

# Department of Infrastructure, Energy and Resources

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Australian Energy Market Commission

PO Box A2449

SYDNEY NSW 1235

Dear Commissioners

## **Review of Distribution Reliability Outcomes and Standards - National Workstream**

Please find attached a submission in relation to the *Review of Distribution Reliability Outcomes and Standards - National Workstream*. Note that the comments in this submission are reflective of the views of the Office of Energy Planning and Conservation within the Department of Infrastructure, Energy and Resources and do not necessarily reflect the position of the Tasmanian Government.

Yours sincerely

Tony van de Vusse

**Director, Office of Energy Planning and Conservation**

## **Tasmanian Response to AEMC review on Distribution Reliability Outcomes and Standards – National Workstream**

The Tasmanian Office of Energy welcomes the AEMC's Issue Paper and would like to accept the invitation to respond, especially in relation to the request to stakeholders for their views on the scope and approach that the AEMC are taking.

The terms of reference for the Review require the AEMC to advise on whether there is merit in developing a “nationally consistent framework for expressing, delivering and reporting on distribution reliability outcomes”. As the AEMC indicates, the meaning of a “nationally consistent framework” is somewhat vague and open to interpretation.

Tasmania is pleased to note the AEMC is mindful that consistency for the sake of consistency alone is likely to produce relatively limited benefits. However, the Review states:

*The terms of reference note that “there will be no harmonisation of existing jurisdictional obligations”. We interpret this comment to mean that the level of jurisdictional reliability standards and outcomes would not be forced into a single identical standard, but that the approach to expressing, delivering and reporting on those standards or outcomes would be made more consistent under a national framework.*

Tasmania is particularly concerned about the consistency issue since we have developed a distinct approach to distribution reliability standards which we believe does not lend itself to being expressed, delivered or reported on in the same way as on the mainland. The approach to setting distribution standards in Tasmania was taken after recognising the limitations observed in the previous standards (similar to the approach still being used by some other jurisdictions) and was a collaborative approach between the Office of Energy, the Tasmanian Regulator (OTTER) and Aurora Energy (DNSP).

The new and improved approach in Tasmania was possible due to some specific Tasmanian circumstances which may not be found in all jurisdictions, not now and probably not anytime soon. Thus, we do not expect other jurisdictions to use our approach even though we do believe it is best practice, at least for us. Therefore we are concerned that to obtain “identity” we would have to change our approach to match mainland approaches. We would oppose this in general terms as being unnecessary, and quite strongly if we could see that the changes were detrimental to the interests of Tasmanian customers.

While we have in the past been prepared to make concessions “for the greater good”, it is hard to see that there are significant overriding considerations in this particular issue.

If the aim of any rule change is to deliver a consistent approach, whilst allowing jurisdictions control over the way reliability is measured, then there seems to be some conflict. If one jurisdiction measures reliability using SAIDI of a feeder whilst another uses ‘minutes off supply’ for a community area then what is left in the way of a framework to harmonise?

It is hard to envisage a consistent framework unless there is agreement on how reliability is measured (SAIDI, minutes off supply) and how categories of end user are defined. As stated above this is a key concern for Tasmania.

If 'nationally consistent framework' means that the principles underlying how reliability is measured are the same, then Tasmania still is uncertain what that could mean in practice. For example, there seems to be a desire to employ some form of value of customer reliability (VCR) in setting reliability standards. This is a laudable aim but Tasmania is not enamoured by the current ways in which VCR is measured.

For example, the recent work by the AEMC into NSW distribution standards reports that the value SME's place on reliability is in the order of \$400,000 per MWh. This is an incredible (i.e. unbelievable) result and would surely justify almost any capital expenditure to improve reliability, with commensurate price rises for the end user. Thus if the outcome of a 'nationally consistent framework' is that VCR is used in setting the value of standards, Tasmania would prefer to wait until the methodology of calculating VCRs is more mature.

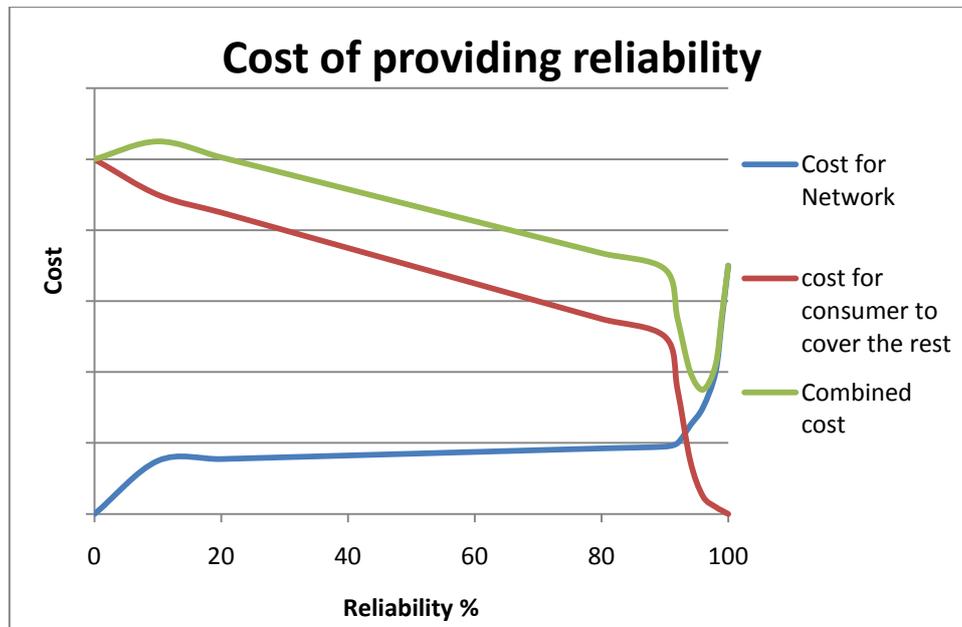
The trouble with the current approach to setting the VCR is the question that is asked of end consumers. There are two approaches taken – one is to ask 'how much does an outage cost you?' In some circumstances the respondent may focus on things such as loss of sales, damage to goods, loss of goodwill, loss of reputation, etc. and estimate the costs of an outage at an extremely high value. On the other hand, one can ask someone who has not experienced an outage for a few years how much more they would be willing to pay to experience fewer outages. In this situation most consumers would probably say they are happy with their current reliability and not be willing to pay any more [see work done by ACTEW AGL in 2002]. To a large extent the answer is dominated by the mental image the respondent has about when the disruption might occur and how long it would last. It is additionally complicated by the mitigation measures that the respondent has at their disposal.

Another approach is to consider that reliability of supply can actually be provided by two sources – one the network and the other is by the consumer themselves, i.e. self supply. A network provides basic reliability at a basic cost. As the reliability provided by the network approaches 100% the incremental cost increases exponentially. Consumers have a number of options about how they might or might not provide the 'remaining reliability' for themselves.

In many cases, consumers (especially residential consumers) just 'accept' the loss of supply and mitigate the effects with candles, torches, eating a salad, cooking on the BBQ, lighting a fire, listening to a battery powered radio, iPhone or laptop or having an early night. These come at a relatively low price and traditionally this is what most households expect to 'pay' to manage outages. If a customer wants added insurance they can purchase a UPS for their computer, invest in alternative devices for lighting and cooking, or even go so far as have a backup generator.

The following figure tries to show the concept of providing reliability schematically. The blue line shows the costs NSP's face to provide reliability, with a sharp increase in costs as reliability increases from 90 to 100%. The red line is the cost faced by an individual customer in providing the remaining reliability.

The fact that most supply is via networks is evidence that the cost of reliable supply is lower when it is provided by the network than if self provided (thus the red line at 0% is higher than the blue line at 100%). Furthermore, we assume that for most consumers the preferred approach to the gap between the network providing 98% reliability and 100% would usually involve quite small costs – in that they would just ‘cope’ with the outage. However, at some lower level of reliability consumers will decide the inconvenience is too much and they will purchase some form of alternative - be it some storage device, or their own generator with an alternative fuel source.



The total cost (the top line show in green) is the aggregate cost for providing reliability as experienced by end users. It is this that should be minimised to maximise economic benefit.

In the somewhat exaggerated example shown above, the green curve has a distinct minimum at around 96%. This is the reliability standard that minimises the overall costs and it therefore has merit as a candidate for the reliability target set by government. The revenue the NSP is allowed to recover should be adequate for them to build and operate a network that will provide that level of reliability.

The cost that customers are willing to expend (or put up) with is their revealed preference value for customer reliability. In our example, whatever they are paying themselves for reliability at 96% is their VCR at the costs minimising standard.

If this were the same answer for everyone, it would make the standard setting process much easier. However, it is likely to be higher for some customers and lower for other, and it also depends on the time of day, frequency and duration of any outages. Hence some sort of community welfare maximising approximation is required, and there may also be scope to increase the overall welfare outcome by undertaking side measures, such as offering higher standards in areas where the average VCR is much higher. Further work in quantifying this VCR is required.

### **In response to the Specific Questions set out in the Review:**

Q1 – Tasmania is comfortable that the aspects listed on page 6 cover the range of approaches to distribution reliability.

Q2 – Tasmania believes strongly that ‘the value of stability and predictability in the energy market regime’ is of very high importance in assessing the merit of any changes to current arrangements. By and large, customers can be expected to have adapted to the status quo. Any changes that would worsen customer’s current experience with regards to reliability of supply should be avoided. This would happen in Tasmania if the approach to setting reliability standards returned to the previous approach of using feeders rather than supply areas as now used in Tasmania.

Q3 – The amount that customers are actually willing to pay for reliability should be a primary determinant, recognising that this is inherently difficult to estimate. Experience has shown that measuring what a customer is really willing to pay to have a more (or less) reliable power supply is complex to the point of being impossible. Whilst there are some values that provide some guidance to regulators and policy makers, it is our opinion these should only be used to sanity check changes to current standards. With potential changes in technology likely in the medium term (improved energy storage systems driven by research into electric vehicle and portable computing devices) and more use of demand side response options by customers, it is possible that changes in VCR could see customers willing to see a drop in the level of reliability provided (if this means more money to them) rather than having them pay more for improved reliability.

It is also worth noting that it is the preference not to set deterministic planning standards in Tasmania, on the basis that the calculations are subject to wide errors and the approach is inherently cumbersome.

Q4 – Regulators should set revenue allowances such that an efficient NSP can just meet the desired performance standards set by jurisdictions. Variances should be part of an incentive scheme. NSP’s should be able to keep part of the gains of meeting the standards at lower costs, and they should suffer some penalty for not achieving the standard outcomes. Benchmarking, whilst valuable in gauging how well one distributor is performing against another, would have most benefit when the standards the businesses being compared with each other are trying to achieve are comparable. With the agreed position that standards in each jurisdiction will remain subject to local decisions, this will not be the case. Thus, consistency in expressing and reporting on reliability, whilst having some value, is not going to improve customer’s wellbeing (and by extension the NEO).

There could be some benefit from having the same body setting the standards and the investment needed to meet them - especially if a VCR was used – but since the use of VCR is unlikely, the benefits are minimal. Some dialog between AER and jurisdiction should suffice in ensuring the reliability standards are set at an appropriate level to avoid massive cost blowouts. Tasmania would be supportive of a move to require jurisdictions to include the AER as a key stakeholder in reviewing reliability standards. This would allow jurisdictions to understand the likely cost impacts of any changes in standards before they are made.

Q5 – An often missed benefit from not having a consistent approach to regulation between jurisdictions is the benefit of competition between regulators to find the best form of regulation. As

indicated in the Review, the incentives on DNSPs to meet reliability targets are somewhat weak in that stripping a business of its licence to operate is not a realistic option. The hidden assumption that one national approach to this issue is better than four or five different approaches between professionally competitive jurisdictions, all searching for the best approach, is not supported by Tasmania.

The same argument can be applied to GSL schemes. Competition between jurisdictions to design the best scheme should ultimately benefit customers, especially if jurisdictions continually migrate towards demonstrable best practice.

It is acknowledged that residential customers may derive a benefit if standards are the same when they move from one jurisdiction to another, but in reality this is usually just one of the many factors they have to deal with and it is likely to be a relatively minor one.

Q6 – response provided in introductory paragraphs.

Q7 – There is an assertion/assumption that consistency in reliability standards would lead to more efficient investment decisions. There is no supporting evidence for this assertion. If it is not true it greatly weakens the arguments presented for some of the changes. NSPs operate in a fully regulated environment and it is hard to see why investment decisions would be impacted by whether reliability was measured by SAIDI under the AER or by some other measure by a local regulator. As long the operating conditions/expectations are known and not under constant review investment can and will occur.

Another assumption is that “different forms of reliability standards, and the variation of exclusions in calculating the standards, make it difficult for market participants to understand and forecast network performance between NEM jurisdictions”. Again there is no supporting evidence for this assumption and it implies that market participants cannot understand how SAIDI is calculated or what the exemptions are in a jurisdiction.

Another asserted benefit of a nationally consistent framework is that it would enable comparisons of performance between one NSP and another. If only it were that simple! The only way the data would be truly comparable is if it is collected, reviewed and reported in the same way. This is highly unlikely to occur. Each and every business would have to implement the same ‘outage response procedure’ so that the start and end of an outage were measured the same way by all crews all over Australia. The way each connection point was treated in measuring whether its power was out or not would have to be done in the same way. The exclusions used would have to be the same and indeed, whether the outages was on the distribution or transmission network would need to be the same – and this is a serious issue for Tasmania since the boundary between Transmission and Distribution is different to that used on the mainland. In the end the differences may not amount to a lot but they are differences and they will always mean comparison between networks will need to take into account how the data is collected and used.

Reliability measures are strongly influenced by matters out of the full control of a NSP. Weather is an obvious example. NSPs do need to design their network according to local weather conditions and there are numerous ways the impact of weather can be mitigated – but it can’t be removed (without undergrounding and that just opens up another set of issues). The number of storms each

year and their intensity will vary. The end result is that reliability measures will vary for a number of reasons. And there will always be a level of data inaccuracy. What this is leading to is, that if someone reports a value of SAIDI of 215.3 minutes they are over-representing how accurate the data is. Indeed even reporting it within 1 minute is probably a degree of accuracy too high.

With this degree of error in measuring reliability, to have any investment decisions to be impacted by comparing the difference in reported jurisdictional performance (or even worse regional performance) would be unwise. It would be more reasonable for a potential investor to talk to the NSP about the actual local network configuration and redundancy and maybe ask some locals for their recent experience if reliability was a crucial aspect of their investment decision.

Q8 – Tasmania remains unconvinced that the development of a nationally consistent framework would contribute anything to meeting the NEO. And with network performance between 99.90% and 99.95% reliable we question whether any investors truly use the difference between jurisdictions as a reason for choosing a location to invest.

Q9 – Tasmania’s concerns with moving from the current jurisdictional framework are covered above.

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