

25 January 2013

Mr John Pierce
Chairman
Australian Energy Market Commission
Level 5, 201 Elizabeth Street
Sydney NSW 2000

Dear Mr Pierce

The NSW DNSP's Response to the Review of distribution reliability outcomes and standards, Draft Report – National workstream.

The NSW Distribution Network Service Providers, Ausgrid, Endeavour Energy and Essential Energy (the NSW DNSPs) welcome the opportunity to provide this joint submission in response to the *AEMC 2012, Review of distribution reliability outcomes and standards, Draft Report – National workstream*.

Introduction

The NSW DNSPs have been actively involved in both the NSW and national reliability reviews and in the case of the NSW review, provided significant resources and capabilities to support the AEMC's analysis. The outcome of that review, as noted by the SCER, is that:

*"...consumers are broadly comfortable paying a slightly higher cost to maintain the levels of reliability that they have come to know and expect, but it is essential that these standards are set in a way that is efficient and appropriate."*¹

The NSW DNSPs agree with this conclusion. It is for this reason that we consider that as part of the national review there are benefits in achieving consistency in the definition and calculation of performance measures. Consistency in measures and definitions as well as the guidelines that underpin the framework will improve transparency in reporting service standard performance and provide confidence that the required levels of reliability are appropriate, particularly if the targets reflect a customer value of reliability that incorporates an assessment of consumers' willingness to pay for reliability outcomes.

This submission comments on the processes for developing a national reliability framework and associated guidelines. It also provides commentary on specific aspects of the draft framework (as outlined in section 3.1 of the AEMC draft report) and some issues that should be considered in developing a best practice framework.

Outcomes of 7 December 2012 COAG meeting

As a result of the 7 December 2012 COAG meeting, several in-principle decisions have already been agreed by COAG Ministers in relation to the national reliability framework, including:

- that there is merit in a nationally consistent framework for expressing, delivering and reporting on reliability outcomes;

¹ SCER, 2012. Electricity Putting Consumers First. P 12.

- that the framework should include distribution *and* transmission reliability outcomes and represent best-practice for reliability standards;
- the transfer of the application of the reliability framework to the AER (by amending the Australian Energy Market Agreement) once it has been developed; and
- that the AEMC publish its final report in September 2013.

Notwithstanding the above, we note that the draft framework remains voluntary, however jurisdictions will be required to report to the SCER by the end of 2013 on their decision to adopt the framework and whether to transfer the responsibility of applying the framework to the AER (as COAG advocates).

We also note that the AEMC's draft report did not specifically advocate the transfer of the application of the reliability framework to the AER, but rather that the jurisdictions had an option to request that the AER set the output reliability targets on its behalf. In this regard, the NSW DNSPs agree with the AEMC that it is appropriate that the determination of the level of reliability remain a jurisdictional responsibility as envisaged by the draft report.

Process for developing a national reliability framework

We understand that the SCER will consider the AEMC's draft report and stakeholder submissions, and may request that the AEMC develop its proposed high-level national reliability framework (as contained in the draft report) into a more detailed best practice framework. The NSW DNSPs are concerned that there is no further period of consultation with stakeholders on the best practice framework prior to the release of the final report. We therefore support the AEMC's conclusion in the draft report to request the SCER to consider an additional consultation period prior to publishing the final report. We note the COAG's energy market reform implementation plan published in December 2012 states that the final report will be released in September 2013. We believe that this provides sufficient time for consultation on the best practice framework.

Comments on key features of the draft framework

As an investment management approach, the draft framework provides an increased level of flexibility to DNSPs in managing investment compared to prescriptive input standards. However, there are concerns about the manner in which the value of customer reliability (VCR) would be determined and applied, and about its ability to adequately deal with investments driven by high consequence, low probability events. This is especially of concern with respect to the subtransmission part of the network where the feedback loop between investment in the network backbone and reliability outcomes seen by customers can be lengthy. As the draft framework is premised on delivering short term (5-yearly set) SAIDI and SAIFI reliability outcomes, it may not provide for an appropriate level of investment in the higher voltage levels of the network which are required to ensure long-term sustainability of reliability outcomes.

Whilst the draft framework includes some provision for additional measures to be added to address requirements of poor performing parts of the network, we are concerned that it may not sufficiently address the needs of worst served customers. We are also concerned that the incentive arrangements for reliability performance may run counter to the capital and operating expenditure objectives in the National Electricity Rules (NER). Moreover, by focussing on network investment to deliver the reliability outcomes, the draft framework does not recognise that the management of reliability outcomes for customers also has a substantial operational focus, for example the management of restoration times, tree trimming and network technology enhancements (such as distribution monitoring and control devices and reporting systems).

Our comments on the key features of the draft framework (as outlined by the AEMC in Chapter 3 of the draft report) are provided below. We also provide some options for the AEMC's consideration that may strengthen the development of a best practice national reliability framework that maintains a focus on the long term best interest of consumers.

An outputs-based approach

The NSW DNSPs welcome the additional flexibility that a move to an outputs-based approach would provide in determining the timing of augmentation investments. However, we consider there has been inadequate consideration of the ability of the draft framework to deal with high consequence, low probability outages. Historically in NSW and in some other jurisdictions, this has been a driver for the adoption of input standards to provide a focus on supply security.

After the Somerville inquiry in Queensland in 2004, it was recognised by the NSW Government that high consequence, low probability wide-area outages may not be sufficiently accommodated in network design. As a result, the NSW government introduced deterministic design planning criteria to the existing licence conditions. These criteria are expressed in terms of the proportion of load that must be able to be supplied following the first and second circuit outage, but are not specific in terms of nominating the network configuration. Historically, the existence of deterministic criteria enabled DNSPs to seek an appropriate capital allowance from the regulator to enable the achievement of these criteria. This provided regulators, DNSPs and third parties with a very high level of transparency of decision making for major investments.

While it is acknowledged that a deterministic approach to reliability outcomes may be less likely to achieve an effective balance between ensuring sufficient investment in the distribution network to maintain reliability with pricing outcomes for customers, the removal of input security criteria (for the subtransmission level of the network) may present difficulties in justifying long term security investment to the regulator. This is because the implication under an outputs-based approach is that security of supply investments need to be justified on some measure of the customer value of reliability to assess the cost benefit of these decisions. However, measuring this value has proved problematic in the past (both in Australia and overseas) and as detailed below, we are not convinced that the draft framework will provide appropriate incentives for longer term security investments.

The draft framework (and reliability incentive schemes to date) have all assumed a single value of reliability (per MWh) regardless of the nature of the outage being considered. Risk management practice tells us that there is a relationship between the level of consequence and risk assessment for most people. A very high consequence event, for example a city-wide or region outage, is generally assessed as embodying a greater risk than a small consequence event (like a single dwelling outage) even if the multiple of probability and MWh lost would be identical. However, to reflect this would require a VCR value that was indexed non-linearly to MWh lost. Two examples serve to reinforce this theoretical view with an intuitive logic.

In the case of a household level outage, there is not a linear relationship between duration and impact. The initial interruption has a 'flag fall' impact as a customer reset clocks and reprogram appliances. The impact is then likely proportional to time for a period, but there is a noticeable increase in impact when we reach the point that the food in the refrigerator and freezer spoils. Should the outage continue for days, the impact grows exponentially as a customer is forced to seek alternate accommodation and the outage begins to impact lifestyle and livelihood.

In the case of a wide-area outage, the impact from an outage that debilitates telecommunications, water supply and other utilities is substantially more costly than one which affects only one or two customers.

The draft framework would assess these as linearly proportional to the amount of MWh foregone. Our experience suggests the community values the impact of wide-area outages much more highly than a single dwelling outage.

The fact that our current networks are designed to ensure that such long term or wide-area outages are rare means that the probability of such an event is very low. However, the draft framework relies on the incentive framework to encourage DNSPs to identify events that might jeopardise reliability performance and result in a penalty proportional to the assumed VCR. Since these high consequence events are so rare, it is conceivable that a DNSP might fail to identify them as a credible threat to revenues.

We would submit that the draft framework may also present the risk of under investment. This is because the focus on annual SAIDI and SAIFI reliability performance (over 5 years) as the main driver of behaviour may have the unintended consequence of short term focussed DNSPs avoiding prudent investment in network security in the longer term. This is because the dual obligations of having to establish a VCR for high consequence, low probability events and to use it to undertake an economic assessment would mean that security of supply investments may not meet the economic efficiency test under this framework. This might eventually lead to a prolonged and difficult recovery period (following underinvestment) that should be avoided.

The NSW DNSPs submit that more thought needs to be given to accommodating and incentivising longer term security investment. We submit that there may be two potential options for the framework going forward. The first aligns with a recommendation by the Productivity Commission about developing metrics to capture the costs associated with wide-area outages:

“The Australian Energy Market Operator should commission suitably qualified experts to consider and measure the costs of interruptions not likely to be captured in the Australian Bureau of Statistics surveys. This should include the costs associated with citywide disruptions, including to telecommunications, water services and public transport, and the resulting loss of international reputation from lower reliability. The Australian Energy Market Operator should use these measures to supplement the results of the surveys.”²

An alternative may be the establishment of some “safety net” or default input-based criteria that would need to be considered for higher voltage level network investments. These might take a similar form to the UK Engineering Recommendation P2/6 which was noted by The Brattle Group³ in its report for the NSW review. This engineering recommendation applies input supply security standards and, while these do not drive investment in the lower voltage levels of the network, they may still play a role in the extra HV⁴ network. Alternatively, we could consider the Californian example which introduced the Reliability Investment Incentive Mechanism (RIIM) to promote investment in the network to maintain longer term reliability, in recognition that the focus on SAIDI and SAIFI was short term.

If these options were to be considered they could be limited in application to network systems supplying greater than a certain amount of power, and require DNSPs to identify any locations where these conditions would not be met. The DNSP might then be required to demonstrate the need or otherwise for investment using an appropriate probabilistic analysis.

² Productivity Commission 2012, *Electricity Network Regulatory Frameworks*, Draft Report, Canberra. P 51.

³ The Brattle Group. *Approaches to setting electric distribution reliability standards and outcomes*. 2012. p 80.

⁴ EHV includes all voltage levels above 20kV up to but excluding 132 kV and 132kV refers to 132kV assets.

A nationally consistent set of definitions, exclusion criteria and an economic assessment process

We note that the framework will be premised on the development of guidelines outlining a nationally consistent economic assessment process, values of customer reliability, and a consistent set of definitions, including on the types of feeders, exclusion criteria and methodologies. The NSW DNSPs believe that the jurisdictions are more likely to adopt the best practice framework voluntarily if the development of these guidelines is based on the principles outlined on page 8, section 2.4 of the draft report. For example, we would expect that there would be significant stakeholder consultation and that the degree of transparency for developing the guidelines should be the same as specified in the National Electricity Law (NEL) for the assessment of Rule changes by the AEMC.

Consideration of customer and community preferences

Aside from the previously mentioned structural concern regarding the linear nature of the VCR methodology, there are further concerns that the draft framework relies on customers being able to value different levels of reliability. Implicit in this is that customers would be able to provide useful valuations of alternate network performance levels provided they were within a reasonable range of customers' past experience. However, the current AEMO Value of Customer Reliability (VCR) methodology has demonstrated that without appropriate metrics, customers have significant difficulty in valuing service levels which they have had no experience of and could not reasonably be considered likely by customers.

As an example of this difficulty, we note that the AEMO VCR methodology has resulted in very different customer values of reliability for Victoria and NSW. The recent findings of the Productivity Commission's draft report imply that this may be in part due to the limitations of current estimates:

"Current estimates of the value that customers place on reliability are based on inadequate sampling, data and methodology and need to be updated regularly."⁵

We submit that more analysis around the VCR methodology is required. In this respect, we note that the AEMC has not proposed a methodology to take into account the customer value of reliability that would underpin the economic assessment process, but states that it should be developed by a single independent body and updated every 5 years for each jurisdiction.

The report also notes that the SCER has requested AEMO to undertake a review of national and regional VCR levels in the NEM including providing advice on the methodology that should be used to calculate the VCR. However, we understand that AEMO simply proposes to re-weight existing VCR values. The NSW DNSPs suggest that there may be value in AEMO engaging the Australian Bureau of Statistics (ABS) to develop a richer approach. In this respect, we agree with the Productivity Commission recommendation that that:

"The Australian Energy Market Operator should commission and pay the Australian Bureau of Statistics to undertake regular, detailed, disaggregated surveys based on best practice methodologies to reveal the value of reliability for different categories of customers, with the methodologies and results made public."

⁵ Ibid, P 51.

As noted by the Productivity Commission,

“The ABS has the technical capabilities to recognise and deal with the methodological challenges of undertaking surveys to measure non-market goods. They also have the organisational capacity to collect and synthesise large datasets. Their independence ensures that external concerns such as political or commercial considerations would not influence their estimates of VCR.”⁶

However, while supportive of this recommendation, AEMO and the ABS should work collaboratively with DNSPs to ensure that the VCR is accurately measured and incorporates a willingness to pay measure that produces accurate and reliable results at a national, regional and network level. This is important because if the VCR is set too low, there will be a risk of a lower level of reliability investment than required. If set too high, customers may pay for reliability investment in areas where there is already an acceptable level of performance.

For this to be achieved, the existing Steering Committee for National Regulatory Reporting Requirements (SCNRRR) customer categories would need to be re-defined. This is because the current customer categories incorporate a mix of different types of customers in the one category. For example, the Short Rural feeder category supplies suburban customers and then supplies rural customers further downstream and these two customer bases usually have differing expectations of their reliability of supply. It is more appropriate, however, to have customer types defined by use and location characteristics. In this way, the network is managed around its customers rather than the network dictating the customer segments. As a part of this process, it may also be possible (and indeed preferable) to determine the level of acceptable reliability for different customer categories in different locations rather than simply an ‘efficient’ level of reliability.

Notwithstanding the above, establishing the VCR will always involve a level of subjective judgement, particularly as there remains inadequacies in both the economic and willingness to pay means of deriving appropriate VCR values. This is because economically derived values do not adequately reflect the community’s value of convenience and lifestyle impacts, while willingness to pay surveys have proven unable to adequately extract meaningful data regarding the impact of events for which the respondents have no recent experience. The NSW DNSPs submit it is for this reason that given a range of VCR values, a higher VCR value as a planning ‘input’ is likely to be a safer starting point.

Separate to the measurement of the customer value of reliability, the draft framework envisages that DNSPs (as an additional consultation requirement) would consult with customers to determine the areas of reliability importance to them, which may influence decisions on the types of targets that would apply. We would submit that there needs to be some recognition that the customer consultation process that the AEMC envisages to help develop reliability options is complementary to the customer consultation that DNSPs are required to carry out as part of their regulatory submission process. Accepting that reliability outcomes are only one part of what the AER may expect DNSPs to consult on, the best practice framework should ensure that the AER would recognise this consultation.

Jurisdictional responsibility for setting and approving reliability targets

We note that the draft framework envisages that after consultation with its customers, the DNSP must consult with the jurisdictional target setter on a range of reliability options.

⁶ Productivity Commission 2012, *Electricity Network Regulatory Frameworks*, Draft Report, Canberra. P 478.

The jurisdictional target setter would then have the discretion to select a number of reliability options both above and below current reliability levels for the DNSP to evaluate based on the nationally consistent economic assessment process.

We would contend that this evaluation process may prove overly burdensome for both the DNSP and jurisdictional target setter (which is required to undertake an independent review of the DNSPs' estimates)⁷. It is for this reason, that it will be important that the reliability options selected for assessment by the jurisdictional target setter are both practically and economically feasible and that the modelling by the DNSP, and assessment by the jurisdictional target setter, is able to be undertaken in a timely and pragmatic manner (i.e. accurate data is available).

The draft framework notes that if the reliability targets are changed during the regulatory period (either at the request of the DNSP or jurisdictional target setter), the DNSP would be required to make a positive or negative pass through application to the AER for either an increase or decrease in the level of capital and operating expenditure. We would submit that a 'reliability target change event' would need to be explicitly recognised in the NER as a prescribed pass through event, to provide a level of certainty to the DNSP that the pass through would be appropriately assessed by the AER.

An ability to transfer responsibility to the AER for the setting of reliability targets

As an alternative to the jurisdiction setting reliability targets, if the jurisdictional target setter requests the AER to set output reliability targets on its behalf, the AER would be obliged to select the reliability option with the highest net economic benefit (whereas the jurisdictional target setter is not required to adopt the reliability output option with the highest net economic benefit). This arrangement potentially has implications for worst served customers as these reliability investments may have a negative net economic benefit. In addition, the NER currently provides for the possibility that certain reliability investments (for example those required for reliability corrective action) do not need to be justified on economic criteria alone. The draft framework does not appear to allow for this possibility since reliability standards would be set on the basis of the value customers attach to reliability. We would submit that this aspect of the framework needs to be consistent with the NER.

A nationally consistent reliability performance incentive scheme

We note that the draft framework allows for the continuation of the implementation of the Service Target Performance Incentive Scheme (STPIS) in each NEM jurisdiction. However, we note that the AER would base the STPIS on the targets set by the jurisdictional target setter, rather than being principally based on the five-year historical average performance. This removes one of the key features of the current STPIS arrangements that ensured that incentives remained consistent over the five-year regulatory period by allowing recovery of the benefits of good performance over the following period. The uncertainty of how future target levels would be set may undermine the effect of the STPIS, especially with regard to the capital investment drivers.

The NSW DNSPs do not believe that this change should be undertaken without due consideration of these effects and the possibility of unintended impacts on the incentive framework.

⁷ In the NSW review, the modelling required a number of simplifying assumptions, and was undertaken at a necessarily high level but still took a number of months to complete. The result was that the modelling may have overstated reliability impacts i.e. the impact on reliability may not be as significant as modelled (final report p 72)

More generally, we note the draft framework is silent on how it would impact on other incentive schemes in particular, the Efficiency Benefit Sharing Scheme (EBSS) and any future capital incentive regime to be developed by the AER. The issue is that if the draft framework is implemented without a consideration of its impact on the capital and operating expenditure objectives in the NER, any efficiency payment gained under the EBSS may undermine the STPIS incentive. For example, if a DNSP is to consider committing capital or operating expenditure to improve reliability through STPIS, they will have to trade-off on the possibility that the AER will not approve the carry-over amount under the EBSS in the next regulatory period if not considered efficient under the capital or operating expenditure objectives. Moreover, because capital expenditure is also subject to an ex-post review, the DNSP faces the possibility that any overspend on capital expenditure for reliability will result in a reduction to its entire capital allowance in the next regulatory period. In other words, because the draft framework does not consider these impacts, in net terms, STPIS may not provide sufficient incentive to spend money on improving reliability.

It is also important to recognise that the current STPIS arrangements are premised on a symmetrical incentive related to outcome reliability performance within period compared to a rolling five-year average historic performance level. Assuming an appropriate value of VCR is established and used as the incentive coefficient, this would mean that cost effective improvements would be incentivised and expenditure that was not economic would be discouraged. Over time, the outcome performance would trend toward the most economically efficient level. In a sense, therefore, the current STPIS arrangements if implemented correctly and consistently, would take you to the economically efficient reliability level that the draft framework is advocating anyway. To set the targets by some other analytical means (as advocated in the draft framework) runs the risk of undermining this fundamental mechanism. In any case, while the NSW DNSPs advocate that the current target setting mechanism for the STPIS should be retained, it would need to be demonstrated that the operation of the STPIS does not lead to perverse incentives and operate inconsistently with the jurisdictional reliability standards.

Considerations for worst served customers

Any best practice framework needs to recognise not just average network reliability performance, but also the performance of the worst performing parts of the network. These parts of the network often have low customer densities (where faults do not contribute significantly to SAIDI) and augmentation projects can be difficult to justify using a VCR to determine the cost benefit. Moreover, these customers would typically be located in rural and regional areas fed by radial sub transmission networks, and are already experiencing reliability levels below major urban and regional centres.

A best practice framework needs to recognise that STPIS may not have much value in assisting these customers. A GSL scheme, based on an agreed VCR, which compensates the worst served customers, may be a more cost-effective way of accommodating these customers' needs. However, the STPIS, as currently structured, will encourage DNSPs to focus reliability improvements on parts of the network in urban areas that may already be performing quite well at the expense of poorly performing parts of the network in rural areas. Consequently, the NSW DNSPs consider that establishing requirements for minimum service standards (similar to the NSW Design Reliability and Performance Licence Conditions) serves an important function in protecting the interests of worst served customers.

We acknowledge, however, that additional consultation may be required for worst served customers. In this respect, we support that the treatment of worst served customers should remain at the discretion of the jurisdiction, as they are the best placed body to determine local community expectations.

In addition, there may be benefits in including measures relating to worst served customers in both the STPIS framework and in the approval process for investment expenditure in regulatory determinations. To that end, we note that for the current five-year price control period, the UK regulator Ofgem has allocated £42 million to a 'Worst-served customer fund' on a 'use-it-or-lose-it' basis⁸.

A nationally consistent framework for public reporting

The report states that it is expected that the public reporting of reliability performance will allow the AER to better benchmark performance and improve the ability to determine an efficient estimate of cost forecasts for DNSPs. We note that the Productivity Commission's draft report explicitly states that the AER should not use aggregate benchmarking as the exclusive basis for making a determination in any of the next rounds of regulatory determinations⁹. We therefore recommend that the AEMC make the distinction between benchmarking reporting on one hand, and the revenue determination process on the other, clear in its final report.

In relation to the compliance and auditing components of the draft framework, we note that they appear to be based on the NSW licence conditions except that the auditor would be selected by the jurisdictional target setter rather than by the DNSP as per the current licence conditions. This proposal seems reasonable so long as the costs borne by the DNSP, and ultimately customers, are proportional to the nature of the audit.

Conclusion

The NSW DNSPs are committed to the overall aim of a nationally consistent reliability framework so long as the focus remains firmly on the long term best interests of customers. This submission, while broadly supportive of the draft framework, raises a number of issues which need to be addressed to provide a workable framework going forward. Key to this will be accurate, reliable and up-to-date customer value of reliability metrics which incorporate an assessment of consumers' willingness to pay for reliability outcomes. Separate to these metrics, security of supply safety net measures as well as minimum service standards for worst served customers are likely to still be required.

If you would like to discuss this matter further, please contact Mr Mike Martinson, Group Manager Regulation at Networks NSW on (02) 9853-4375 or via email at michael.martinson@endeavourenergy.com.au.

Yours sincerely,



Vince Graham
Chief Executive Officer

⁸ The Brattle Group. *Approaches to setting electric distribution reliability standards and outcomes*. 2012. p 70.

⁹ Productivity Commission 2012, *Electricity Network Regulatory Frameworks*, Draft Report, Canberra. P 42.

