9 August 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 *Consultation Paper – Review of the National Frameworks for Transmission and Distribution Reliability*

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 *Consultation Paper – Review of the National Frameworks for Transmission and Distribution Reliability.*

A key objective of the SCER terms of reference for the AEMC review of the national electricity reliability framework and methodology is that "in undertaking this work, the AEMC will ensure that the approach taken to setting reliability requirements reflects economically efficient outcomes in the long term interests of consumers, based on the value customers place on the reliability of electricity supply"[1].

The NSW DNSPs support this objective and a move to an outputs based approach that provides flexibility to achieve reliability outcomes through efficient and innovative means. However, we are concerned that the framework may prove to be overly complex, costly and prescriptive compared to the current Service Target Performance Incentive Scheme (STPIS) which we believe incentivises efficient reliability outcomes.

The current STPIS arrangements are premised on a symmetrical incentive related to reliability performance outcomes within a given period compared to a rolling five-year average historic performance level. Assuming an appropriate Value of Customer Reliability (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 support a transition to the economically efficient reliability level that the proposed framework is advocating. To set the targets by some other analytical means (as advocated in the proposed framework) runs the risk of undermining this fundamental mechanism and using it inappropriately as an enforcement regime.

We would submit that the proposed framework would lead to higher costs over time relative to a light-handed approach focussed on clear incentives. For example, the Productivity Commission stated that the AEMC's target-setting approach would impose additional costs due to the imposition of a negotiation process between distribution businesses and the standard setting agency and that revelations of efficient reliability costs would be difficult and costly to obtain.[2]

[1] SCER Terms of Reference to AEMC for National Electricity Network Reliability Framework and Methodology.
[2] Productivity Commission 2013, *Electricity Network Regulatory Frameworks*, Report No. 62, Canberra, p 578.

As an alternative, the Productivity Commission recommended that "All jurisdictions should adopt the Australian Energy Regulator's Service Target Performance Incentive Scheme as the basis for setting efficient reliability requirements for distribution businesses"[3].

The NSW DSNPs agree with the Productivity Commission's recommendation, which ultimately amounts to a more light-handed approach to managing reliability outcomes; however we stress that this should be supported by two additional mechanisms. A mechanism to ensure that worst served customers are looked after appropriately through some jurisdictionally set scheme and a mechanism to guard against the risk of high impact, low probability events for networks that have substantial elements with higher voltage and load supply functions.

If you would like to discuss this matter further, please contact Mr John Hardwick, Group Executive Network Strategy at Networks NSW on (02) 8569-6667 or via email at jhardwick@ausgrid.com.au

Yours sincerely,

Vince Graham
Chief Executive Officer

Attachment A – Responses to the Consultation Paper Questions

[3] Ibid, p 58

Attachment A - Responses to the Consultation Paper Questions

Question 1 Expression of distribution reliability targets

(a) Does the proposed removal of input planning standards for distribution networks compromise the ability to deal with high impact low probability events such as city wide supply interruptions?

(b) Does the expression of distribution reliability measures by feeder type accommodate the specific locational characteristics of individual jurisdictions while achieving the benefits of national consistency?

(c) Is it possible to achieve consistency in the definitions of distribution reliability measures across the NEM, including consistency in exclusion criteria?

(d) Is the AER the appropriate body to be responsible for developing the national reference standard template for distribution? If not, which body should be responsible for this task?

a) The exclusive use of the proposed reliability outcome focus as the means of investment decision making is likely to be ineffective if imposed as the sole determinant of distribution investment. There are both fundamental and practical concerns. One fundamental concern is the implicit assumption that there is a strongly coupled relationship between delivered reliability, as expressed in annual SAIDI and SAIFI performance, and investment in the network. In truth, the linkage between these is often less direct and involves significant time lags. This is especially the case for elements of the network that are further from the customer, including not just the transmission network, but also many of the higher capacity components of distribution networks.

The reliability performance of most networks has evolved to a certain level over considerable time and is a product of the underlying architecture of the network and the design of its components and operational management practices. Customer surveys demonstrate that most customers are satisfied with the current level of reliability and want neither better reliability (at a cost) nor worse reliability (at a saving). As a result, most reliability management efforts are focussed on maintenance of existing levels and small adjustments around the prevailing mean.

While annual reliability performance exhibits a high degree of year-to-year variability, most efforts to manage performance in the near term focus on changes in operational practice. It should be made clear that the focus of the proposed framework is the management of investment, not the management of reliability performance. Investing in the network (or choosing not to invest in the network), especially at the higher voltage levels, has a delayed impact on resultant average reliability. This can be as long as five or even ten years before a change to investment policy becomes evident in average reliability performance. As the design of the network at the higher voltage levels is required to be inherently less likely to fail (due to the higher impact) the events are "high impact, low probability" (HILP) and may have sufficiently low probability of occurrence that they are not seen in out-turn results at all.

Since the financial return under the proposed framework would depend on changes in average reliability actually occurring, relying on such uncertain returns to incentivise efficient and prudent investment in the higher levels of the network is unlikely to be effective. This difficulty is exacerbated by other flaws in the assumptions that become more important for HILP events. The fundamental assumption in the proposed framework is that the value of reducing risk through investment in the distribution network is a constant and linear relationship.

It is implied to be directly proportional to the linear multiple of likelihood and consequence (expressed as load not served), where the coefficient is the VCR. In other words, a highly likely event with a small consequence embodies the same impact on the community as a very unlikely event with a very significant consequence. This invalid assumption undermines the ability of the proposed framework to deal effectively with HILP events.

While many risk textbooks will suggest that in a simple risk management matrix one need only multiply likelihood by consequence to obtain a composite measure of risk, a review of risk matrices in practical use reveals a bias toward ascribing greater risk to high consequence events than to high probability events. In the example below, a catastrophic consequence is assessed as critical at the 'possible' level, whereas an almost certain moderate risk (which would have the same likelihood – consequence multiple) is assessed at a lower level. This suggests that high impact events need to be considered differently.

LIKELIHOOD (probability) How likely is the event to occur at some time in the *(Linear Scale time specific matrix)*	**CONSEQUENCES**				
	What is the Severity of injuries /potential damages / financial impacts (if the risk event actually occurs)? ***(Logarithmic Scale, property industry specific matrix)***				
	Insignificant No Injuries First Aid No Envir Damage << $1,000 Damage	Minor Some First Aid required Low Envir Damage << $10,000 Damage	Moderate External Medical Medium Envir Damage <<$100,000 Damage	Major Extensive injuries High Envir Damage <<$1,000,000 Damage	Catastrophic Death or Major Injuries Toxic Envir Damage >>$1,000,000 Damage
Almost certain - expected in normal circumstances (100%)	MODERATE RISK	HIGH RISK	HIGH RISK	CRITICAL RISK	CRITICAL RISK
Likely – probably occur in most circumstances (10%)	MODERATE RISK	MODERATE RISK	HIGH RISK	HIGH RISK	CRITICAL RISK
Possible – might occur at some time. (1%)	LOW RISK	MODERATE RISK	HIGH RISK	HIGH RISK	CRITICAL RISK
Unlikely – could occur at some future time (0.1%)	LOW RISK	MODERATE RISK	MODERATE RISK	HIGH RISK	HIGH RISK
Rare - Only in exceptional circumstances 0.01%)	LOW RISK	LOW RISK	MODERATE RISK	MODERATE RISK	HIGH RISK

In addition, the assumption of MWh not served as an appropriate index for impact of an outage also breaks down under HILP scenarios. Widespread or prolonged outages have cascading effects that go beyond the immediate and individual effects of loss of supply. The absence of other services, disruption to traffic, communications and potential unavailability of substitution options (e.g. all the restaurants are also closed) makes the impact of these events significantly higher than the relative level of MWh not served. This further exacerbates the difficulty in the assumption that risk is proportional to probable load not served.

This is made worse by the risk of incorrect evaluation of the likelihood of very low probability events. By definition, low probability events are rare and there is a lack of reliable, statistically valid observed failure rates to inform the assessment of likelihood. A small error in assessed likelihood, when multiplied by a substantial impact, can become a large error in the overall risk assessment.

There are other reasons for considering HILP events under a modified approach. Operability of the network is another key outcome of the design of the system. A distribution business needs to continuously maintain and modify the network. Providing alternate 'redundant' supply paths is often critical to enabling this planned work to be undertaken without undue impact on customers. It is simply not acceptable to interrupt large numbers of customers to carry out routine maintenance activities. The peaky and seasonal nature of electricity demand does enable some management of impacts by scheduling maintenance and construction activities out of peak seasons. However, as more and more risk is taken in the system, those construction windows narrow and become unmanageable.

In the electricity distribution industry, consistent practice has been to use 'supply security' measures as the main means of managing high impact risks, or to provide a 'safety net' to underpin probabilistic methods. An example is the UK Engineering Recommendation P2/6 which was noted by The Brattle Group[4] in its report for the NSW review. This engineering recommendation applies input supply security standards and Brattle found that, while these do not drive investment in the lower voltage levels of the network, they may still play a role in the extra HV[5] network.

It may be possible to accommodate these concerns by adjustments to the proposed numerical methods, for example by having a non-linear VCR where the value changes as a function of the size of the prospective impact. Other approaches might also be workable. California 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 and not producing sustainable, long term outcomes in some cases. However, the level of experience, both in Australia and internationally with this sort of approach is very limited and it is unlikely that it would be practical to pursue a solution of this type.

The proposed framework makes a distinction in the case of transmission assets, suggesting that the issue of high consequence events needing different considerations has been understood. However, the distinction between transmission and distribution assets in this case does not stem from the fundamental definitional difference between a 'throughput' function and a 'delivery' function. Rather the important difference is the size of the load served. Transmission assets serve larger loads and have more inherently reliable designs.

However, this concern is equally valid for larger distribution assets. Many assets at the subtransmission level, especially in NSW and QLD serve loads of hundreds of MW – comparable to many transmission elements. Even some zone substation assets can be serving loads in excess of 100MW. We suggest that any distinction in treatment under this proposal should be based on size of load served, rather than a simple transmission/ distribution definition.

Our view is that there remains an important role for input planning standards in an effective, prudent and efficient decision process for distribution network investments. This is especially the case where the network has substantial elements with higher voltage and higher volume supply functions (which serve loads comparable to what would be considered transmission assets in Victoria and subject to an N-x criteria). We submit that input planning standards would ideally operate in tandem with probabilistic output-focussed approaches on which planning and investment decision criteria would largely be based.

[4] The Brattle Group. *Approaches to setting electric distribution reliability standards and outcomes*. 2012. p 80.
[5] In the Great Britain system, LV refers to all voltage levels up to and including 1kV. HV refers to all voltage levels above 1kV up to and including 20 kV. EHV includes all voltage levels above 20kV up to but excluding 132 kV and 132kV refers to 132kV assets.

However, it may not be necessary for input standards to be codified in an externally determined, binding requirement. This would be acceptable provided the removal of externally applied standards is not interpreted by economic regulators as meaning that the application of supply security standards by networks is not efficient or prudent.

b) Disaggregation of reliability measures according to feeder type is an improvement on average statistics and allows for a level of discrimination to accommodate the particular characteristics of the areas served by different DNSPs. Moreover, feeder type characterisation is a convenient means of differentiating from the point of view of data availability. However, it has some drawbacks because there are challenges in terms of the expression of distribution reliability measures by feeder type. Notably, the need to provide standardised methods for characterising feeders can throw up peculiarities. For example, defining a feeder as rural or urban in terms of load per km has resulted in a feeder in Chatswood, Sydney being defined as 'short rural'. In other cases, changes in load from year to year have resulted in feeders changing classification from one year to the next. Feeders commonly transit through urban areas into rural areas, and are therefore combined in the character of the customers served. This would suggest that, in some cases sub-classification at levels below the individual feeder may be appropriate.

In addition, there are other challenges because the load per unit length categorisation tells you nothing about the customer types or their usage, as different types of customers can be supplied from the same feeder. Also as noted, feeders change over time in terms of configuration, length, loading, and the role they may play in providing redundancy for contingency management of neighbouring feeder outages. A better characterisation would be on the basis of the nature of the customers served. Assessments at various levels in the network would be made on the basis of the load weighted average classification of the customers connected to the asset. This is likely to provide a more consistent and accurate reflection of both the typical customer preferences and the cost of providing an appropriate level of reliability. However, the data requirements are more intensive and may not be available for all DNSPs.

c) Yes. Consistency should be the goal, particularly in respect of common definitions and the basis of exclusion criteria. However, there should be provision for exclusions to differ depending on circumstance. As a result, there is still likely to be a need for benchmarking reports to identify and explain the implications of differences in network characteristics.

d) Yes. The AER is the most appropriate body for developing the national reference template as it will be responsible for publishing benchmarking reports based on the template. Given the framework is premised on consistency with transmission and distribution, the AER should develop the template for both distribution and transmission.

Question 2 Expression of transmission reliability standards

(a) What would be the effect of expressing transmission reliability standards on an N-x basis and complementing this with the inclusion of additional parameters?

(b) Is AEMO the appropriate body to be responsible for developing the national reference standard template for transmission? If not, which body should be responsible for this task?

a) As discussed in question 1, it is better to classify by size of load served as opposed to making the distinction between transmission and distribution. This is of relevance to a national framework because elements of the NSW network (132kV and above) would serve loads comparable to transmission assets in Victoria and could therefore be subject to the N-x criteria.

In terms of the expression of reliability standards on an N-x basis, we note that during the standard setting process the standard setter would need to consider the extent to which the scenarios selected are compatible with TNSPs within each jurisdiction. The NSW DNSPs currently conduct joint planning with Transgrid as part of the business as usual planning process, we submit that the proposed standard setting process may undermine this planning if there is a disconnect in terms of when the distribution targets and transmission standards are determined.

b) No. The AER is the most appropriate body for developing the national reference template as it will be responsible for publishing benchmarking reports based on the template. Given the framework is premised on consistency with transmission and distribution, the AER should develop the template for both distribution and transmission.

Question 3 Structure of the standard setting process

(a) Is the proposed timeframe for undertaking the standard setting process able to be achieved in practice?

(b) Are there any specific jurisdictional arrangements that would need to be considered in adopting the proposed frameworks, including how the responsibilities could allocated?

a) In recent years network businesses have undertaken considerable investment to deliver on reliability requirements. This investment is now sunk and will ensure a certain level of reliability into the future irrespective of any step change in future investment. When assessing the proposed framework (and its associated timeframes), and given the current phase of the investment cycle of the network businesses where future expenditure is significantly reduced due to slower demand growth, there would be very little benefit to customers in the short term from changes to capital expenditure programs resulting from revisions to reliability standards.

A more light-handed framework such as a STPIS-only incentive regime provides the opportunity for gradual improvement transitioning over regulatory periods, and thus avoiding cyclical swings in capital with the potential of price volatility. It is difficult to see how a review at each regulatory period would provide more benefits to customers than the current more incentive based approach of STPIS which drives productive efficiency over time avoiding swings and step changes in investment.

In this respect, we note the Productivity Commission's position on STPIS is that it should be the *only* vehicle for delivering distribution reliability outcomes to customers. Under a STPIS only framework, the AER would set reliability targets using business-specific average past performance, and would set rewards and penalties using customer preferences specific to the region in which the business operates [6].

The Commission further notes:

> "...that its proposed approach differs from the proposals made by the AEMC in the draft report of its *Review of Distribution Reliability Outcomes and Standards* (AEMC 2012v). The AEMC proposed that distribution businesses be involved in setting targets based on disclosures of various options and their costs to the standard setter. While such an approach could, in theory, motivate an instantaneous shift to efficient reliability levels (the Commission's approach requires this to be revealed over a number of periods), it is likely that revelations of efficient reliability costs would be difficult and costly to obtain.

[6] PC 2013, Electricity Network Regulatory Frameworks, p573.

Therefore, some iteration between periods would still be required. Given this, if the VCR used to determine incentive payments (and penalties) is correct, under the Commission's proposed approach distribution businesses would reveal the efficient level of reliability over time without the additional cost of a negotiation process between distribution businesses and the standard setting agency as proposed by the AEMC"[7].

Given the importance of STPIS we believe the proposed framework should not undermine its operation. This discussed in our response to question 4.

b) As discussed, in question 1, there may be a need for input planning standards where the network has substantial elements with higher voltage and higher volume supply functions.

Question 4 Development of guidelines and the VCR

(a) Which aspects of the proposed frameworks should be covered in the economic assessment process guidelines?

(b) Is the AER the appropriate body to develop the guidelines, in light of its other roles under the proposed frameworks? If not, which body should be responsible for this task?

(c) Is the AER the appropriate body to be responsible for updates to the VCR? If not, which body should be responsible for this task? Should the CPI be used to escalate VCRs each year?

a) Given the AER will only consider measurable factors in the economic assessment process there is a concern that low net economic benefit scenarios would not be captured by the assessment guidelines (even though there may be customers experiencing sustained levels of network performance that are obviously unacceptable). The implication is that the AER would have ultimate discretion as to how much weight to give low net economic benefit scenarios and as a result may fail to address local requirements.

<u>STPIS</u>

We note that the proposed 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 standard 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. Moreover, there is concern that the complex tripartite relationship between this national framework, the STPIS, and state jurisdictional requirements may lead to confused investment signals and uncertain customer outcomes. 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.

More generally, we note the proposed framework is silent on how it would impact on other incentive schemes in particular, the Efficiency Benefit Sharing Scheme (EBSS) and the future capital incentive regime to be developed by the AER.

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[7] Ibid, p 578.

The issue is that if the proposed 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 proposed 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 proposed framework is advocating anyway. To set the targets by some other analytical means (as advocated in the proposed framework) runs the risk of undermining this fundamental mechanism and using it inappropriately as an enforcement regime.

b) Yes. As the economic regulator the AER should be responsible for developing the guidelines. The guidelines should recognise that the VCR is a survey of the economic cost of outages not the level of acceptable reliability performance valued by customers (i.e. by reference to minimum service standards). It is a proxy for the value customers place on reliability in the absence of something more robust. While there is still merit in measuring the cost of outages, it could be combined with a minimum service standard (MSS) approach where customers' preferences for reliability standards are determined. Any reliability improvements that exceed the MSS would be considered effective reliability investment which could then be tested for its efficiency using a VCR approach. The VCR approach could have a role in determining that the investment is efficient if the cost of the improvement does not exceed the cost of the benefit.

c) Yes. As the economic regulator the AER should be responsible for developing both the methodology and updating the VCR. However, once set for the regulatory period, they should not be changed other than for an annual CPI update. This is because intuitively it is assumed that customers' value of reliability preferences would remain relatively stable over time, in the absence of major external events. It is also likely that, in the expected period of relatively low inflation and income growth, errors in the estimation of VCR will outweigh any precision in the application of indexing. Indexing for inflation by a simple annual CPI measure between survey periods should be adequate.

Question 5 Customer consultation and selection of reliability scenarios

(a) How should the customer consultation process be conducted to provide sufficient information to the standard setter to make an informed decision on the selection of a range of reliability scenarios?

(b) Should limits or constraints be placed on the discretion that the standard setter has regarding the selection of reliability scenarios?

(c) Should the evaluation of measures to address worst served customers for DNSPs be included in the economic assessment process?

a) We note that there are number of aspects to the customer consultation process as part of the proposed framework. While we believe consultation on reliability is important, it is equally important that it is undertaken in a pragmatic way and does not duplicate other consultation processes. For example, prior to each standard setting consultation, DNSPs are to discuss the form and content of the consultation with the economic advisor and standard setter to ensure it is appropriate. However, we question why this step should not be subsumed in the customer engagement strategy undertaken as part of the regulatory determination process. In this respect we note that the AER has recently released a customer engagement guideline as part of its better regulation programme. The guideline sets out the high level principles and purpose for all instances of a network's customer engagement. As reliability issues are likely to vary across networks and differ between transmission and distribution networks, it appropriate that the consultation process is guided by over-arching principles rather than any prescriptive requirements.

In addition to the above, it should be noted that the regulatory regime has developed to provide enhanced opportunities for consumer engagement, including in the development of the Distribution Annual Planning Report, in the development of DNSP regulatory proposals and in the conduct of the RIT-D for network augmentations.

In terms of the consultation used to determine which areas of reliability are particularly important to customers within a DNSP's network. We would submit that there are practical questions as to how customers are to be selected (i.e. are they representative), the weighting of their relative needs, particularly if their reliability outcomes sought do not meet an economic assessment process test (i.e. a social/equity obligation) and how the AER would assess revenue requirements if the jurisdictional Minister set a social target with a low net economic benefit. We are also unclear what weight any submissions to the draft economic assessment report would realistically have given the timing between the draft and final report.

b) Yes. The number of scenarios should be sensibly restricted.

We note that the standard setter has 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 standard setter (which is required to undertake an independent review of the DNSPs' estimates)[8].

[8] In the NSW review, the modeling 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 modeling may have over stated reliability impacts i.e. the impact on reliability may not be as significant as modeled (final report p 72)

It is for this reason, that it will be important that the reliability options selected for assessment by the standard setter are both practically and economically feasible and that the modelling by the DNSP, and assessment by the standard setter, is able to be undertaken in a timely and pragmatic manner (i.e. accurate data is available). In addition, the selection of scenarios should not duplicate the network planning process.

c) We note that if the jurisdictional Minister 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 standard 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.

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 and the associated impacts on the affected customers. 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 (or any other means). 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, we 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' basis[9].

Question 6 Economic assessment of reliability scenarios

(a) What are likely to be the main costs and resource implications for NSPs, economic advisors, and other stakeholders from the economic assessment process?

(b) What are the main risks associated with the economic assessment process? Is the use of sensitivities during the economic assessment process likely to address risks around the uncertainty of key assumption?

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

a) We note the economic assessment process would be similar to the AEMC's 2012 review of distribution reliability levels in NSW. We submit that the costs and resource impacts of the scenario modelling should be commensurate with the improvements in customer outcomes. For example, the resource intensive modelling exercise conducted during the NSW review delivered a preferred scenario outcome (out of four scenarios modelled) that represented an annual saving of approximately $1-3 on the average NSW residential electricity bill over a 15 year time frame[10].

b) Under the economic assessment process the costs and benefits of each reliability scenario would be assessed against a baseline of the maintenance of existing reliability targets. In this respect we note that that due to the likely long lead times to implement the framework the current STPIS regime would continue to apply for the 2014-19 regulatory period. This is relevant because by the time the proposed framework is implemented, there would be ten years of observable STPIS data collected over the last two regulatory periods. As discussed in question 4, to ignore the historical STPIS performance in setting new targets erodes the incentive mechanism that underpins the regulatory framework.

<u>VCR Risks</u>

Estimating the VCR will always involve a level of highly subjective judgement and there remain challenges in quantifying the economic and value based VCR measures. This is because economically derived values generally do not adequately reflect the community's value of convenience and lifestyle impacts, while willingness to pay surveys have proven unable to adequately derive meaningful measures for the impact of events for which the respondents have no recent experience. 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 prudent risk management approach for investment planning. As the Productivity Commission notes:

> "...the consequences of underestimating the VCR might include underinvestment, and over the longer-run, a greater frequency of outages. At the margin, the consequences of overestimating the VCR are likely to be less severe. Given the difficulties with estimating an accurate VCR and the fact that VCR is an aggregate of the differing preferences of many customers, adopting a VCR that is at the higher end of the reasonable range of possible values would be sensible"[11].

For example, analysis has been undertaken by NSW DNSPs in examining implied VCR values from recently completed projects. This analysis found that whilst some projects (simple minor augmentation projects) could be readily evaluated in these terms and had costs that are similar to or below current VCR estimates, complex projects, with multiple drivers and constraints, involve significant assumptions that greatly impact the estimated cost of avoiding the risk of unserved energy. A simple VCR measure struggles to capture the complexity of these decisions, or provide an economic signal to invest, however on any reasonable engineering assessment these projects were needed to ensure long term security of supply in accordance with the National Electricity Objective (NEO).

[10] Ibid. Pg 57

[11] Productivity Commission 2012, *Electricity Network Regulatory Frameworks*, Draft Report, Canberra. P 52.

Question 7 Setting reliability standards and targets

Does the Commission's proposed approach provide sufficient information to the jurisdictional minister to allow the minister to make an informed decision on the levels of reliability that appropriately meets community expectations?

We note that because the economic assessment process guideline will be developed by the AER it is likely to be based on measurable factors and an economic basis alone. As there are likely to be local considerations relating to worst served customers or other social issues, the jurisdictional Minister is likely to have to source information from outside the framework to address community expectations.

Question 8 Links between the standard setting process and the revenue determination process

(a) Should NSPs be required to align the consultation process at the commencement of the standard setting process with the consultation process on their regulatory proposal? Is this feasible and what costs or benefits may arise under this approach?

(b) What factors should the AER consider in taking into account any differences in the cost forecasts submitted during the standard setting process and in a NSP's regulatory proposal?

a) Yes. Refer to the response to question 5.

b) The resource intensive nature and truncated timeframe for scenario modelling will require the use of high level assumptions and probability weightings. As a result, the regulatory proposal forecasts are likely to be more sophisticated and consider the interaction with the broader network capital and operating expenditure program and capex and opex incentive schemes.

Question 9 Updating reliability standards and targets within the regulatory control period

(a) Are the Commission's proposed criteria for when an update can be sought appropriate for TNSPs and DNSPs, noting the differing characteristics of these networks?

(b) Do the Commission's proposed criteria represent a sufficiently high materiality threshold for updates?

(c) Would the proposed mechanism affect the incentives for efficient investment that exist under incentives based ex ante revenue allowances?

a) We note that DNSPs would be required to undertake a review of their reliability standards or targets if they become aware of a material change in the input assumptions used during the standard setting process which may change the basis on which the standards or targets were set. In addition, the standard setter would also be able to initiate a change in the standards or targets and request a TNSP or DNSP to undertake a review of the standards or targets, where the standard setter considers that the criteria for updating the standards or targets has been met.

We believe that there are unlikely to be any circumstances during the regulatory period where there would be a need to update the reliability targets. This is because reliability impacts typically manifest over a longer period than 5 years and the threshold established in the framework is set a high threshold meaning it may never be reached.

In any event, we would submit that it is not appropriate or equitable for the standard setter to seek an update to the targets as it undermines the regulatory STPIS incentive framework.

b) Refer to the response to question 9(a).

c) As noted in the response to question 4(a), the proposed 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.

Question 10 Compliance and performance reporting

(a) If the proposed framework for transmission reliability is adopted in Victoria, should AEMO be responsible for complying with Victorian transmission reliability standards?

(b) Does there need to be any changes to the current STPIS in order to enable it to be used to promote compliance with reliability targets for DNSPs?

(c) How should independent audits of NSPs' internal processes be conducted to demonstrate that NSPs have processes in place to meet their standards and targets?

(d) What issues should be considered in specifying how performance reporting should be undertaken by TNSPs and DNSPs?

a) No comment.

b) As noted throughout this submission, the framework appears to be turning STPIS into an enforcement mechanism which it is not designed for – it is supposed to be an '*Incentive*' mechanism.

The proposed approach would lead to higher costs over time relative to a lighter-handed approach focussed on clear incentives. First, administrative costs would be higher. As noted by the Productivity Commission, a target-setting approach would impose "the additional cost of a negotiation process between distribution businesses and the standard setting agency."[12] The Productivity Commission also noted that "revelations of efficient reliability costs would be difficult and costly to obtain."[13]

Second, the marginal cost of reliability is likely to be higher than the levels that could be achieved when NSPs have clear incentives to innovate. The marginal costs of reliability estimated by NSPs as part of the proposed economic assessments would necessarily be based on 'tried and tested' means of influencing reliability. Given time and the incentive to innovate, NSPs may be able to find less expensive ways of improving reliability. For this reason, the economic assessments proposed by the AEMC are unlikely to deliver as efficient a balance between cost and reliability as would an incentive-based approach in the long term.

c) There seems little benefit in requiring a mandatory annual audit (specified in the Rules) to ensure that DNSPs have in place processes to meet the targets. If the targets are not achieved, there would be STPIS implications which are likely to outweigh any pecuniary measures taken as result of an audit. Further, reliability performance can be easily observed as financial incentives through the STPIS promote compliance against reliability targets.

[12] PC 2013, Electricity Network Regulatory Frameworks, p578.
[13] PC 2013, Electricity Network Regulatory Frameworks, p578.

In terms of benchmarking, the AER collects auditable STPIS data as part of its annual Regulatory Information Notice. A further annual audit introduces an additional level of regulatory burden.

d) Refer to the response to Question 1(c).

Question 11 Next steps and implementation

Do you have any views on the changes to the NEM regulatory architecture which may need to be made in light of our proposed frameworks?

The decision to implement the framework will require changes to the regulatory framework and the development of supporting documentation, which will involve long lead times. It is therefore unlikely to apply to NSW DNSPs before the 2019-2024 regulatory period. As a result, the current STPIS regime would continue to apply for the 2014-19 regulatory period.