

16 November 2018

Mr Mark Feather  
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Policy and Performance  
Australian Energy Regulator  
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## Values of Customer Reliability, Consultation Paper

Dear Mr Feather

Energy Networks Australia appreciates the opportunity to respond to the Australian Energy Regulator's (AER) Consultation Paper, Values of Customer Reliability (VCR) and looks forward to participating in the AER's process for establishing VCRs.

Energy Networks Australia is the national industry body representing businesses operating Australia's electricity transmission and distribution and gas distribution networks. Member businesses provide energy to virtually every household and business in Australia.

Energy Networks Australia welcomes the AER engagement with stakeholders on the methodology to establish nationally consistent VCRs over the next year, including the formation of the Value of Customer Reliability Consultative Committee (CRCC).

The AER development of nationally consistent VCRs is at a critical time in the transformation of networks to connect new generation and the development of the actionable Integrated System Plan (ISP) in late 2019 or 2020. It is important to advance the methodology used to generate VCRs to improve outcomes and to build confidence in all stakeholders who use them.

VCRs are fundamental to informing network investment decisions. The methodology to be developed, and its implementation through customer survey processes, must be fit for this purpose and appropriately funded given its importance. The AER must adopt a statistically robust process that recognises customer segments, outage characteristics and locations. The AEMO 2014 review could be reassessed to provide greater granularity, stability and accuracy for contemporary reliability assessments. Energy Networks Australia supports AER building on the AEMO VCR work.

We do not consider the use of VCRs should, in general, encroach on operational decision making. The use of VCRs in informing Reliability and Emergency Reserve Trader (RERT) and ancillary service procurement decisions are exceptions. The prime purpose of VCRs is to ensure efficient network planning and investment to benefit consumers. Any extension to use VCRs for other matters (as outlined in section 4.2 of the Consultation Paper) should not diminish the value of VCRs in relation to network planning processes. Nothing would prevent VCRs being informative to the additional processes outlined in section 4.2, but they are not a determinative factor, and there is

no need to formalise their use in these processes through the development of the guideline.

As AEMO has stated<sup>1</sup>, climate change means that the power system is exposed to unprecedented conditions with increasing frequency, and there is a need to take into account risks that were previously treated as too unlikely to warrant investment expenditure. Energy Networks Australia supports further consideration into how to establish the weightings for high impact low probability (HILP) events, and appropriate incorporation into VCR values, including for events that may not have occurred before. AEMO recently published an Information Paper as part of the RERT consultation which also discusses tail risks and why they may not have been seen in the past.

An important feature for VCRs is that they should be consistent and predictable, such that the methodology should not lead to volatility at adjacent reviews, as this would not represent the reality of the value of reliability. In addition, any annual adjustment such as a CPI or other escalator should be predictable and transparent to enable VCR's to be maintained in real terms.

We are mindful that it is early days in the AER's development of the methodology for the VCRs and suggest that transitional arrangements are considered later in the process when the initial values are better understood.

Energy Networks Australia welcomes the opportunity to work with the AER and the CRCC to improve the methodology and customer segmentation in developing the next VCRs. We also urge the AER to engage with consumers throughout the process. To avoid delays, the AER should consider developing a customer engagement plan to support ongoing engagement with all customer groups.

Our more detailed comments by topic area are in the Attachment.

Should you have any additional queries, please feel free to contact Verity Watson – Head of Transmission on 03 9103 0407 or [vwatson@energynetworks.com.au](mailto:vwatson@energynetworks.com.au).

Yours sincerely,



**Andrew Dillon**  
Chief Executive Officer

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<sup>1</sup> AEMO submission to AER, Draft Regulatory Investment Tests Application Guidelines, Draft Determination, 10 Sept 2018, p2

## Attachment

### **Additional Uses of VCR**

VCRs are a critical input to Network Service Provider's (NSP's) investment decision-making processes, in particular network planning, forecasting associated expenditure and conducting regulatory investment tests (to ensure electricity solutions are delivered at the highest net benefit to the electricity market, or at the lowest long run cost to consumers). The AER's consultation paper contemplates an extension of VCR uses into areas which are more operational in nature, for example load shedding priorities and scheduling planned outages. Energy Networks Australia considers it would not be appropriate for the AER to prescribe uses of VCRs in operational decision-making, noting that NSPs are ultimately responsible for the delivery of efficient, safe, reliable and secure electricity services and are therefore best placed to manage reliability with input from customers and other key stakeholders and respond to incentive regimes established by the AER (i.e. STIPS). Imposing additional inputs into an already complex operating environment is unlikely to result in improved decision-making, and may well create greater operating risk.

#### ***Inform RERT and ancillary service procurement***

Of the potential additional uses of VCR proposed in the Consultation Paper, Energy Networks Australia considers there could be a limited, recognised role for VCRs to inform regulated procurement activities, such as RERT and ancillary services. The RERT procurement function undertaken by AEMO represents the boundary between operational and investment decision-making processes. As such, Energy Networks Australia considers the use of VCRs in this capacity as the limit for any proposed extension to the role of VCRs.

#### ***Assess special protection schemes HILP***

VCRs must capture the value to customers caused by the impact of High Impact Low Probability (HILP) events, including through consideration of least regrets theory. As AEMO has stated<sup>2</sup>, climate change means that the power system is exposed to unprecedented conditions with increasing frequency, and there is a need to take into account risks that were previously treated as too unlikely to warrant investment expenditure. We believe there would be value in considering further how to establish the weightings for HILP events, including for events that may not have occurred before.

COAG Energy Council has directed the AER to consider the treatment of HILP events. The additional guidance set out by the AER in its Draft Decision on the RIT Application Guidelines for HILP events amounts to re-stating current practice, and does little to avoid sub-optimal investment decisions.

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<sup>2</sup> ibid

Where customers have not been impacted by a significant event which has resulted in a lengthy outage or a system restart it is unlikely that they can make useful judgements in any survey. There needs to be consideration of alternative techniques to ensure the implications of such an event are appreciated by participants in the process. Participants should have at least a simulated appreciation of the degree of hardship that could be experienced.

South Australia has experienced several lengthy and widespread outages over the last few years. If these same outages were to bring traffic lights and the vast majority of public transport and road tunnels to a standstill in a larger city such as Melbourne or Sydney, the impacts on business, commuters and families may be more significant. AER should consider appropriate VCRs in locations where dependency on electricity services is greater. This would be consistent with community expectations and is consistent with economic theory as it enables highly adverse outcomes to be avoided in a way that minimises regret. It is noted that these outages may be the result of inadequate security of supply and that certain users may place very high values on reliability that may justify higher levels of shared network capacity. This is in addition to the significant investments in dedicated connection assets these users make to meet their requirements.

#### ***Load Shedding and Scheduling planned outages***

Load shedding events are an operational matter that networks actively manage when they occur. Supply to businesses that provide essential services (e.g. hospitals) that have high VCRs are given priority during such events. Energy Networks Australia considers that it is not appropriate to formally prescribe the use of VCRs in managing operational matters such as load shedding. With regard to planned outages, networks consider a number of parameters, for example, type of works, number and types of customers affected, day of week and time of day and weather, such as heatwaves. Energy Networks Australia does not consider there is a need to formalise any changes in managing network planned outages as VCRs are not the deciding factor.

#### ***Apportion recovery of investment costs***

The Consultation Paper suggests that the variation in VCR values for different customer classes could inform how the costs of these investments are recovered in network tariffs with customer classes that place a higher value on reliability paying a greater portion of the costs than classes with a lower VCR. Any change to more locational pricing or differing cost allocations to customer class would need to be consistent with the network pricing objectives and could only be considered in the distributors' tariff structure statements (TSS) which are locked in for a 5 year period. This approach may make distribution tariffs more complex, which could add to retail tariff complexity and create risks within fixed term retail contracts. The TSSs are subject to extensive stakeholder consultation, relevant, practical approaches will be considered in this work.

#### **Approaches to deriving VCR**

The methodology for estimating VCRs needs to be sufficiently rigorous and provide robust statistical results. It is important that the techniques adopted result in stability

of VCRs over time, particularly when considering the VCRs impact on investment decisions on assets with 50 year lives.

The AER has provided a number of different approaches to developing VCRs. It would be useful to develop an evaluation criteria that could be applied to determine the preferred approach or to identify the appropriate approach for different uses.

Energy Networks Australia broadly agrees with Contingent Value Surveys and Choice Modelling for residential and business customers and Direct Cost Approach for direct connected customers. There are methodological issues with Willing To Accept vs. Willing To Pay however these are well known and can be accommodated for through appropriate survey design. Survey techniques are most effective which apply scenarios that customers have experience with or can readily understand however are less well suited where customers do not readily relate or understand the impacts of the event. The use of multiple methods for verification might be useful to improve confidence in the results.

Energy Networks Australia would support further consideration of opportunity cost of outages and cost of substitute products. Energy Networks Australia also recommends that regrets theory should be considered in relation to HILP events. In a major city like Melbourne or Sydney, SA type events could cause major transport disruption in peak hour, effectively bring the city to a halt.

Direct connected customers and commercial /industrial customers should be considered separately.

### **VCR customer segments**

Energy Networks Australia recognises the costs of a best practice statistical approach to the future measurement of VCRs is significantly less (in the order of millions) than the costs of basing reliability and investment decisions on sub-standard estimates. These revised VCRs will be in place for 5 years and given the level of network transformation to facilitate connection of more renewables, we would urge caution on under sizing the sampling and modelling.

The customer segments proposed in section 5.2 of the Consultation Paper are supported with the exception of socio-economic and dwellings. Energy Networks Australia queries the accuracy and completeness of such data in the application to network planning.

It is worth considering consumers with solar and storage may have different VCRs as they have alternative supply options or may value exporting to grid. Similarly, consumers with electric vehicles and access to charge /release technologies should also be considered in future segmentation.

In light of the significant outages caused by storm events, Energy Networks Australia consider that city CBD, urban, rural and remote should be considered, including the outage impacts. For example the agricultural segment should also be broken down by type, e.g. the impacts of a delay in irrigation are significantly different from the impacts on bulk food storage.

In terms of developing the VCR methodology, Energy Networks Australia highlights the need for outage characteristics to be sufficiently disaggregated including the ability for customers to access substitution options. These may be quite limited for customers in remote and some regional locations where dual fuel is limited. That is, the extent of the outage needs to be considered in the context of customers' ability to reasonably access services elsewhere.

There also needs to be recognition that the value of reliability may vary significantly by season. Whilst in Victoria for example peak demand and outages may occur in summer warranting a higher seasonal VCR in contrast the peak demand in Tasmania warrants a higher VCR in winter.

### **Combining segmented VCR values at point of investment**

Weighting VCRs by customer load and type is supported. Where VCRs change over time for certain outages, this should also be reflected in calculations rather than use of an average for more accurate results.

### **Annual adjustments to VCR and frequency of VCR reviews**

The National Electricity Rules require the AER to review and update the value of customer reliability at least once every 5 years. This provides the AER with the opportunity to change the values and review the methodology every 5 years or more frequently should there be a material need or change in circumstances. There will always be some timing misalignment for VCRs used for regulatory determinations and VCRs used for RITs for transmission and distribution. Adjustments of VCR's for a jurisdiction should be allowed where there are exceptional circumstances and this is agreed with networks.

Certainty and consistency of VCR for investment purposes is crucial. Networks prefer stability so they can reasonably deliver their forecast capital programs using VCR inputs consistent with those assumed in their revenue proposals.

Annual adjustments should be limited to a known escalator to ensure that any adjustment is appropriate and capable of being consistently applied, enabling the VCR's to be maintained in real terms. The escalator could be the consumer price index, producer price index or some other factor that is considered relevant.

Given the number of Regulatory Investment Tests underway across transmission and distribution including both network augmentation and replacement, there is a significant volume of regulatory processes and customer engagement that would be impacted by unpredictable changes.

### **Transitioning to new VCR values**

Given the fundamental importance to effective planning of long term infrastructure, an important principle for this and ongoing VCR reviews is that a statistically robust approach not be expected to produce VCR values that would change rapidly over time, particularly as the AER is expected to enhance and build on previous VCR work. Accordingly, Energy Networks Australia recommends transitional arrangements where

there are significant changes to VCRs between review periods, reflecting the stable nature of the value of reliability. To eliminate a step change due to inflation over the period between reviews an annual adjustment by CPI or similar escalator would be desirable.