19 April 2013

Ms Reena Kwong
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Submitted by e-mail: reena.kwong@aemo.com.au

Dear Ms Kwong

AEMO Value of Customer Reliability Issues Paper

Origin Energy (Origin) appreciates the opportunity to provide comment to the Australian Energy Market Operator's (AEMO) Value of Customer Reliability (VCR) Issues Paper. Origin welcomes AEMO's proposal to develop a nationally consistent methodology to determine VCRs and is interested in understanding how that methodology could inform network planning across the National Electricity Market (NEM).

Origin notes this Review forms part of a broader energy market reform agenda including: the Productivity Commission review of Network Service Regulation; the Australian Energy Market Commission (AEMC) Transmission Frameworks and Reliability Standard and Reliability Setting Reviews; and the Economic Regulation of Network Service Providers rule change made last year.

Origin supports an economic approach to assist in determining reliability standards. However, we consider a minimum baseline standard is also required to protect the short and long term interests of consumers. Origin considers a reliability standard based on deterministic assumptions or an economic cost benefit analysis alone is unlikely to deliver the best outcome for the market. We propose a combination approach for network planning, which incorporates a baseline standard combined with an economic assessment to balance the interests of consumers; an economically justifiable standard could be informed by a VCR.

Objective of a nationally consistent VCR methodology

Origin supports a nationally consistent approach to developing reliability standards in the NEM. A consistent methodology to determine a VCR, which could inform these standards, is an important step to improving planning standards so they can deliver economic levels of reliability (possibly above a baseline reliability standard). In using a national approach for determining regional VCR, Origin supports the publication of sector-specific VCRs that could be aggregated as a reference point for network planning under the regulatory investment test for transmission (RIT-T).

To accurately capture the regional differences under a national framework, Origin considers there is value in using the customer classification used by Charles River and Associates (CRA) in 2007 to calculate a Victorian VCR. These categories included:

- Residential;
- Agricultural;
- Major commercial;
- Small commercial;

- Major industrial; and
- Small industrial.[1]

The calculation and publication of sector-specific VCRs is important to provide transparency in understanding the key drivers behind an aggregated single regional VCR. We recommend part of AEMO's methodology is to consult on the appropriate weightings of sector specific VCRs.

Preferred methodology used to determine a VCR

AEMO has accurately identified the merits and limitations of modelling and survey methodologies used to determine a VCR. These options and limitations have also been canvassed by Oakley Greenwood.[2] Both AEMO and Oakley Greenwood have noted an alternative 'choice modelling' approach to determine a VCR where consumers are presented with a range of service or reliability standards and price scenarios.

Origin considers a 'choice modelling' approach enables respondents to assess the trade-off between service standards and their cost. This methodology is currently being used to identify the value of unserved energy in New Zealand with surveys sent to smaller customers and larger customers, above a threshold, are interviewed face-to-face.[3]

In determining an appropriate VCR methodology, we agree with AEMO's characterisation of the various approaches, particularly the challenges with collecting credible data.[4] We also agree that businesses and individuals have a varying capacity to accurately identify the cost attributable to a supply interruption and whether the frequency and duration of a supply interruption increases or discounts the initial cost of the interruption.

Origin considers that where a business consumer has the capacity to accurately identify the cost of an interruption to supply then they should be given the opportunity to quantify those costs. While a more costly approach, conducting face-to-face surveys to ascertain the costs of a supply interruption, where the consumer is above a defined threshold, enables the interviewer to ask follow-up questions to enhance the value of the information provided.

Alternatively, where respondents are unable to accurately identify the costs of a supply interruption, their preferences between the trade-off between service standards and price should be presented. AEMO and Oakley Greenwood have both outlined the limitations from survey responses and where this could potentially lead to a misleading outcome. For example, the previous CRA VCR studies used a survey methodology. When comparing the variation between the Victorian VCR levels in 2002 ($29.60/kWh) and 2007 ($47.85kWh), questions arise around the potential bias or lack of understanding in survey responses.[5]

AEMO has noted the "drawback with choice modelling is that it can be more complex, time-consuming and expensive than other approaches."[6] While Oakley Greenwood noted similar concerns, they did comment:

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[1] AEMO 2013, *Value of Customer Reliability Issues Paper,* 2013 Melbourne, p.13
[2] Oakley Greenwood 2011, *Valuing reliability in the National Electricity Market: Final Report,* 2011
[3] Ibid, p.23
[4] AEMO 2013, p.12
[5] AEMO 2013, p.13
[6] AEMO 2013, p.12

> *A significant advantage of the choice modelling approach is that it allows the testing of a larger and more complex set of service price options than contingent valuation and implicitly accounts for the trade-off between attributes. Another advantage is that the pattern whereby attributes values are varied is highly complex, and therefore significantly reduces the likelihood of strategic responses.*[7]

While acknowledging the additional potential cost and complexity in preparing 'choice modelling' surveys, there are considerable advantages, which include minimising potential errors in survey responses. AEMO may be able to reduce the complexity and cost of initiating a NEM 'choice modelling' survey by leveraging off New Zealand's investigation into the value of lost load.

Calculating and an indexing a VCR

Calculating a VCR can be a timely and costly exercise. Key drivers include the approach, level of granularity and frequency. While more detailed input data could result in a more accurate reflection of VCR, this cost needs to be balanced against the perceived value. In addition, VCR levels are likely to change over time with changes to societal expectations and adoption of new and different technologies by residential, commercial and industrial customers. As such, any VCR methodology or indexation needs to be flexible and able to reflect these changes as they occur over time.

Role for and scope of VCRs

AEMO considered the appropriate scope and application of VCRs under the Review. AEMO noted the application of VCRs to transmission planning was similar to the role played by the Market Price Cap (MPC) in the wholesale NEM and implied these two measures should be similar to one another.[8] The AEMC Reliability Panel has made a similar observation that there should be a reasonably efficient balance between the cost (MPC) and the value (VCR) of the reliability of electricity supply in the NEM.[9]

Origin cautions against the theoretical assumption that the cost of supply should equal the value consumers place on the reliability of electricity supply. The NEM has evolved since the start of the market in 1998. The cost and value assumptions are complicated by the range of generation technologies available and the expectations of end use consumers. These supply and demand considerations intersect with the NEM market design and parameters, the administered price cap for example and hedging instruments. The interrelationship between electricity and other energy markets including gas has also increased with higher levels of gas fired generation. These broader market considerations suggest caution should be applied when considering traditional theoretical assumptions around cost and value.

It is also important to consider what price signal the different settings are providing the market. The objective of the MPC is to ensure timely and efficient investment in generation. On the other end of the spectrum, the VCR may be suited to informing network investment. The most appropriate signals for promoting timely and efficient generation and network investment are not necessarily the same.

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[7] Oakley Greenwood 2011, p.9
[8] AEMO 2013, p.8
[9] AEMC Reliability Panel 2010, *Reliability Standard and Reliability Settings Review,* Final Report, 2010, Sydney, p. xi

Conclusion

Origin considers the optimal approach for determining network reliability standards is a balance between a minimum baseline standard and an economically derived standard. To this extent, Origin supports AEMO's commitment to determine a nationally consistent methodology for determining a VCR.

We consider a 'choice modelling' survey approach provides a more accurate method to deriving a VCR. A survey sample should be as granular as practicable to provide transparency as to the impact from unserved energy to particular sectors within the economy. Where commercial and industrial consumers, above an appropriate consumption threshold, are able to quantify the costs of an interruption to supply, they should have a choice to participate in a face-to-face survey to convey the costs. We encourage AEMO to consider whether there are efficiency opportunities from leveraging off the current approach used in New Zealand.

Should you have any questions or wish to discuss this information further, please contact Hannah Heath (Manager, Wholesale Regulatory Policy) on (02) 9503 5500 or hannah.heath@originenergy.com.au.

Yours sincerely,

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