



13 February 2008

Mr Ian Woodward
Chairman, Reliability Panel
PO Box A2449
Sydney South
NSW. 1235

By email (submissions@aemc.gov.au)

Dear Mr Woodward,

The Reliability Panel Review of Technical Standards - Draft Report

Roaring 40s welcomes the opportunity to comment on the Reliability Panel's 'Review of Technical Standards - Draft Report'.

Roaring 40s is one of the leading wind farm developers in Australia, and the leading international investor in the Chinese wind sector. We have 279 MW of installed capacity and 189 MW of generation under construction across Australia, China, and India. To date, Roaring 40s has invested over \$400M in wind generation in the National Electricity Market (NEM), with another \$350M in the advanced stages of development.

As a significant investor operating in a number of jurisdictions, Roaring40s is acutely aware of the importance of market design in driving efficient and timely investment in the generation sector. Technical standards are key market settings that substantially influence the efficiency and reliability performance of the National Electricity Market (NEM).

Roaring 40s' experience of technical standards in the NEM suggests that the current arrangements are largely workable and efficient. The "Technical Standards for Wind Generation and other Generator Connection" Rule in 2007 represented a substantial overhaul of the arrangements and addressed the majority of Roaring 40s concerns regarding the technical standards in place prior to this date.

For the reasons outlined above Roaring 40s does not believe it is appropriate for this review to be a mechanism for major overhaul of the technical standards arrangements, rather it should seek to build on the substantial progress made to date in this area. Focus should be placed on issues not covered by previous reviews (such as market arrangements for reactive power services and mechanisms for variation of Generator Performance

Roaring 40s Renewable Energy Pty Ltd

GPO Box 1484 | Hobart | Tasmania | 7001 | Australia

Telephone +61 3 6213 4301 | Facsimile +61 3 6213 4300

ABN 63 111 996 313

Standards over time).

Roaring 40s offers suggestions on The Panel's Proposed Principles in the attached appendix. The primary focus of these suggestions is progression of the National Electricity Objective (NEO) through explicit recognition of cost/benefit considerations in both establishment of technical standards and the ongoing maintenance of these standards.

We thank you for the opportunity to participate in this review. Please do not hesitate to contact Andrew Jones (Manager Market and Regulation) on 0400 537 944 if we can clarify or assist with any of the above.

Yours Sincerely

A handwritten signature in black ink, appearing to read 'J. Titchen', written over a light blue horizontal line.

John Titchen,
General Manager Business Development

Appendix

Suggestions on The Reliability Panel's Proposed Principles

Principle 2 - Efficient operation of the power system

The objectives of uniformity and predictability in setting of standards conflict with progression of the NEO through consideration of efficiency benefits that arise from:

1. tailoring standards to meet location specific system requirements and;
2. balancing cost and benefit in seeking economically efficient levels of technical performance.

The second paragraph "Access standard should support the efficient operation of the power system" can be interpreted as a requirement to consider detriment to operational efficiency of the NEM in the absence of consideration of the cost of avoiding this detriment (though increased capital cost of new generation). This is inconsistent with the NEO and it is suggested that this principle be amended as follows:

"Access standards should support the efficient development and operation of the power system".

This affords explicit recognition of the need to consider of both costs and benefits in setting of standards.

Principle 5 - Negotiated access standard

The standards should reflect the technical capability of plant being connected as proposed, however clarification is required to ensure that this principle is not interpreted as requiring performance in excess of the automatic access standard.

The requirement for connecting parties to "prove" they can't meet the automatic access standard is likely to be unworkable for the following reason:

Engineering plant is specified in terms of it's capability, and this technical specification is enforced commercially through supply contracts, guarantees and warranties. Therefore it is practical to determine (or "prove") whether plant can meet a given standard. On the other hand, it is not clear how to "prove" that plant cannot meet a higher standard, given that the suppliers of plant are unlikely to be in a position to comment on the ability of the plant to perform above the specified level without exhaustive investigation of physical and risk issues.

It is suggested that this issue could be addressed by wording the second paragraph as follows:

Connection applicants should be required to register at the highest possible technical standards (but not exceeding the automatic access standard) that can be achieved within the technical specification of their equipment.

It is suggested that additional paragraphs need to be added to ensure the efficiency objective of the NEO is progressed by ensuring appropriate consideration of the costs and benefits of meeting access standards between the minimum and automatic standard.

Firstly, the definition of the minimum access standard does not adequately address situations where a negotiated standard of a new connecting party hinders an existing connected party in meeting their performance standard obligations. This can result in the existing party having to modify plant or reduce output in order to meet performance standards.

To address this issue we propose the following paragraph:

Connection applicants cannot connect at a standard that in-efficiently reduces inter or intra regional transfer limits, or would require existing connected parties to reduce output to meet their existing performance standards.

Secondly, situations will arise when connecting parties will be able to meet a higher performance standard by enhancing the capability of their plant (at substantial additional cost). In the absence of an efficiency requirement to balance cost to the connecting party with benefit to the broader system, it could be argued that infinite cost is justified in meeting the Automatic Access standard. This is clearly inconsistent with the NEO.

To address this issue the following paragraph is proposed:

If a higher standard can be met at additional cost to a connecting party, the connecting party will only be required to meet the higher standard if the benefits to the market that would arise from meeting the higher standard are likely to exceed the cost to the connecting party.

Principle 6 - Interim performance standards

The proposed mechanism could prove useful in situations where parties are connecting to a network where there is uncertainty around future development of the network. Caution should be applied in implementing this approach to ensure it's application is limited to managing clearly defined uncertainties in future system scenarios. An example would be a possible future scenario where enhanced performance is required to mitigate the effect of withdrawal or retirement of other plant by third parties.

It is suggested that this principle needs to be augmented to preclude the application of this mechanism to force connecting parties to install auxiliary plant to meet future system requirements in situations where power system requirements could be more efficiently met either by regulated augmentation of the network or sourcing of system requirements through market mechanisms.

Principle 7 - Modifying Performance Standards

These provisions will give NSPs, NEMMCO and connected parties increased flexibility to tailor performance standards to system requirements over time. The effectiveness and workability of these provision should be enhanced by requiring explicit consideration of economic loss suffered by connected parties in the course meeting generator performance standards under changed network conditions (i.e. where lost production or additional cost is required to meet a performance standard due to changes in load or connection/retirement of other plant on the system). The following paragraph is proposed:

In considering a request from a connected party to change performance standards, the relevant NSP(s) and NEMMCO must take into account the cost to the connecting party of meeting existing performance standards and agree to reasonable requests for changes that would reduce these costs consistent with the NEO.

Principle 9 - Application

This principle is un-desirable. Application of technical standards to plant on the basis of registration status may result in two generators of the same size and potential impact on the system being subject to different technical standards. This is inconsistent with the Principle 8 and should be removed.

While Roaring 40s is not aware of substantive issues arising from connection of distributed generation to date, the opportunity should be taken in a proactive manner to establish technical standards arrangements that would be robust to large scale penetration of embedded generation. Done correctly, this would also give increased certainty to manufacturers and developers of small plant by shifting responsibility for technical standards from various network company internal policies to the NER.

Principle 10 - Market arrangements

There would appear to be substantial potential for the more efficient procurement of services such as reactive power and reactive power control through market mechanisms and it is suggested the Reliability Panel recommend review of the potential of such arrangements.

It is noted that ancillary services such as reactive power have to date been purchased by NEMMCO and NSPS on a short term basis, presumably in

recognition of predominantly static efficiency considerations around procuring services for existing plant.

In the case of wind farm development, installation of equipment to provide reactive power and reactive power control involves committing to long life (20-40year) auxiliary plant. A key focus of this review would should be the feasibility of implementing market (or indeed regulatory) mechanism to drive efficient investment in such plant to meet the requirements of the surrounding power system.