

renew.

Leading in sustainability

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13 September 2019

Submission to Distribution Code Review

September 2019

Renew (formerly known as the *Alternative Technology Association*) is a prominent advocate for all Australian residential energy consumers. As a member of the *National Energy Consumer Roundtable*, Renew works closely with other consumer advocacy organisations, providing expertise and experience in energy policy and markets. We also conduct independent research into sustainable technologies and practices.

As well as advocating on behalf of all residential consumers, we are the direct representative of our 11,000 members – mostly residential energy consumers with an interest in sustainable energy and resource use – who, like a growing proportion of Australians, have engaged or plan to engage more directly with the energy system by investing in equipment or contracting with service providers to generate, store, or control energy at the household level. In doing so, they will engage directly with their distribution networks; so their ability to do so effectively will hinge on how the regulatory framework for and operating principles of distribution networks support this engagement.

General comments

Renew commends the Commission's decision to review the Electricity Distribution Code and the open consultative process to inform the review. We agree that the customer-led growth of distributed energy resources (DER) and the imminent growth of microgrids and aggregation models demands a complete rethink of how the distribution system is structured, operated, and governed. In particular, we note that the Commission recognises that the regulatory framework needs to facilitate "the operation of these technologies and business models in a manner that supports grid stability and customer safety" without creating "needless barriers to the connection of these new energy technologies and services in providing benefits to Victorian customers."¹ In this light, we urge the Commission to recognise the growing problem of excess solar feed-in leading to voltage problems and congestion in some parts of distribution networks. Currently, distribution businesses are dealing with this in a variety of ways, with little consistency between or even within businesses. This is leading to growing geographic and temporal inequities, where the value able to be derived by customers' investments in DER depends on when they invested, where they are located, or how they are connected – even to the extent of which phase they are connected to or how far from the transformer they are located.

Ultimately, a principles-based and harmonised approach that responds to the actual state of the network node to which DER is connected (rather than arbitrary benchmarks or rules-of-thumb) will be needed to ensure that network reliability and security can be maintained in a way that also maximises customer value and allocates costs fairly. We recognise that now may be too early to incorporate such an approach in the

¹ Issues paper, p. 5

Distribution Code, as the issue is still being investigated by distribution businesses and other stakeholders². However, the new code should be designed to accommodate inclusion of technical, customer service, and reliability standards for DER injections once these standards have been developed.

Issues paper questions

Customer service standards – Communication of potential outages

Notifying customers during an unplanned power outage

1. Should we set an obligation on distributors to proactively contact vulnerable (such as life support) customers before a potential unplanned outage?

Advance notice to life support customers of a possible outage enables them to be better prepared to either endure or avoid the outage, if it eventuates, by ensuring they are ready to activate their contingency plans. That this has been done as a response to the 2017/18 summer outages indicates that it is practicable. Thus, Renew supports the proposal to formalise this as a requirement in the Distribution Code.

2. How should we update the current obligation on distributors informing government departments of unplanned long outages?

Renew supports amending the code to require notification to government and other relevant stakeholders of potential long outages below the existing 24-hour threshold, in line with current practice. The issues paper does not indicate the implicit outage duration threshold of current practice – in our view, an expected outage of eight hours is of sufficient length to warrant notification, given the impacts on households of no electricity for that period of time (risks of food spoilage, need for lighting, phone charging, and so on).

Customer service standards – Communication of planned outages

Notifying customers of planned power outages

3. What form of notification or engagement should be provided to customers by electricity distributors before a planned outage?

No one form of notification or engagement is sufficient to ensure customers are properly informed of a planned outage. Direct mail works for many people; but others routinely ignore mail from energy businesses due to the volume of junk mail and advertising now delivered this way, or anxiety about overdue or unaffordable electricity bills. Email notifications work for many people; but others do not regularly check email or get so much promotional or spam email that messages are easily missed. SMS notifications work for many people; but some may have irregular access to phone connectivity or have changed numbers without informing their distribution provider. Leaflets in letterboxes will probably reach most people, but can still get overlooked if they end up amid piles of junk mail.

We understand that distribution businesses are increasingly having more established relationships with customers and are more likely to have up-to-date email addresses and phone numbers. Businesses should be encouraged to have customer records management systems in place, and to collect customer communication preferences – if a customer advises the business of their preferred method of communication, they are more likely to receive messages sent via that channel. But ultimately, businesses should use multiple channels to convey critical information – such as outage notifications – to customers to maximise the likelihood of messages being received.

4. Should we impose a new obligation to notify customers of a cancelled or rescheduled planned outage?

Renew strongly supports a new obligation to notify customers of a cancelled or rescheduled planned outage. As the issues paper notes, customers may make plans for enduring outages that entail significant expense, such as purchasing backup generation and setting up critical appliances to run from it instead of mains supply. But customers may also make plans that involve both expense and considerable inconvenience, such as taking children out for the day to movies or other attractions or going some distance away to stay with

² For example, numerous DER integration projects being undertaken by networks businesses and energy market institutions, as well as Renew's own DER Exports Management project that will investigate the technical issues, assess the efficacy of remedies, and propose a principles-based best-practice approach that could be adopted by businesses or regulators.

friends or relatives. Notifying customers that planned outages will not go ahead empowers them to choose whether to go ahead with their plans anyway or stay home instead. Having this option could be materially valuable to customers who have limited finances, or work from home, or have dependants with high care needs.

Customer Service standards – Guaranteed service level scheme

Purpose of the guaranteed service level scheme

5. Should the purpose of the scheme be redirected to address poor service or something else altogether?

Given the interplay between and different impacts of the Victorian GSL scheme and the AER's service target performance incentive scheme (STPIS), it seems appropriate to envisage the GSL scheme as a complementary instrument to the STPIS – fulfilling a different but related role. Significantly, the fact that the GSL scheme, because it has no financial impact on the distributor, is no more than a weak incentive for improved customer service, suggests that it is better suited to compensating customers for poor service or reliability where it is not efficient or practicable to raise standards (as noted in the review of the scheme during the 2006–10 pricing review) and where that poor service or reliability is not inconsistent with the distributor meeting their service and reliability obligations overall. At the same time, it should be noted that there may be a need for a more granular approach to assessing attainment of performance benchmarks, given the potential for very high performance in new urban fringe developments to boost averages and thus hide poor performance in regional towns where it may well be practicable and efficient to improve performance.³

6. Are there other ways we should think about improving service levels for the worst parts of the network in the code?

The AMI roll-out has made the Victorian electricity distribution network more transparent and data-rich than anywhere else in the NEM. In advocating for a moratorium on contestable metering, Victorian distribution businesses gave numerous examples of the ways the network performance data provided by AMI enables lower costs to serve and higher levels of service. The Commission could work with the networks to ensure performance and service standards are consistent with the level of performance and service AMI enables, and develop strategies to leverage AMI data to improve areas with poor performance and service where possible. This could indicate where and how the code could be strengthened to deliver higher performance in poorly served areas.

The Commission could also work with the networks to explore how DER – be it customer-owned, network provided, or as part of stand-alone systems – can improve customer experience in hard-to-serve areas. This could suggest where future code reviews might need to allow for new kinds of distribution network service delivery.

Guaranteed service level categories

7. Is each payment category still fit-for-purpose in meeting the overall purpose of the guaranteed service level scheme?

Yes, they recognise different types of poor service and provide compensation for customers experiencing that poor service irrespective of whether overall reliability and service performance targets are met.

8. Should customers receive a low reliability payment and a restoration payment?

The low reliability and restoration payments target two different types of poor service. The former compensates customers for poor overall service; while the latter compensates for a singular event of particularly poor experience. Currently, because the restoration payment is not made where a customer also receives an annual duration payment:

- The restoration payment will not be made immediately after the outage, which means the customer may not feel their experience has been acknowledged, and they don't receive compensation in a

³ For example, as reported to the Ausnet Customer Consultative Committee by the Ausnet Customer Forum, 25 September 2018.

timely manner to help offset additional expense they have just incurred in coping with an extended outage

- A customer who experiences regular outages of shorter duration as well as one or more long outages is compensated only for the general experience of ongoing poor service, but not for the additional inconvenience, expense, and potential damage of an extended outage.

In our view, both types of poor service need to be recognised and compensated; and compensation for an extended outage should be paid in a timely manner.

9. Are there new categories that we should consider including in the scheme?

None that come to mind.

Worst served customer principle

10. Should we change our principle of worst served customer to capture systemic poor performance?

Renew agrees with the Commission that its 'worst served customers' definition is likely to capture customers who have experienced a single prolonged outage, as well as ongoing poor service. Other jurisdictions' 'worst served customers' definitions that consider service over a number of years are more likely to focus on connections that experience consistently poor service.

Nevertheless, customers experiencing a one-off, long outage have indeed been one of the worst served customers for the year in question. Given the discussion above about the Victorian GSL scheme giving only a weak investment signal to distribution businesses (due to not having an impact on revenue) and its implicit purpose as a compensation mechanism for customers experiencing substandard service, it is not unreasonable that both types of poor service are captured. The existence of both the annual duration payment and the restoration payment exemplifies this, and our recommendation to pay both of those to customers who experience both types of poor service reflects that customers experience ongoing poor reliability and a single prolonged outage as different types of problems, with different types of impacts.

Guaranteed service level exclusions

11. Are there any outage scenarios we should include or exclude from the scheme?

Renew recommends one change to GSL exclusions: with regard to transmission connection assets, in line with the national scheme *do not exclude transmission interruptions caused by a failure of shared assets where the distributor's actions or inactions are inconsistent with good industry practice*. Customers should be compensated for poor service arising from poor practice by distribution businesses.

Timeliness of payments

12. Should we impose timeframes for guaranteed service level scheme payments?

GSL payments should be made as soon as practicable after the obligation is triggered. This means as soon as practicable after the poor service event for all GSLs apart from the low reliability payment, which should be made as soon as practicable after 1 January the following year. As we recommend that restoration payments should be paid to customers even if they also qualify for an annual duration payment, restoration payments should also be paid as soon as practicable after the outage event.

Embedded networks and GSL payments

In considering embedded networks, Renew has regard to its long-standing principle that the level of customer protections and, more broadly, the dependability of households' access to energy should hinge on the extent to which the energy supply in question constitutes their essential energy supply, irrespective of the business model used to deliver the energy. This approach has been adopted by the AEMC in its development of the national embedded networks framework, but unfortunately not by the Victorian Government's review of the exemptions framework. Nevertheless, it is the lens through which Renew views embedded networks.

Accordingly, our view is that customers in embedded networks should have the same entitlement to GSL payments as those in the mainstream energy market. Otherwise we end up with the nonsensical situation where households in one apartment block receive GSL payments for a prolonged outage while those in an

adjacent building do not, simply because the second block was set up as an embedded network and the first was not.

This could be achieved by the following approach:

- The embedded network operator is paid by the distribution business on the basis of the number of residential customers in the embedded network.
- The embedded network operator passes the payments on to those customers, if they experienced the outage.
- However, if the embedded network was able to keep its customers sufficiently energised due to its own behind-the-(parent) meter energy resources (either for the entire duration, or for long enough that a GSL would not ordinarily be payable), it is not required to pass on the GSL payments.

This approach would ensure embedded network customers are treated similarly to on-market customers and could incentivise some investment in energy resilience in embedded networks located in network nodes with lower reliability.

It also lays some conceptual groundwork for future work developing a GSL scheme for within embedded networks.

Technical standards – Voltage standards

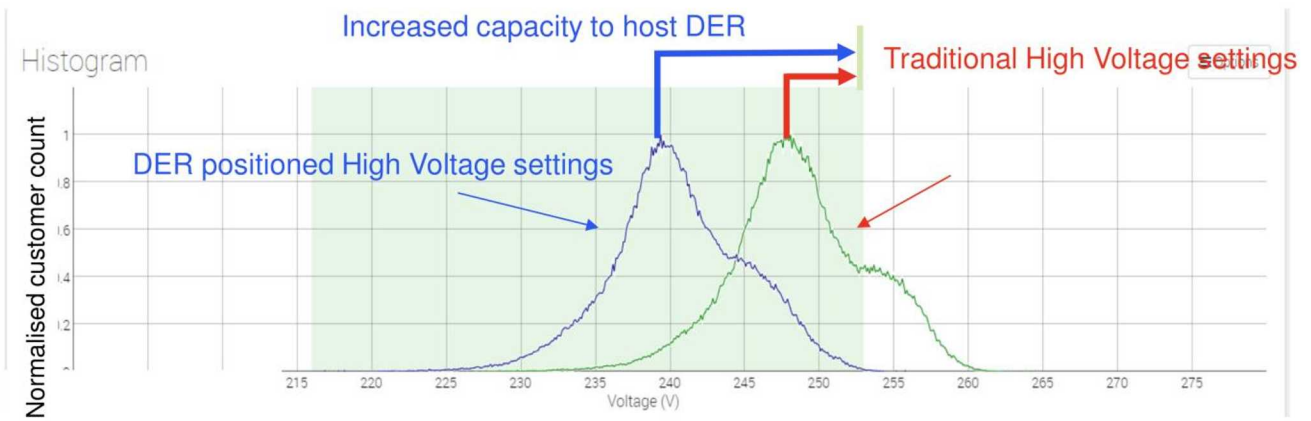
Voltage standard

13. Should the commission review the distributor's voltage standards in the way distributors should manage voltage? In particular, we are seeking stakeholder feedback on the potential options for reviewing voltage standards, such as considering a 'best endeavours' approach or adapting the industry-recognised Australian Standard (AS 61000.3.100) for voltage management?

Renew urges the Commission to re-examine voltage standards – in particular, we feel there needs to be both more flexibility in managing voltage excursions, and more precision in maintaining typical or average voltage closer to nominal voltage.

Renew has become aware of an increasing incidence of high voltage causing households' solar inverters to trip off, preventing both feed-in and self-consumption of their generation. Networks are increasingly imposing lower export limits in an attempt to manage the problem.

But it is also clear that average voltage is typically much higher than nominal voltage of 230V. For example, data from Ausnet shows that typical street voltage is more like 248V, and even when street voltage is lowered to enable more solar export, it's still around 240V. This is not unique to Ausnet – all Victorian distributors take a similar approach.



Voltage limits to meet Victorian Distribution Code

Figure 1: Chart showing voltage at customer premises (presented to Ausnet CCC, June 2019)

The longer tail on the left suggests that it may be more critical to manage low, rather than high, voltage.

This is not just a Victorian issue. Data from Solar Analytics also shows that voltage excursions are common, and that they are primarily at the high end.

Over Voltage

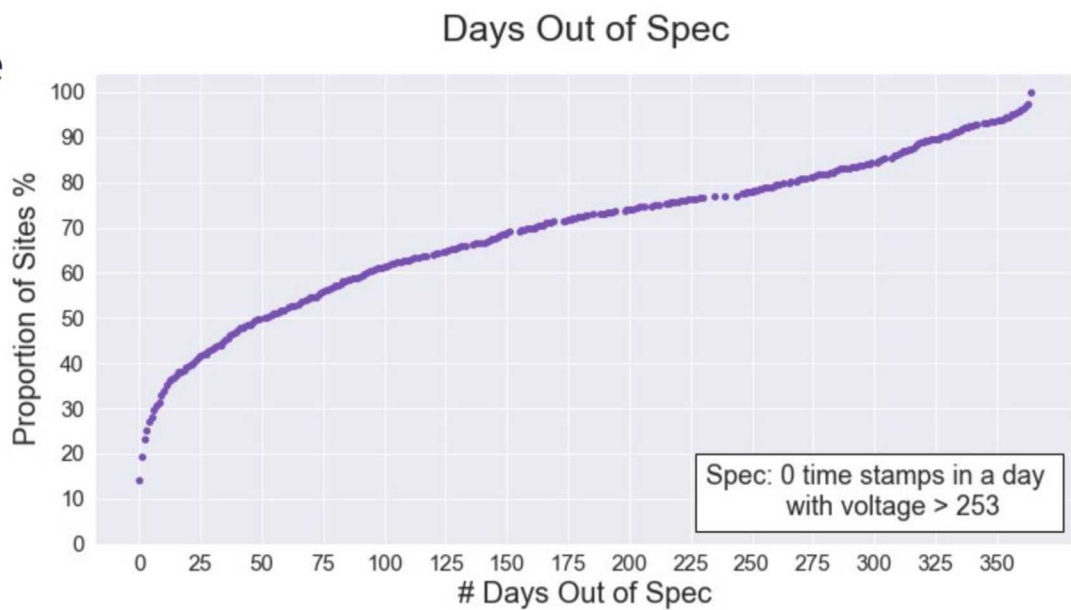


Figure 2: Chart showing high voltage excursions of Solar Analytics customers (presented to Smart Energy Conference, May 2019)

Under Voltage

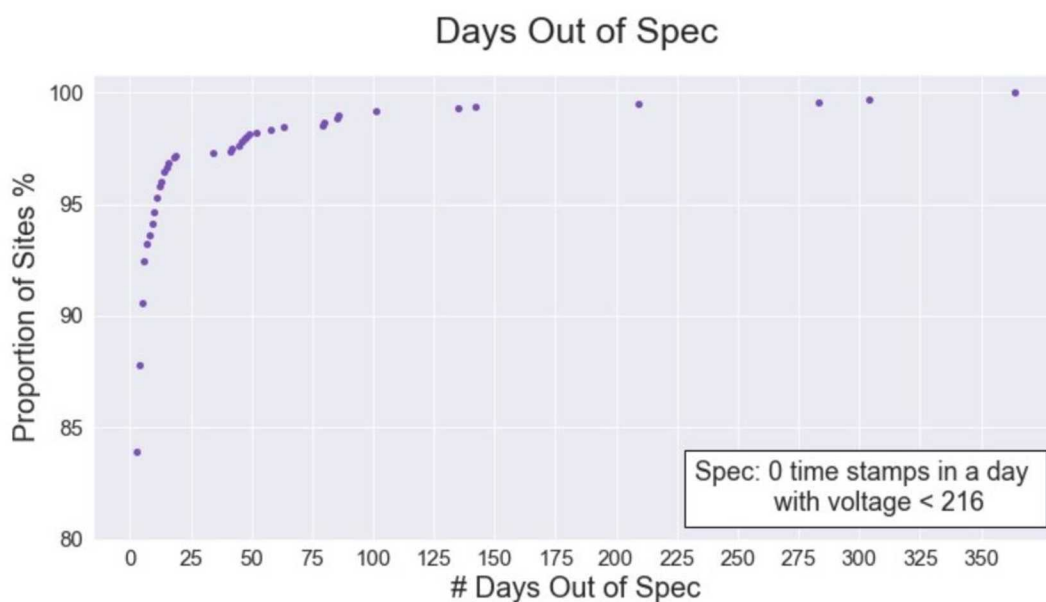


Figure 3: Chart showing low voltage excursions of Solar Analytics customers (presented to Smart Energy Conference, May 2019)

Renew recognises that this is a complex issue, and that network businesses (along with other stakeholders – including Renew, which is working directly with networks, retailers, ARENA, and other stakeholders on the issue) are working on better approaches to manage the impacts DER injections into the grid. But it is also clear that:

- Solar exports are only one of a number of causes of voltage rise; and
- Voltage fall is also caused by a number of different things, including customer-owned appliances.

Irrespective of the strategies necessary to deal with DER integration, there is a great need for voltage management to be more accommodating of customers' needs, more in line with voltage standards, and more visible to networks, regulators, and other stakeholders.

Thus Renew recommends:

- Voltage management should be in accordance with the industry-recognised Australian Standard (AS 61000.3.100), using the statistical approach, with the proviso that there must be measures in place to avoid an outcome where $\leq 1\%$ of customers are consistently outside the defined limit.
- Distributors should be required to actively monitor voltages using the AMI system, and publish regular reports on voltage performance with sufficient granularity to demonstrate the extent to which they comply with the standard, and indicate in which parts of their network voltage problems need to be addressed.
- The Commission should work with distributors and other stakeholders to develop consistent, principles-based approaches to managing the impact of DER injections for the ultimate benefit of network customers.

Renew would be happy to discuss the results of our current collaborative project on developing a principles-based approach to managing surplus DER exports in distribution networks with the Commission when the draft report is published later this year.

14. What are the appropriate customer protections relating to voltage management that we should consider?

A new approach to voltage management that we have recommended is to provide both greater certainty that typical voltages are in line with nominal voltage, and greater flexibility to manage voltage variation within the allowable range. The approach taken does not change the acceptable voltage bounds. The purpose of

voltage variation compensation is similar to the GSL scheme in that it compensates customers who have suffered losses due to either breaches of the code, or excursions outside the code requirements that are not cost-effective for the distributor to avoid. Thus it is appropriate for the scheme to remain linked to the nominal voltage limits in the code, even though the proposed change would allow a small number of excursions outside those limits. IPART's proposed adoption of a scheme modelled on the Victorian scheme in the context of AS 61000.3.100 based voltage management supports this approach.

Other matters

With limited resources, we have focused on certain aspects of the issues paper. Lack of comment on other matters does not indicate our position on those matters.

Thanks for the opportunity to respond. If you have any questions or additional matters you'd like our view on, please contact me at [REDACTED] or [REDACTED]

Sincerely yours,



Dean Lombard

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