SP AusNet™
A member of Singapore Power Group

19 April 2013

Reena Kwong
Australian Energy Market Operator
GPO Box 2008
MELBOURNE VIC 3001

By email: reena.kwong@aemo.com.au

Dear Reena

Value of Customer Reliability Review: Issues Paper

SP AusNet welcomes the opportunity to engage in AEMO's review of the Value of Customer Reliability (VCR) review. As noted in the background section of the Issues Paper, VCRs are used in the Victorian network planning process to help value unserved energy as part of the assessment of whether network augmentation is economically justified. Using this methodology robust VCRs are critical for confidence in the efficiency of planning outcomes. We would encourage AEMO to continue to engage the industry on this topic.

We note that the Australian Energy Markets Commission (AEMC) is currently conducting a review at the direction of the Standing Council on Energy and Resources to develop a nationally consistent framework and methodology for developing, describing and reporting on electricity network reliability and associated standards in the National Electricity Market. The terms of reference require this to apply an appropriate measure of the value customers place on the reliability of electricity supply. AEMO's work will provide an important input into this review and improved understanding for the broader regulatory framework as well as being important to maintaining values for current applications in Victoria.

The remainder of this submission is prepared as a response to the questions put by AEMO in the various discussion areas of the Issues Paper.

Role and Scope of VCRs

Application to network planning: Q1 - In what planning contexts should the VCR be applied?

The Issues Paper describes how AEMO applies VCR in assessing the economic benefit of transmission network augmentation. SP AusNet also applies VCR in its investment decision-making. VCR is used in calculating and quantifying supply risk to allow an economic assessment of the need and timing of investment in the network.

VCR is also used in decisions relating to:

- network support (demand management and embedded generation) proposals;
- network augmentation options;
- network asset renewal options;
- network reliability improvement proposals; and
- could also be used in the evaluation of quality of supply constraints and proposals to relieve such constraints.

In the probabilistic planning approach applied by SP AusNet, and AEMO, changes made to VCR have a direct impact on the level of investment, and accordingly on the design level of network reliability. However, SP AusNet considers that VCR is relatively stable over a 5 year planning horizon, but that volatility may present due to imperfect measurement capability.

The Issues Paper discusses whether loss of supply at the most critical time is appropriate. SP AusNet submits that the VCR applicable will differ depending on the risk to be addressed:

- for augmentation works, that are adding capacity to the network, consideration should be given to Peak MWh and the value of unserved energy at this time, when supply would be at risk; whereas
- for asset replacement works, where supply risk does not relate to network utilisation, consideration should be given to average MWh and the average value of unserved energy.

The methodology for assessment of VCR should take into account that the loss of supply duration may not be known until rectification works have commenced. This creates additional uncertainty and likely discomfort for customers. For example, customers may need to consider whether they need to find alternative accommodation, the cost, and when should they make such a decision.

***Application to Network Planning:* Q2 - In what network regulation contexts should the VCR be applied?**

The VCR has been integral to the AER Distribution Service Target Performance Incentive Scheme that has been applied in Victoria. The scheme has been very effective in ensuring superior reliability at minimum cost for Victorian consumers without stipulating deterministic reliability planning standards. This incentive-based regime provides for greater innovation to drive efficient and enhanced reliability outcomes.

To maintain the scheme's effectiveness over time it is important that the AEMO process supports the AER's continued development of the scheme. In particular, VCR values that support the option for a more targeted scheme would enhance the development of the regulatory framework.

SP AusNet suggests that there are two opportunities for AEMO's review to assess, which will improve understanding of how customers value electricity service:

- the value customers put on quality of supply as opposed to reliability (this has been flagged in the current AER STPIS guideline as topic worthy of further exploration); and
- the differential between the VCR for planned (prior-notice) outages as distinct to the impact of unplanned outages.

Methodologies for Deriving VCRs

Regional VCRs: **Q6 - For AEMO's 2013 review, should VCRs be calculated on a regional or sector-specific basis? Why?**

Improved granularity of VCRs would be beneficial, particularly at the transmission connection point level. An understanding of regional VCR is important, however to understand this also requires an understanding of the customer base in a region. To some extent regional VCR can be derived from regional VCR.

The societal impacts of broad transmission impacts should also be considered. The Issues Paper notes a VCR study indicating this to be a low factor, however SP AusNet considers the impact should be reviewed thoroughly. The impacts of public transport outages for example on the public would not be identified through the public transport business' valuation and may not be captured in transport dependent customers' valuations. A large number of such impacts may coincide.

For distribution networks in particular, however, the application of highly granular values may be administratively difficult. Currently the STPIS considers reliability performance by CBD, Urban, Short Rural and Long Rural feeder classifications, rather than regional. Overlay of a more regional basis, or increased disaggregation may not be appropriate for this purpose.

Regional VCRs: **Q7: How could sector-specific VCRs be re-weighted to reflect geographical considerations?**

As noted in response to Question 6 SP AusNet is supportive of AEMO seeking to determine VCRs on both sectorial and regional basis. We would encourage AEMO to align those splits with existing definitions within the relevant jurisdictions.

However, it must be recognised that given the imprecision of measuring VCR values the conclusion at the end of the process may be that some splits cannot be meaningfully made.

The weighting of VCRs may be appropriate for both planning and regulatory purposes but can be determined separately to the current process if the underlying VCRs by sector/region are calculated.

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

AEMO has well developed existing methodologies to determine the VCR and these should continue to be utilised and improved. However, it is considered good practice that

where estimates are imprecise more information should be preferred to less. Therefore, AEMO should utilise other techniques as cross checks to counter the known weaknesses in their current techniques.

The societal impacts of broad transmission impacts should also be considered. The Issues Paper notes a VCR study indicating this to be a low factor (section 6.1.4 of Issues Paper), however SP AusNet considers the impact should be specifically considered in the review. The impacts of public transport outages on the public, for example, would not be identified through the public transport business' valuation and may not be captured in transport dependent customers' valuations. A number of such impacts may coincide. Similar examples include loss of communications with emergency services at times of higher risk e.g. total fire ban days, health impact on aged members of society during high ambient temperatures, and loss of water supply and sewerage services.

Indexing VCR: **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?**

Given the nature of the individual and societal costs that are being captured in the estimate indexing to income GDP indexes would seem the most appropriate.

Shortcomings and Potential Improvements to Existing Survey-based VCR Methodologies

Addressing survey anomalies and biases: **Question 12 - What strategies or approaches should be used to overcome apparent anomalies and biases in previous VCR surveys?**

Anomalies are best overcome by applying multiple techniques as a cross check on the primary approach. However it is important that VCR studies apply consistency of approach and repeatability, subject to application of recognised and transparent continuous improvement in a way that would help explain changing values.

The impact of anomalies may also be mitigated by aligning reviews with planning cycles underpinning network service provider revenue determinations. The application of changed VCRs within a regulatory control period would be problematic.

Addressing survey omissions and limitations: **Question 14 - Is survey data on the cost of momentary interruptions likely to be useful to the transmission planning process?**

There is evidence that the value of momentary interruptions is important to many customers and this should be investigated. We consider that the value of planned interruptions should also be investigated.

Addressing survey omissions and limitations: **Question 19: Can VCR surveys effectively estimate the cost of HILPs or should HILP events be captured separately within the reliability framework?**

SP AusNet considers that the High Impact Low Probability (HILP) event has different implications when applied to the transmission and distribution networks. For transmission the impact of such an event would be broad, but would be more localised if occurring in

the distribution network (and in respect of the STPIS, would be subject to exclusion criteria).

VCR should seek to capture the societal impacts of large scale events. Nevertheless, it should also be recognised that HILP events cannot be adequately captured through VCR valuation, and instead should be considered a network security issue.

SP AusNet looks forward to further participation in AEMO's review as it progresses. We would be pleased to respond to any enquiries AEMO may have regarding this submission.

Yours sincerely,

Kelvin Gebert

Manager Regulatory Frameworks