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South Yarra VIC 3141
Australia

Mr. Chris Pattas
General Manager
Australian Energy Regulator
GPO Box 520
Melbourne
Victoria 3001

Our Ref: JC 2018-084

9 November 2018

Dear Mr. Pattas,

S&C Electric Company submission to the Value of Customer Reliability consultation (PRJ1003080)

S&C Electric Company welcomes the opportunity to provide a response to the Consultation Paper covering the Value of Customer Reliability.

S&C Electric Company has been supporting the operation of electricity utilities in Australia for over 60 years, while S&C Electric Company in the USA has been supporting the delivery of secure electricity systems for over 100 years. S&C Electric Company not only supports the "wires and poles" activities of the networks, but has delivered over 8 GW wind, over 1 GW of solar and over 45 MW of electricity storage globally, including batteries in Australia and New Zealand. We have also deployed over 30 microgrids combining renewable generation, storage and conventional generation to deliver improved reliability to customers.

S&C Electric are particularly interested in facilitating the development of markets standards, and incentive arrangements that deliver secure, low carbon and low-cost networks and would be very happy to provide further support to the Australian Energy Regulator on the treatment and potential of emerging technologies and approaches.

Yours Sincerely

Dr. Jill Cainey
Regulatory Affairs Director
Email: jill.cainey@sandc.com
Mobile: 0467 001 102

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General Comments

Current studies in the UK

Electricity North-West Limited (ENWL) a Distribution Network Operator in the UK, has been undertaking extensive work on determining the Value of Lost Load (VOLL) as part of an innovation project. The project has just completed, running from October 2015 to October 2018 and the reports are can be found on the project website:

https://www.enwl.co.uk/innovation/smaller-projects/network-innovation-allowance/enwl010---value-of-lost-load-to-customers/

ENWL will now be carrying out further work to consider the appropriate application of their findings including how it feeds into reliability incentives, asset risk management etc. and it would be useful to follow this work as it develops to understand the applicability to Australia.

Currently, Ofgem applies a single VOLL to all operations in the UK under the RIIO-ED1 framework. It is recognised that a single value is not representative of the variety of customers and customer needs and this is being given further consideration for the second round of RIIO price controls (RIIO-2). ENWL have been developing segmented VOLLs and developing a method to weight mixes of customers on a feeder to give feeder-specific VOLLs that would better support a variety of network approaches, including investment decisions.

The summary report, gives a good overview of the results of the study:

https://www.enwl.co.uk/globalassets/innovation/enwl010-voll/voll-general-docs/voll-summary-factsheet.pdf

However, there is a wealth of information on survey design, customer engagement, customer categories and other technical advice that would be helpful in determining the methodology used by AER for assessing the Value of Customer Reliability:

https://www.enwl.co.uk/globalassets/innovation/enwl010-voll/voll-general-docs/voll-phase-3-technical-appendices.pdf)

https://www.enwl.co.uk/globalassets/innovation/enwl010-voll/voll-methodology/voll-methodology-statement-v2.pdf

We will reference some of the results in this response but would encourage the AER to explore the outputs of this project in depth as it is the most comprehensive and recent exploration of the value customers place on reliability. The AER can learn from ENWL's "discovery" during the lifetime of the project and the modifications needed to better improve the representation of VOLL for a range of customers in a range of differing circumstances.

Current studies in Europe

Additionally, a study produced by Cambridge Economic Policy Associates (CEPA) on behalf of the Agency for the Cooperation of Energy Regulators (ACER), was published in July 2018 and details an estimation of VOLL for Europe:

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Final Report:

http://mailservice.acer.europa.eu/lists/lt.php?tid=fUsHB1MFVlUGBkwNVwBQHVYIUFQdUFoGXxpUBABRA1ZTAlNQAlMdVFFTVQFQV1IdUQoGVB0GDgICGgwHAQQZBVEAVQAEAwdUVlBRRQYEUglbDwdSHQEPAVMaAQYGARlRBVMHHFMHUQVRUFkND1VTUw

Workshop:

https://www.acer.europa.eu/Events/Workshop-on-the-estimation-of-the-cost-of-disruption-of-gas-supply-CoDG-and-the-value-of-lost-load-in-power-supply-systems-VoLL-in-Europe/default.aspx

Unlike the ENWL study, the CEPA report seeks to represent VOLL as a single value per member state, which, while providing a useful metric to compare countries, moves away from the more accurate representation provided by ENWL (e.g. weighted VOLL for individual feeders).

The role of Stakeholders

Stakeholder engagement is a critical part of operating and regulating electricity networks. DNSPs should consult with stakeholders during the rate determination process and the Regulator must also take account of DNSP stakeholder views when reviewing those same determinations. The AER have an established stakeholder engagement process and an established Consumer Challenge Panel. Additionally, Ausnet Services are trialling customer centred price setting (NewReg) for the 2021-2025 determination period.

But generally, engagement with stakeholders in Australia is seen as challenging and while canvassing stakeholders' views is difficult, networks in other countries have been very actively engaging with their customers for a number of years (e.g. GB DNOs in the lead up to RIIO-ED1). Methods vary (face-to-face (with network and/or with consultant), electronic polling, telephone surveys etc.), but with the changing technical environment for networks and the shift to "customer-centric" approaches, understanding what that customer wants is essential market research.

The current consultation labours the point that stakeholders may suffer from "survey fatigue" and while this is a risk, careful design (e.g. branching logic) will ensure that respondents are only asked questions that are relevant to them.

ENWL has approximately 5 million customers and surveyed 2,000 of their customers during the VOLL trial (6,000 customers were surveyed overall, encompassing the whole of GB and covering 5,000 domestic customers and 1,000 Small to Medium-sized Enterprizes (SMEs)), representing 0.04 % of their customer base.

A "one size fits all" VCR is not appropriate in light of the current changes to distribution networks and in light of the rapid changes that can be expected in the future. VCR is likely to be different in different regions of the NEM (different approaches, different connectees) and while this diversity of approach delivers a more robust system, it does mean that there will be a diversity in VCR.

Capturing the diversity in VCR will be critical if VCR is to have a broader role in informing DNSP activities, such as signalling investment.

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Since DNSPs are required to consult with stakeholders as part of the rate determination process (and this may be more elaborate in the future depending on the success of the NewReg trial), perhaps that same engagement could explore VCR on a DNSP to DNSP basis?

One of the key points that ENWL raised was that modern network management systems allow networks to monitor the number of customers fed from a specific asset, which allows an asset-specific VoLL (VCR) to be calculated. This can be applied to a given investment decision and understanding the weighted VoLL components in a more granular way could support efficient future investment that is directly driven by customer need.

It is likely that GB DNOs will have the opportunity to propose their own network-specific VOLL for investment decisions.

The importance of access to data

ENWL had access to data specific to each customer (domestic and industrial and commercial). This allowed the determination of a VOLL/VCR specific to each customer (based on meter reference and information held on that meter (e.g. solar PV, EV etc.), and consumption data). Using customer data provided a great deal of richness to the determination of VOLL/VCR and resulted in a customer-specific VOLL/VCR.

The AEMO DER register, which will be based on DNSP inputs, will be very important for assessing customer-specific needs. Presumably DNSPs will have access to the DER register, but the AER may not and will need access to accurately determine VCR. If DNSPs have a role in determining the VCR for their customers (preferable approach), then DNSPs will need access to the DER register.

Access to customer energy data will be helpful in categorising customers and there may be issues in the AER and/or DNSPs in accessing that data.

See Section 5.4 in https://www.enwl.co.uk/globalassets/innovation/enwl010-voll/voll-general-docs/voll-phase-3-technical-appendices.pdf for more detail on data access and requirements.

The impact of momentary outages

Momentary outages have a major impact when large amounts of distributed generation are connected to distribution feeders as anti-islanding requirements for inverters will take the distributed generation offline. Generation connections have a direct financial loss associated with such outages. Further, when all the distributed generation is offline on a feeder, they are typically off for several minutes or longer before they can restart. For this period, the DNSP needs to fully support power to that feeder, which previously had a lower apparent load because the distributed generation was offsetting some demand. This means the DNSP still needs to provide capacity for peak demand with no distributed generation support, even though that capacity is only called on for minutes at a time, which is in clearly inefficient.

Additionally, the changes to customers' needs, means that momentary outages have a significant impact in the home, for instance, while streaming entertainment. While the outage may only be very short, it is still sufficient to interrupt the service and result in devices restarting, making the real outage as seen by the customer, longer than the outage seen by the network.

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The tolerance for such short interruptions as increasing volumes of distributed generation penetrate the distribution feeders and as customer continue to adopt new technologies will become less and less over time.

Momentary outages should form part of the scenarios to be tested during the determination of VCR.

Resilience of networks

Reliability and resilience are not the same thing and can sometimes be used interchangeably by some within the electricity industry. Reliability is well parameterised via standard industry metrics, monitored and covered by incentive schemes, while resilience is not monitored, well parameterised or incentivised.

Reliability can be described as the ability to deliver electricity to an end customer on an "ordinary" day. Network resilience can be described as the ability to deliver electricity to an end customer on an abnormal day. Resilience encompasses both the ability of a network to resist damage and recover rapidly during severe events, which can be categorized as having a High Impact, but a Low Probability (HILP) of occurring.

Currently, Major Event Days are excluded from the reliability incentive scheme, which means they are unaddressed (bar the GSL). Statistically this is correct, as unforeseen events should not skew reliability metrics, but equally, with changing environmental conditions likely to increase severe weather in Australia, DNSPs should be supported to invest in building resilient networks.

Both reliability and resilience require investment to deliver results but investing in reliability will not necessarily improve resilience. However, investing in resilience will also improve reliability, resulting in an efficient and cost-effective approach. There are international examples where investment to specifically improve resilience resulted in a 40 % improvement in every day reliability.

Resilience and the impact of HILP events should be assessed for VCR (See response to Q9).

Responses to Questions

4. The current and future roles of VCRs

4.1 Current application to regulation within the NE

Question 1: How might the wholesale market price cap be informed by VCR?

VOLL is frequently used as part of wholesale market design and the design of associated capacity markets. E.g. Article 9 of the proposed recast EU Electricity Regulation allows for a maximum wholesale electricity price, only if it is set at VOLL. VOLL is used in imbalance pricing in the UK following the Significant Code Review into the imbalance mechanism.

David Newbery (Energy Policy Research Group, University of Cambridge, July 2015) notes that "Missing money problems arise if price caps are set too low (below the Value of Lost Load, VOLL), or ancillary services, such as flexibility, ramp-rates, frequency response, black start capability, etc. and/or balancing services are inadequately remunerated…"

Question 2: What customers and outage scenarios should be considered when deriving applicable VCR values to inform the wholesale market price cap?

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If VCR is to be used to determine a price cap for the wholesale market, then the same VCR can be used (no special methodology needed).

4.2 Potential uses for VCR

Question 3: Should VCR inform load-shedding priorities for services other than essential services, and if so, how?

If VCR is a tariff that customers can select (i.e. I need a more reliable supply, therefore I am willing to pay more (note "free rider" issue), then the customer has paid for a "service" and load shedding should take account of that. However, if all customers are paying some smeared out average VCR, then everyone has equal access/priority.

The use of VCR in this context and how it is applied has much broader issues that will need to be addressed, such as use of system charges, time of use etc.

Question 4: What customers and outage scenarios should be considered when deriving the VCR values considered when establishing load-shedding priorities?

If VCR is to be used to inform load shedding, then the same VCR can be used (no special methodology needed). However, the VCR will need to be location-specific and take account of the VCR for a specific portion of the network.

It will be difficult to justify avoiding load shedding for some customers on the basis that they value reliability more than other customers. Particularly if customers who value electricity more (have a higher VCR) are paying exactly the same, in terms of network charges, as customers who have a lower VCR.

If use of network charges reflect VCR (those who place a higher value on reliability are prepared for a "better" service), then perhaps there is some basis to differentiate treatment for load shedding.

Question 5: Should VCR inform a price cap for ancillary services such as NSCAS and FCAS, and if so, how?

There are some papers that suggest that VCR (VOLL) should inform price caps on ancillary services.

Question 6: What customers and outage scenarios should be considered when deriving applicable VCR values?

If VCR is to be used to determine a price cap for ancillary services, then the same VCR can be used (no special methodology needed).

There are some suggestions (e.g London Economics paper) that suggest a more general or simplified VCR could be used to set a cap on market price for security of supply which could then be used in capacity markets and in balancing markets (ancillary services). But an "average" VCR would not support localised investment decision by a DNSP and so the more detailed approach to determine VCR, based on mixes of customer types would be critical here.

Question 7: Should VCR inform a price cap for RERT, and if so, how?

See comments below.

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Question 8: What customers and outage scenarios should be considered when deriving applicable VCR values?

If VCR is to be used to determine a price cap for RERT, then the same VCR can be used (no special methodology needed).

While ENWL did find that there was a difference between the VOLL for planned and unplanned outages, the VOLL/VCR is a figure that should apply (with geographical (region) variation) to services that support the system. We are not aware of any evidence that suggests VCR would need to be different for different system support services (ancillary service, RERT etc.). VCR represents the value customers place on a reliable system.

Question 9: Should the AER determine a VCR for prolonged and extensive outages envisaged by System Black and HILP events?

AER should incentivise resilience and VCR would be necessary to determine the impact of System Black and HILP events on customers and support the developments of incentives and/or compensation.

The VCR for prolonged outages is likely to be materially different for more typical outages and a methodology that specifically investigates customer views on the impact of a prolonged outage would be needed (See comments in section 2.6 of the ENWL voll-phase-3-report, where they found that respondents had a VOLL that was 30 % lower for a prolonged outage).

The current AER STPIS rightly excludes major events (events beyond the control of the NSPs). However, the number and severity of severe weather events (number of people affected and costs) are increasing as a result of the climate change, which means that while reliability, after major events are excluded, may still be good and improving, customers may be experiencing an increasing number of outages due to severe weather.

Developing resilient networks by reducing the risk of adverse impacts (e.g. engineering, automation, diversity), through being prepared, delivers improved restoration times following a major event. Experience in other locations has shown that a focus on investing for resilience, not only improves withstand to major events, but also improves reliability.

Additionally, the GSL payments do not represent a significant driver for networks to improve resilience nor do they reflect the true cost of a prolonged outage. Ofgem introduced revised electricity Service Guaranteed Standards following major storms in the UK in Christmas 2013, which can see DNOs liable to provide compensation up to a maximum of £700 (£70 for the first 24 hours, then £70 for each further 12 hours without power – representing 4.5 days without electricity. Note that the average annual domestic retail electricity bill in the UK is £600).

Question 10: Should VCR be used to inform scheduled planned outages, and if so, how?

Yes. This is the approach in the UK and incentivises the networks to manage the impact of planned works on customers.

Question 11: Should the AER determine additional VCRs for planned outages?

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Planned outages are normally notified to customers, who can make other arrangements. These arrangements will have a cost, but customers are prepared in a way that they are not for unplanned outages. This would suggest that the cost impact of a planned outage might be less and, indeed, this was the finding of ENWL's trial:

Page 21 of voll-phase-3-report: "When an interruption is planned, with at least two days warning, VoLL is greatly reduced relative to a comparable unplanned outage. In the case of a one-hour outage once every three years, VoLL falls from £17,500 to £500. Even at the higher levels of frequency and duration, the reduction is still notable; for example in the case of an outage of over six hours, occurring 7-14 times every three years, VoLL falls from £64,500 to £48,000." And

Page 22 of voll-phase-3-report: "This suggests that while there is tolerance for limited planned work requiring outages; acceptance diminishes when customers are exposed to more than three 'full day' interruptions in a three-year period, demonstrating the importance of a cohesive approach to construction/reinforcement and maintenance strategies, which consolidate planned work where possible."

This suggests that VCR should be determined for planned as well as unplanned outages, as it may encourage efficient use of planned outages.

Question 12: Should VCR values for different customer types also inform the allocation of distribution and transmission shared costs among customers, and if so, how?

This is a complex issue (see also responses to Q3 and 4).

A granular VCR provides a useful investment signal, for instance a feeder with more LCT is likely to have a higher VCR, which may indicate the need for earlier investment to improve the condition of that feeder. But it is less clear whether a higher VCR equates to higher use of system charges. Perhaps if those customer with a higher VCR were paying for a guaranteed service, that would justify higher use of system charges, but there would be "free riders" (those who benefit from the improved service, but aren't necessarily paying for it, or may be forced to pay for it to meet the needs of a specific customer with a greater reliance on electricity).

Use of system charging should reflect the use of a system, which is two-way (import and export), analogous to the upload and download services for data. Currently, we only charge on import, which does not reflect the technical impacts of export and results in inequity where those without LCT are likely to pay higher use of system charges.

Just because a customer has a higher VCR, may not mean they use the system more just that they are more reliant on that system. If a higher VCR triggers investment to meet that VCR, does that mean all the customers should pay more for the improvement that supports the VCR? This might mean that neighbours (due to network architecture) are paying different use of system costs and poses interesting questions about how we currently socialise the costs of our networks.

VCR and use of system are not directly related, so while the VCR may be an indicator, use of system charges should be based on the use of the system, not the quality desired from that system.

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Question 13: Are there any other regulatory investment assessments and/or NEM planning contexts that could be informed by the application of VCR values?

Specific VCR for each feeder provides excellent investment signal (e.g. ENWL, Figure 2.9, page 18, voll-phase-3-report).

Question 14: If so, what customer and outage scenarios should be considered when deriving applicable VCR values?

All of the same for determination of routine VCR. No point in having "one size fits all" VCR. The more granular the VCR, the broader its application.

Question 15: For what purposes do you currently use VCR? Is the current level of VCR segmentation by customer type and outage scenarios in AEMO's 2014 review fit for your purposes?

No Comment.

Question 16: For what future purposes could you use VCR? What level of VCR segmentation would you require?

Elsewhere we use VCR/VOLL for developing business cases to support investment decisions for technical network solutions that improve reliability.

5. Methodologies for Deriving VCR

5.1 Approaches to deriving VCR

Question 17: Do you think the methodology used by AEMO to derive (CVS and CM for residential and business, and DCA for direct connect customers) is still appropriate, taking into account current and potential uses of VCR discussed in chapter 4?

The AEMO VCR assessment commenced in March 2013 and reported in November 2014. This report was likely based on data from prior to 2014. The environment in which networks operate has changed significantly (e.g. small-scale generation connected at the distribution level) in the last 5 years and the AER should use methods and approaches based on the latest best practice and advances in methodologies (e.g. ENWL).

Recent work demonstrates the value of location-specific (by feeder) VCR in informing a range of system needs. The 2014 AEMO study had three customer types, with a further layer of granularity (e.g. states). But a single state-wide VCR does not truly reflect the variations in VCR that customers have (or the variation in reliability that they experience, which impacts on their view of VCR) nor does it reflect the complicated "blended" nature of the LV network.

Because a more granular VCR represents a more powerful approach assessing a variety of system issues, it may be appropriate to ask NSPs to have a role in the determination of VCR, perhaps as a part of wider stakeholder engagement during the determination process or specifically for investment decisions.

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ENWL used a Choice Experiment approach and Willingness to Accept (WTA), with a multinomial logit econometric model to convert stakeholder responses into VOLL (£/MWh, VCR). ENWL also developed a tool to combine (weight) VOLL for a mix of customers.

More detail can be found here:

https://www.enwl.co.uk/globalassets/innovation/enwl010-voll/voll-general-docs/voll-phase-3-technical-appendices.pdf

https://www.enwl.co.uk/globalassets/innovation/enwl010-voll/voll-methodology/voll-methodology-statement-v2.pdf

https://www.enwl.co.uk/globalassets/innovation/enwl010-voll/voll-methodology/voll-methodology-statement-addendum-c-stakeholder-consultation.pdf

Question 18: If not, what other method or methods would be most appropriate to engage with customers and derive VCR values?

See above (e.g. ENWL methodology)

Question 19: Should different methods be used for different customer types?

No.

Question 20: Should multiple methods be used to cross check derived VCR values?

It may be worth as part of sensitivity studies, at least in the very first determination of VCR, to explore different methods, particularly with regards SMEs and C&I customers, since there will be more data available on the impact of outages for these particular customers.

5.2 VCR Customer Segments

Question 21: What levels and categories of segmentation in VCR values are useful to you, taking into account the trade off between accuracy and required survey respondents and resources?

See ENWL: Categorised on Type of Customer: Domestic and SME (I&C were not included as they were assumed to have the ability to better manage reliability issues). These two customer types were then segmented on the basis of (real measured) energy use:

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Figure 3.1: Electricity profile classifications

Domestic Classifications		Median Domestic Consumption Values (2017)	Classification (KWh)	SME Classifications	Classification (KWh per year)
Electricity: Profile Class 1	Low	1,900	Up to 2,500	Low	Less than 15,000
	Medium	3,100	2,500 to 3,849		
	High	4,600	3,850 or more	Medium	15, - 24,999 kWh
Electricity: Profile Class 2	Low	2,500	Up to 3,350		
	Medium	4,200	3,350 -5,649	High	over 25,000 kWh
	High	7,100	5,650 or more		

Page 28, voll-phase-3-report

Question 22: Are there particular customer types, categories, sectors etc. that are critical to focus on in this review and any surveys we conduct?

The ENWL project specifically looked at the VOLL for uses of Low Carbon Technology (LCT), such as solar PV, heat pumps and electric vehicles. All uses of LCT placed a higher value on electricity (higher VOLL). This might be a surprise given that investing in solar PV and batteries is seen as being *less reliant* on the network. The ENWL project suggests that LCT adopters are *more reliant* on a reliable connection to the network.

Figure 2.10: VoLL in £/MWh based on current LCT usage

Domestic segment	VoLL £/MWh	Damage function *(multiple of average domestic VoLL)*
All domestic customers	£17,500	x 1.00
Current domestic LCT[31] users	£19,000	x 1.10
Current domestic customers with PV	£18,000	X 1.05
Current HP users	£20,000	x 1.15
Current domestic EV users	£21,500	x 1.25

Taken from ENWL VOLL project (voll-phase-3-report, page 19)

ENWL also found that it was not possible for domestic customer without LCT to imagine their future needs and so engaging with broad mix of stakeholders to ensure that along with "normal" domestic customers, those with batteries, solar PV, heat pumps (air conditioners) and electric vehicles are included will be essential. Note that LCT and the role of LCT in the future will change and will have an impact on VCR.

Question 23: What categories of segmentation do you consider necessary as being likely to drive variation in values of customer reliability?

ENWL found that the following impacted VOLL/VCR:

- Season (winter versus summer)

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- Momentaries and longer duration outages or length of outage that include momentaries
- Rural versus urban (e.g. grid edge / worse served)
- Fuel poor and vulnerable groups (income)
- Recent experience of outages (short and prolonged, or no experience of an outage)
- Off-gas network
- Age
- Communication approach
- Use of LCT

The AER should assess some of these issues in sensitivity studies.

Question 24: What categories of segmentation do you consider unnecessary as being unlikely to drive variation in values of customer reliability?

Business rate types.

Question 25: What level and categories of segmentation in VCR values can be utilised, given the level of detail and segmentation present in customer data and data sets to which you have access?

VCR needs to be determined accurately to be meaningful. This will mean strong engagement with customers of all types and acquisition of appropriate data. It may be that currently that data is not readily available in all locations (e.g. smart meter data), but where data is available it will provide a critical insight to what is achievable for location-specific VCR in ideal data environments and illustrate the power of granular VCR figures. See also comments on data.

5.3 Determining which outage characteristics to test for

Question 26: What outage scenarios should be included when surveying customers to establish a CDF?

All of the same situations as used in the VCR assessment as the CDF allows the determination of a function that is dependent on a range of variables, while the VCR is a point value.

Question 27: Are there particular outage characteristics that are critical to focus on in this review and any surveys we conduct?

Momentary outages have been shown in the USA to have a significant economic cost to customers and should be included in the assessment of VCR.

Question 28: What outage characteristics do you consider necessary to include as being likely to drive variation in values of customer reliability?

See points in under Q23, plus Planned/unplanned. Resilience vs reliability (long unplanned vs everyday issues).

Question 29: What outage characteristics do you consider unnecessary as being unlikely to drive variation in values of customer reliability?

All types of outages have an impact on customers and should be considered:

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- Momentary outage
- Planned outages
- Unplanned outages
- Prolonged outages

Question 30: What outage characteristics can be utilised, given the level of detail and segmentation present in customer data and data sets to which have access?

See answer to Q25 and general remarks on stakeholder engagement.

5.4 Combining segmented VCR values at point of investment

Question 31: What method should be used to representationally weight affected segmented customer classes at the point of proposed investment?

See ENWL example (and tool) for weighting.

Question 32: Should different consumption information be used to weight VCR values depending on the nature of the outages being considered? For example, should average annual consumption information be used to weight VCR values when considering prolonged outages, and average peak consumption values be used to weight VCR values when considering short outages during peak periods?

Not sure.

5.5 Applying the Customer Damage Functions at point of investment Determining which outage characteristics to test for

Question 33: What datasets are available to accurately estimate the probabilities of different outage scenarios occurring at the point of proposed investment?

No Comment.

5.6 Annual adjustments to VCR and frequency of VCR reviews

Question 34: How often should the AER undertake reviews of VCR?

Annually, to determine if current values are valid. Will be used in RIT-D/T outside of routine determination process. Major effort should be in lead up to determinations. VCR should be DNSP/TNSP specific.

Question 35: What mechanism(s) should be applied to adjust the VCR on an annual basis?

CPI is not sufficient for an annual adjustment. It is important to project VCR forwards to take account of key factors that may change the VCR going forwards such as ongoing digitalisation, penetrations of LCTs. When making an investment decision today, this will often be in a 40 year+ asset, so there is a need to consider changes in customer requirements that are likely to increase VCR over time

5.7 Transitioning to new VCR values

Question 36: Should smoothing techniques be applied when transitioning to newly derived VCRs?

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An assessment should be made of the difference between the current values and newly derived values. If it is unlikely that there will be a material difference in costs to the customer, then the new value should just be used without smoothing. Adjustments on an annual basis are unlikely to result in significant changes, so smoothing is not required.