate of the marginal costs of improved reliability, the estimate of marginal benefits can be used to establish efficient reliability targets.

The AER uses estimates of the VCR to inform the reliability targets in the Service Target Performance Incentive Scheme (STPIS).

More broadly, it is important to determine the role that reliability targets and security standards will play in future regulatory frameworks. A number of reviews into input and output based network performance standards are currently being undertaken at the national level and in Queensland. Energex considers that reliability targets could be set by the jurisdictional regulator and it is important there is harmony between these jurisdictional targets and any STPIS targets set by the AER. The methods by which these targets are met should be the responsibility of the DNSP, noting the incentives already in place to invest efficiently in network and non-network alternatives (e.g. the RIT-D and regulatory determinations).

Question 6 – For AEMO's 2013 review, should VCRs be calculated on a regional or sector-specific basis? Why?

Question 7 – How could sector-specific VCRs be re-weighted to reflect geographical considerations?

Energex supports a high quality VCR study with samples of appropriate size to determine sector-specific (agricultural, small commercial, large commercial/industrial and domestic) VCRs. Distributors are likely to have customer information by network tariff, so it may be worth working with DNSPs to map sector-specific classifications to network tariffs at a high level. If DNSPs have sufficient information regarding the customer tariff information for each feeder, this sector-specific information can therefore be used to develop feeder-based VCRs for each distribution network (for use in the STPIS), as well as localised/geographic VCRs for reliability investment evaluation. Depending upon the sample sizes available, it would also be useful to consider regional disaggregation noting that electricity prices pressures can differ across regions which may influence willingness to pay results.

It is also very important that regulators and Governments recognise that VCR estimates, even at sector levels, will not result in the perfect allocation of the reliability investment and cost-reflective pricing. Network investments are not undertaken on a customer-by-customer basis or on a sector-by-sector basis. Industrial customers on a feeder with a high proportion of domestic customers may experience a level of supply reliability (driven by a largely domestic VCR) below that which those industrial

customers were willing to pay for. Also, network prices, unlike network investment and reliability outcomes, are not location-specific. A residential customer on an industrial feeder receiving a higher level of reliability than it is willing to pay for, may face a network price which is reflective of average reliability investment levels across the entire distribution network. If the distribution network is largely serving domestic customers, this customer will be receiving a cross-subsidy. Further, not all customers within a sector experience the same level of economic loss from outages because of the nature of their operations and whether they have generation back-up.

Question 8 – How should AEMO assess which approach (or combination of approaches) is the most appropriate to deriving VCR while considering the contexts of its application?

Question 9 – Which approach (or combination of approaches) to deriving VCR should AEMO consider employing? Are there any other possible approaches not listed?

It is important that customer preferences and the non-financial costs of outages have been taken into account when reliability targets are set. Contingent valuation approaches (where customers are asked directly about their willingness to pay to avoid outages) can be difficult for respondents to conceptualise and respond to accurately. On these bases Energex supports a survey-based choice modelling approach to determine the VCRs. Choice modelling, which asks customers to assess various price/service offerings, best reflects a competitive market environment where customer would receive a range of choices and would take into account both financial and non-financial impacts of choosing a particular option.

If properly calibrated and with large and representative samples, Energex's considers a choice modelling approach to be the most effective approach. The choice modelling experiences in South Australia and New Zealand indicate that it requires additional effort in questionnaire development and data analysis leading to longer lead times and higher costs.¹ However, it should be assessed the extent to which these costs are one-off costs, which will not be re-incurred during the future revisions of the study.

Energex believes that updates at least every 5 years, but possibly every 3 years, should be undertaken to ensure that the VCRs are contemporary. AEMO should take into account the cost estimates it receives when assessing the timing of the VCR studies.

Question 11 – Should specific indexing of VCR measures be applied? If so, what types of indexing would be appropriate and how often should the index be applied?

As a robust and comprehensive VCR survey requires significant investment, it is important to ensure that it is not only undertaken robustly in the first instance but that it is indexed annually to remain reflective of customers' values. Energex supports the VCR being adjusted each year using the Consumer Price Index.

¹ See Oakley Greenwood Final Report 'Valuing Reliability in the National Electricity Market' March 2011 page 38

Question 12 – What strategies or approaches should be used to overcome apparent anomalies and biases in previous VCR surveys?

It is generally acknowledged that existing VCRs have several methodological shortcomings through the limited nature of questions asked and small sample sizes. It is important that VCRs reflect outages that occur at differing times (not all outages occur at the worst possible time).

Energex notes that the following areas for improvement for future VCR surveys were identified by Oakley Greenwood in its recent Final Report on NSW Value of Customer Reliability:

- More attention and resource devoted to methods for securing better response rates and participation by larger customers and other small but important parts of the network, such as CBD feeders;
- Further investigation of the impact of survey delivery method on response rate and the quality of responses;
- Mitigation choices offered to residential customers should be updated every time the VCR survey is undertaken;
- Additional work is warranted with regard to the very high VCR among small business customers. It may be worthwhile using the Economic Principle of Substitution for very small business customers; and
- A more robust comparison of the results of VCR approach with those of choice modelling for willingness to pay and willingness to accept should be considered.

Question 13 – Should contingent valuation or other survey methodologies be used to allow higher values to be placed on residential customer inconvenience from interruptions?

Yes, otherwise VCR for domestic customers may be inappropriately low and result in under-investment on domestic feeders.

Question 14 – Is survey data on the cost of momentary interruptions likely to be useful to the transmission planning process? What applications of VCRs are likely to benefit most from more information about momentary interruption costs?

Energex is unable to comment on whether the cost of momentary interruptions is likely to be useful to the transmission planning process.

However, it should be noted that momentary interruptions (MAIFI) are currently included in the AER's National STPIS and are weighted at 8% of the value of SAIFI. This 8% figure was based on a South Australian willingness to pay study undertaken by KPMG in 2003.

Question 15 – Is greater customer-type disaggregation necessary or preferable for setting VCRs?

Question 16 – To what extent is the disaggregated customer information that network businesses and retailers currently have able to support the calculation of VCRs based on assessing the specific VCRs for more customer sectors?

Question 17 – For businesses and retailers that currently have this type of information, what additional information (and how much) would be required to accurately calculate such granular VCR?

Applying VCR at a connection level seems to provide the most accurate level of understanding VCR across various network elements (feeder, zone substation etc). However, DNSPs need to have the underpinning VCR values at customer classifications readily available. Energex believes that further targeted consultation with DNSPs following receipt of submissions would be particularly worthwhile, as DNSPs are likely to have different customer information available to them. It is important that the construction of the first study is appropriate to ensure that the initial VCR estimates are useful to all DNSPs.

Question 18 – Should VCRs be set in the same way for transmission and distribution networks? If not, what features warrant different consideration and how should these differences be incorporated?

The immediate customer impact of a distribution or transmission level outage is generally the same. However, a transmission outage which impacts the entire region potentially results in greater inconvenience as customers are unable to rely on local contingencies.