

3 June 2008

GPO Box 520
Melbourne VIC 3001
Telephone: (03) 9290 1444
Facsimile: (03) 9663 3699
www.aer.gov.au

Mr Ian Woodward
Chairman, Reliability Panel
Commissioner, Australian Energy Market Commission
PO Box A2449
SYDNEY SOUTH NSW 1235

Dear Mr Woodward 

Transmission Reliability Standards Review - Response to Draft Report

The Australian Energy Regulator (AER) welcomes the opportunity to respond to the Reliability Panel's Draft Report regarding a nationally consistent framework for the setting of transmission reliability standards.

The AER has a unique perspective on the use of transmission reliability standards. The requirement for Transmission Network Service Providers (TNSPs) to meet reliability standards is a key driver of capital expenditure forecasts, included as part of TNSP revenue reset applications. Accordingly, it is vital that these reliability standards be set clearly and transparently to underpin a rigorous regulatory framework.

Therefore, the AER is pleased that there is consensus regarding the high level principles that should apply for the setting of clear and transparent reliability standards, independent of TNSPs.

In assessing the five options that have been outlined in the Draft Report, the AER has had regard to the four high level principles that were outlined in our previous submission. Specifically, these principles were that reliability standards should be set:

- following a transparent process, a rigorous cost/benefit assessment and thorough public consultation
- independently of the TNSP
- as specifically as possible, outlining the reliability standard to be achieved at each connection point
- in such a way as to be neutral between the technologies that are used to meet the given standard.

Proposed options

In summary, the AER considers that a modified option 'E' is the proposal best able to address these key high level principles. The suggested amendments are outlined in detail in this submission.

In summary, the AER suggests that the model could be enhanced by:

- providing clear guidance in the national framework on how the economic modelling should be undertaken by jurisdictional bodies and how the output of this modelling should be translated into reliability standards
- allowing TNSPs the option of undertaking additional probabilistic studies in respect of particular transmission investment solutions and where this shows an economically more efficient solution, allowing the TNSP to submit this as a modified reliability standard
- including in the deterministic standard expressions, a time allowance for customer reconnection in certain circumstances, to strengthen the technological neutrality of the model
- considering the feasibility of TNSPs being required to report on delivered network capability compared to the reliability standard at each connection point.

The AER notes that the key difference that separates options A and E from options B, C and D is the form of the standard that results from the national framework.

Options A and E prescribe that a deterministic planning standard must be published for each connection point, but that standard must be based on economic considerations. Conversely, options B, C and D all would allow the formation of a probabilistic standard.

Only options C and D propose the introduction of a nationwide standard level. Under this approach, the AEMC would set a nationwide standard on the advice of the Reliability Panel and the AER. All other options would allow jurisdictional bodies to set the reliability standard level under a single national framework.

The AER considers that the vast majority of benefits of changing the status quo stem from the implementation of a transparent process for setting reliability standards and the removal of the conflict of interest in the involvement of the TNSPs in that process. At this stage of market development, it is not clear that there are substantive additional benefits that would justify the imposition of a single national standard level.

However, in the same manner that the new transmission planning arrangements are to be reviewed after a period of 5 years of operation, the AER considers that it would be appropriate for the application of reliability standards to be similarly reviewed.

National Framework and Reference Standard

The AER suggests that the national framework should be prescribed in the National Electricity Rules. This would allow for the consistent application of the framework between jurisdictions, with only limited variables able to be defined at the jurisdictional level. The specification of the national framework within the National Electricity Rules is consistent with option E as outlined by the Reliability Panel. Indeed, the AER considers this to be a key feature of option E, as it provides protection against differing interpretations of the framework being applied in each jurisdiction.

The AER considers that it is important that the national framework be tightly defined and should include clear guidance on how the economic modelling should be undertaken by

jurisdictional bodies and how the output of this modelling should be translated into reliability standards. Preferably, the national framework would require a full and transparent process of applying the economic analysis under the national framework, with all variables identified.

Clearly, the primary variable that should be disclosed is the value of reliability that has been assumed in the modelling. This would make the key driver of varying reliability levels transparent for all stakeholders and limit the scope for ambiguities to be re-created under the new framework. The AER is concerned that if the national framework does not include clear guidance on exactly how the modelling should be conducted and the results utilised, there is the potential for the continuation of ambiguities.

For illustration, it is suggested that the Regulatory Test guidelines provide a good example of the level of guidance that would be required, to ensure a consistent application of the framework across jurisdictions.

Specifically, the AER supports the development of a default hybrid standard that would apply an iterative economic cost benefit comparison of the value of unserved energy at a connection point, against the cost of delivering a specific level of reliability. For instance, if the output of the economic modelling shows that with an N reliability standard there is a high value of unserved energy and the cost of moving to N-1 is less than the value of unserved energy, then the connection point would be classified as N-1.

Further, consideration should be given to allow jurisdictions the option of appointing an independent national body, such as the Reliability Panel or AEMO, to set the reliability standards under the national framework.

In addition, the AER supports the concept of a national reference standard. We consider that the publication of a national reference standard would assist consumers and other stakeholders in assessing the level of reliability within their own jurisdiction against both the national standard and the standards prevailing in other jurisdictions.

It is suggested that the reference standard should be set by the Reliability Panel, on the basis of reference standards for generic groups of loads, (for example, rural, semi-rural, urban etc).

Proposed modified hybrid approach

It is understood that a key issue for resolution is what form of standard should be prescribed in the national framework, with either a deterministic, probabilistic or hybrid approach being suggested.

The AER notes that the probabilistic model is the approach most capable of taking account of a full range of possible reliability outcomes, considering the value of the relevant load being served, with each solution being underpinned by economic analysis. Typically modelling is repeated under a range of different scenarios, with failures of different elements modelled, together with varying load and generation forecasts. Probabilistic planning is conducted by comparing the results of the modelling against the cost of further network augmentation, generation or demand side response option. However, the AER recognises that, in practice, the economic analysis required to conduct probabilistic studies

is time and resource intensive. As a result, the AER has concluded that it does not appear appropriate to mandate this approach, at this time.

In comparison, a straight deterministic standard is a relatively simplistic level of redundancy that must exist at a given point at the network, typically expressed as N-x. The deterministic model has the benefit of being clear, transparent and is easily understood by stakeholders. However, the range of possible delivered reliability outcomes under the deterministic approach is limited to variants of N-x. The AER recognises that the inherent crudeness of the deterministic standards risks missing the most economically efficient solution.

After consideration of these two models, particularly considering the manner in which the output of each would be used in a regulatory context, the AER has concluded that it is appropriate for a hybrid approach to be mandated as the default approach for setting reliability standards at this time.

However, the AER considers that adoption of the hybrid approach for setting reliability standards need not preclude a TNSP from undertaking additional probabilistic studies in respect of particular transmission investment needs so as to test the economic efficiency of solution option based on the relevant hybrid standard.

If the application of the probabilistic approach to a particular situation shows a materially more efficient result than the hybrid approach, then the AER suggests that the TNSP should have the option of submitting this as a “modified reliability standard.” The TNSP could either undertake the relevant expenditures within its existing revenue determination or submit proposed expenditures to the AER as part of its next revenue reset application.

This approach is consistent with the hybrid model as set out by the Reliability Panel and would ensure a nationally consistent reference point for all transmission expenditures. This approach would also provide the option, but not an obligation, for specific probabilistic studies for TNSPs who wish to undertake them. The AER considers this creates the potential for more efficient outcomes arising from probabilistic planning while avoiding imposing an onerous obligation on all TNSPs to undertake probabilistic studies.

Reporting on delivered network capability

In addition, the Reliability Panel could consider the feasibility of TNSPs being required to report on delivered network capability compared to the reliability standard at each connection point. For illustration, a connection point may have a required reliability standard of N-1, delivered network capability may be N-1 for year one, but may decrease to less than N-1 the following year. This information would be useful to the TNSP in understanding the actual performance of its network and be helpful to the AER in conducting assessments of capital expenditure proposals as the historic performance could then be compared to the reliability standard.

The AER recognises that this would require a clear and transparent definition of how delivered outcomes are to be measured. For example, this could be achieved through a comparison of network capability and the ten per cent PoE demand forecast for that connection point. Regardless of the eventual mechanism used for reporting on delivered network capability, the AER believes that further consideration should be given to the

feasibility of TNSPs reporting delivered network capability compared to the reliability standard at each connection point.

Ensuring technology neutrality

The AER is conscious of the need to provide a technology neutral framework that enables consideration of options such as demand side management, network support and distribution augmentations. To some extent, technology neutrality should be achieved on a project-by-project basis through the Regulatory Test consultation and assessment process. Probabilistic planning also has the potential to better identify non standard approaches to meeting the demand for transmissions services.

The AER considers that recognition of the principle of technology neutrality could be further strengthened if the deterministic reliability standards were to include the option of a time allowance for customer reconnection in certain circumstances.

For example, the AER considers that in setting deterministic standards from the output of the economic assessment, the national framework should require consideration of a full range of possible deterministic standards. In particular, the AER considers that the default national framework should require the assessment of including a time allowance in the deterministic standard, for instance N(-1 in 30 minutes). In this example a connection point could recover from a single contingency, but there would be an allowance of thirty minutes that would permit an alternative technology to provide the redundancy.

This would allow for the greater use of network support or demand side management in meeting reliability standards. This would be consistent with the high level principle of providing a technology neutral framework and assist in alleviating concerns regarding the potential bias towards transmission network solutions arising from use of deterministic standards.

Positive impact on the regulatory regime

As was indicated in our submission to the issues paper, the AER considers that the clarity, transparency and independence of the transmission reliability standards are the key issues facing this review process. In this context, the AER remains confident that this review process will result in a fundamental improvement in the framework for setting reliability standards. In turn, this will greatly improve the robustness of the regulatory regime, particularly as it relates to setting capital expenditure targets.

I would welcome the opportunity to discuss this issue with you further. In the first instance, if you or your officers would like any further information, the appropriate contact within the AER is Ross Mitchell, who can be contacted on 02 6243 1281.

Yours sincerely



Michelle Groves
CEO
Australian Energy Regulator