



23 April 2024

Stephanie Jolly  
Executive General Manager, Consumers, Policy and Markets  
Australian Energy Regulator  
GPO Box 3131  
Canberra ACT 2601

Via email: [VCR2024@aer.gov.au](mailto:VCR2024@aer.gov.au)

**Re: Values of Customer Reliability 2024**

CitiPower, Powercor and United Energy welcome the opportunity to respond to the Australian Energy Regulator's (AER) draft determination on the Values of Customer Reliability (VCR) methodology.

The VCR are crucial inputs into network planning and asset management, and the methodology underpinning the values must be robust and fit-for-purpose. These values will apply through to 2029, so will cover a critical foundational period supporting the once-in-a-generation energy transformation.

The depth and complexity of the change occurring through the energy transformation, and in customer behaviour, warrants a comprehensive review of the VCR methodology. We have previously expressed concern that the expedited VCR review (which only considers non-material changes to the methodology developed in 2019) is unlikely to address the challenges of changing energy needs. Moreover, there are several learnings from the application of the VCR over the past five years which should inform the 2024 survey design to build and improve on the framework.

Our key recommendations for AER consideration are summarised below, and set out in more detail thereafter:

- the VCR methodology should incorporate electrification forecasts to recognise and account for the increasing dependence on electricity through the energy transition
- the VCR methodology should include additional non-monetary trade-off questions to contextualise and better understand customer value
- the VCR review should charter a pathway forward to address inequities resulting from the application of the VCR, including for regional and rural, and worst-served customers
- CBD security of supply requirements should be considered and accounted for in the current VCR methodology
- we strongly support the AER's customer value of resilience and recommend collaboration with stakeholders on developing the value.

Should you have any queries on our submission, please contact Bel Matthews on 0499 925 253 or [bematthews@powercor.com.au](mailto:bematthews@powercor.com.au).

Yours sincerely,

Jeff Anderson  
**Head Regulatory Strategy**  
**CitiPower, Powercor and United Energy**

## **The VCR methodology should incorporate electrification forecasts to recognise and account for the increasing dependence on electricity through the energy transition**

Customers are more dependent on electricity now than ever before, and this dependence will materially increase in the short and medium-term future with electrification. As customers increasingly switch to electric vehicles (EVs), and/or switch off gas, the impact of an outage will have higher consequence to our customers.

This electrification will require nuanced consideration as to its impact on how customers value access to a reliable and resilient electricity supply. This consideration was not necessarily required in past VCR reviews, as the energy sector had more closely resembled a steady-state economy. However, with legislated renewable energy targets, gas substitution policies and electric vehicle targets we are seeing a structural break in our energy system.

### **Our research partnership with Monash University and quantified customer values analysis explored customers' evolving energy needs, behaviours and attitudes**

Monash's [Future Home Demand](#) report (2023) presents the findings of a multi-stage research project comprising qualitative in-depth research interviews across 36 households, as well as a survey with 1,325 responses from customers across our networks.

The research identified 51 emerging trends in digital energy, which demonstrate the changing nature and profile of energy demand, both with electrification and evolving technological innovation. These include increasing levels of:

- caring at home (more medically vulnerable customers)
- working and studying from home (increasing computer and internet dependency)
- automation and smart-home technology (such as the emergence of automated pet care)
- air quality management (such as air purifiers) at home.

These trends signal that electricity consumption and dependence has already increased in recent years. This actual increase, relative to 2019, will be reflected in the AER's 2024 update to the VCR. However, these trends are only expected to continue, and the results provide an indication of the direction and pace of customers' energy behaviours and expectations. The current VCR survey design does not account for future trends in energy dependence, which is anticipated to increase through to 2029.

Our [Quantifying Customer Values](#) research (2024) surveyed over 1,500 customers and included an exploration of expected EV customer uptake. While only 3–6% of residential survey respondents currently own an EV, many more are considering purchasing an EV in the next 5 years: comprising 29% of customers in the Powercor network, 44% in CitiPower, and 38% in United Energy. For small and medium business (SMB) customers, these figures are even higher, with over half of SMB respondents across our networks owning or considering the purchase of an EV in the next 5 years.

Through our research, we also found that customers believe our society is increasingly reliant on electricity—demonstrated by strong attitudinal agreement with the statements 'society will become more dependent on electricity in the future' and 'we are more dependent on electricity now than we were ten years ago'.

We consider it crucial that the AER captures the increasing dependence on electricity in their underlying methodology given the rapidly changing customer experience of reliability dependence to ensure the VCR remains fit for purpose. Relying on the same VCR survey design and methodology is unlikely to fulsomely capture this challenge.

This could be partially achieved by including a demographic split in the research, between those who are in all-electric versus gas-connected homes, and with EVs considered; this could be apportioned to determine the difference between VCR for customers in all-electric homes with EVs, versus gas-connected customers with petrol vehicles. This proportional difference could be forecast to increase in line with the rate of electrification; with an increasing weighting toward the VCR of all-electric customers, compared to gas-connected customers with petrol vehicles.

**The VCR methodology should include additional non-monetary trade-off questions to contextualise and better understand customer value**

In 2003, the Victorian residential VCR was valued at \$47.73/kWh, declining to \$29.48/kWh in 2014, and then to \$23.85/kWh in 2019 (all values in \$2022). This decline over time is unlikely to be caused by customers declining value of reliability itself, but rather due to ‘recency bias’.<sup>1</sup> As reliability has improved over time, customers have less experience of outages. Therefore, they discount the expectation that an outage will occur in the future. This is evident in the 2019 VCR results, which show that all residential customer cohorts experienced a decline in VCR, except customers in South Australia, who had recently experienced a widespread outage.

In addition, in an inflationary post-pandemic environment, customers are experiencing cost-of-living pressures, both in their energy bills and in the broader basket of consumer goods. It is therefore possible that the VCR survey results will continue to decline in 2024 as customers may have less disposable income relative to 2019.

In our customer values analysis, we conducted willingness to pay research to quantify several metrics of customer value. When engaging with our Customer Advisory Panel (CAP) on our methodology, a key piece of feedback was that if a willingness to pay methodology is being used as a proxy for customer value, it is important to explore the context surrounding survey respondents’ answers. For example, our CAP raised that a lower appetite for willingness to pay may not necessarily mean a customer place less value on a certain improvement and therefore it is prudent to ensure the motivations and context is captured to better interpret the findings. To account for this feedback, we included non-monetary trade-off questions to further understand customer values and preferences of customers who had lower willingness to pay.

Improving the VCR methodology to better understand the motivations and reasoning behind customer willingness to pay will assist in interpreting the values to identify what biases or limitations may exist in the research. This will also guide how the values should be accounted for in future application and escalation.

**The VCR review should charter a pathway forward to address inequities resulting from the application of the VCR, including for regional and rural, and worst-served customers**

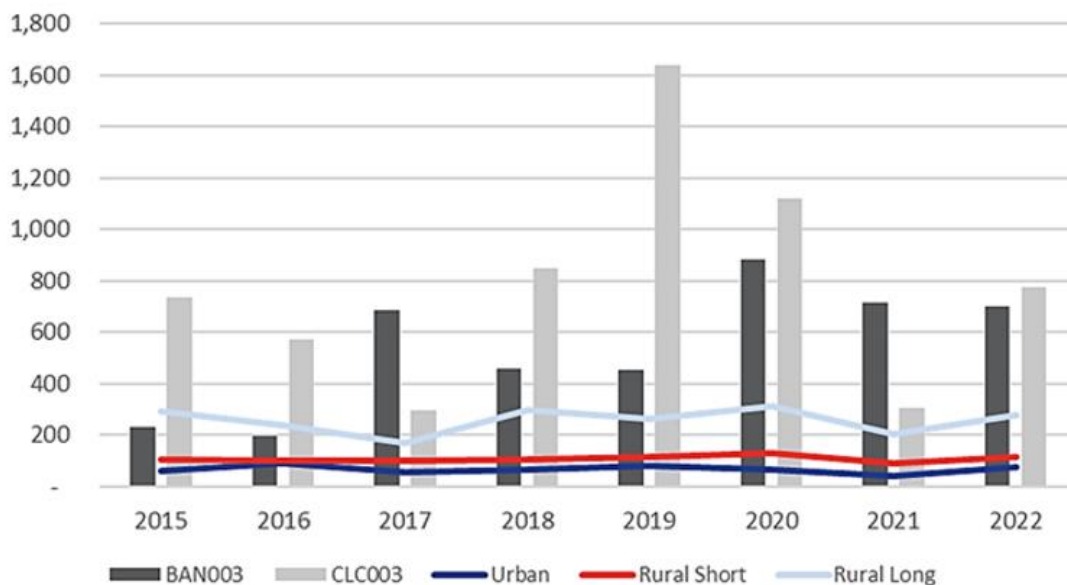
Under the current regulatory and economic framework, regional and rural customers receive 4–5 times lower reliability outcomes on average. For example, customers on urban feeders experience approximately 70 minutes off supply per annum, compared to over 300 minutes for customers on rural long feeders.

Beyond the average supply for rural long feeders, some pockets of worst-served customers have experienced up to 1,600 minutes off supply in a single year (see figure 1, that compares two of the worst-performing feeders in the Powercor network to the network average for urban, rural short, and rural long feeders).

---

<sup>1</sup> See, for example: Michael Abramowicz, *Predictocracy: Market Mechanisms for Public and Private Decision Making*, 2007, p. 20.

Figure 1 SAIDI trend 2015–2022 (minutes off supply, excluding major event days)



Source: RIN data 2015–2022; BAN003: Ballarat feeder and CLC003: Colac feeder

These lower service levels persist predominately because population density is the overriding factor in the application of the VCR in cost benefit analysis; more investment will always be justified in densely populated areas under this methodology.

While some degree of variation in reliability is unavoidable, there is a low tolerance from our customers for the current reliability gap. We have consistently heard from customers that the current gaps in reliability are neither equitable, nor sustainable over the longer-term. In our quantifying customer values project, Powercor customers highly valued improving worst-served reliability, ranking it second only to improving network resilience, and representing over 20% of Powercor customers’ total willingness-to-pay for service improvements on top of current bills.

Critically, this gap presents a potential roadblock to enabling a fair and just transition; regional and rural customers are at risk of being left behind in the energy transition, particularly with electrification, without the required investment to reduce (or at worst, maintain) the regional and rural reliability gap.

We encourage the AER to engage on these limitations in the application of the VCR, including customer feedback on regional equity, and collaborate with stakeholders on a pathway forward.

**CBD security of supply requirements should be considered and accounted for in the current VCR methodology**

In central business districts (CBD) of major cities there are often enhanced requirements for reliability due to the criticality of the economic and social activity in these areas. However, this is not accounted for in the VCR methodology, as there is no distinction between suburban and CBD VCRs.

This lack of distinction between CBD and suburban VCR presents a material gap in the 2019 methodology. Combined with the separate VCR for commercial, industrial, and agriculture customers, this results in an application misalignment, wherein it is common for suburban zone substations to attract a higher VCR than zone substations in the CBD. For example, there is a higher VCR for zone substations in suburban areas such as Springvale and Dandenong South, than the critical zone substations that serves the courts district, Flagstaff Gardens train station (which is part of the City Loop central connecting point of the urban train network) and Queen Victoria Market.

Other jurisdictions have responded to this discrepancy with deterministic solutions. For example, the Independent Pricing and Regulatory Tribunal (IPART) in NSW found that it was inappropriate to apply the suburban VCR to Sydney's CBD. TransGrid engaged Houston Kemp to determine a VCR for Sydney's CBD and inner urban suburbs. When the AER engaged WSP consultants to review Houston Kemp's analysis, WSP found that that 'a VCR of greater than \$90 is not unreasonable', neither did WSP consider that a VCR as high as \$170/kWh would be 'inappropriate' to apply to Sydney's CBD.<sup>2</sup> These figures are from 2018, underscoring the material gap between the AER's current suburban VCR applied to major cities' CBDs, and the value assigned to Sydney's CBD six years ago.

In the absence of a distinct VCR for CBDs, these projects are at risk of being deferred until the point of asset failure becomes acute. Given the criticality of the economic and social services dependent on these CBD assets, such outcomes are suboptimal and do not promote the efficient outcomes sought by the regulatory framework.

**We strongly support the AER's customer value of resilience and recommend collaboration with stakeholders on developing the value**

The AER is conducting parallel research into the value of customer resilience, at the request of Climate Ministers, but this will be distinct from the VCR review. We strongly support this initiative and encourage the AER to conduct meaningful engagement and consultation when determining the methodology for this value.

Our business, and distribution networks around the country have conducted extensive engagement on this issue; we have directly heard customers lived experience of resilience. Other extensive research on network and community resilience includes the Victorian Government's Electricity Distribution Network Resilience Review (2022). This is a fundamental and critical issue illuminating a gap in the regulatory framework; this will only become of increasing importance into the future.

In our own customer values research, we found that resilience to long-duration outages was the top ranked value for customers in the Powercor and United Energy networks, representing 41% and 55% respectively, of the total willingness to pay for a range of service level improvements.

---

<sup>2</sup> WSP – Application of RIT-T requirements by Ausgrid – Sydney CBD project – October 2018. Available at: <https://www.aer.gov.au/documents/wsp-application-rit-d-requirements-ausgrid-sydney-cbd-project-october-2018>