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Clean Energy Council

The Reliability Panel
Australian Energy Market Commission
PO Box A2449
SYDNEY SOUTH NSW 1235

16 February 2008

By email: panel@aemc.gov.au

Dear Sir / Madam

Re: AEMC Reliability Panel – Technical Standards Review – Draft Report

The Clean Energy Council (the Council) is the peak body representing Australia's clean energy and energy efficiency industries.

It's priorities are to:

- create the optimal conditions in Australia to stimulate investment in the development and deployment of world's best clean energy technologies
- develop effective legislation, regulation and other incentives to reduce energy demand and improve its efficient use, and
- work to reduce costs and remove all other barriers to accessing clean energy.

The Council advocates policy development on behalf of its members at the Federal and state government level and promotes understanding of the industry and its potential through forums such as industry events, forums, conferences, newsletters and publications.

The Council works with members and the government to identify and address the barriers to efficient industry development.

The "clean energy" industry includes generation of electricity using wind, hydro, solar, biomass, geothermal and ocean energy as well as other emerging technologies and service providers in the energy efficiency sector including solar hot water and cogeneration.

In response to government policy to mitigate the impacts of climate change, Council members are preparing to install in excess of $20B in new capital investment in renewable energy generation.

The Council appreciates being given the opportunity to provide comments on the Reliability Panel's Technical Standards Review Draft Report.

The Council understands the importance of managing the national electricity system in a manner that meets the needs of consumers and the National

Market Objective (NEO), and fully understands the significance of having a robust set of technical standards to ensure that this occurs.

Need for a Review of Technical Standards:

However, as we pointed out in our submission to the Issues Paper to this review, the National Electricity Rules (the Rules) were amended in March 2007 with the making of "the National Electricity Amendment (Technical Standards for Wind Generation and other Generator Connections) Rule 2007 No.2". This Rule was incorporated in Version 13 of the Rules and has applied since that time, however it has not been in operation long enough to fully determine the effectiveness of the changes or to identify any problems that may still exist in the technical standards sections of the Rules. Only a very small number of generators have registered under these technical standards. The Council therefore questions the need for a further review of the technical standards at this time.

Further, it should be noted that the review of technical standards at that time was quite broad and covered a much broader range of standards than just those required to better integrate wind generation into the National Electricity Market (NEM).

The Council does not support a further review of technical standards at this time.

Principles Proposed:

The Draft Report proposes a range of principles for future technical standard reviews to replace the original NECA principles. However, that seems to ignore the work undertaken by a broad cross section of NEM participants on the Wind Energy Technical Advisory Group (WETAG) and the Technical Standards Reference Group (TSRG) to establish a revised set of principles (see Attachment 1). The Ministerial Council of Energy (MCE) Standing Committee of Officials (SCO) approved these principles and the principles were used when considering the technical standard amendments that resulted in the Rule changes mentioned above.

The previously agreed principles allow any review to consider the needs of the energy users and ensure that the NEO is met efficiently.

The Council believes the principles previously approved by the SCO are suitable and does not support the principles proposed by the Reliability Panel (see Attachment 2 for comments on specific principles proposed by the Reliability Panel).

General Comments on Technical Standards:

The Council has a number of general points on the operation and philosophy behind the technical standards

The electricity system is operating reliably with the currently connected plant. The operation of the market provides little or no evidence to suggest that the current standards are hindering the market's ability to maintain system security. This would also indicate that if the technical standards are further

amended, there is no need to insist that plant that is already connected be upgraded.

The Council supports the concept of minimum and automatic standards as a workable mechanism to minimise the negotiation required to gain the approvals to connect. This will be important if the clean energy industry is to deliver the generation required to meet policies such as the 20% Renewable Energy Target.

The overall objective should be to allow appropriate connection and augmentation of the grid at the least long run cost, while maintaining current network performance. A connecting party should not be required to improve local network performance (eg remove constraints or provide reactive power) unless the NSP justifies and funds that improvement under Rule 5.2.

In establishing the appropriate levels, care should be taken wherever practical to allow the widest range of available, world-class plant to connect to the network without significant modification. In general, this should be related to IEC/Australian standards with the overall aim of increasing competition and allowing developers to be able to purchase equipment from a range of suppliers to achieve economic outcomes while ensuring that system security is maintained.

The Council believes that the Rules should encourage generators and networks to connect where they do not degrade the system, and if they do degrade performance, then the Rules should allow them to compensate for that degradation either at the installation site or elsewhere on the system, if that is more efficient.

Where practical, if the network service provider (NSP) requires greater capacity for some service or a different capability at a particular location and that generator is capable of providing it, the NSP should arrange to purchase the service from the generator under a network support agreement. One obvious application for this service could be to relieve network constraints.

The Council understand that it is difficult to efficiently share finite capacity such as allowable harmonic injection at some locations. Generators (or customers) should not be forced inefficiently invest in equipment on the chance that another party may connect. Under these circumstance there should be an option to negotiate a lower standard, with the option of providing a later upgrade to address specific concerns if they should occur (see principle 6).

If you are seeking clarification on any of the issues raised in this paper or answers to any questions that arise, please do not hesitate to contact me on ph. (03) 9929 4105 or email rjackson@cleanenergycouncil.org.au.

Yours sincerely,

Rob Jackson
GM Policy

Attachment 1

The principles developed by the WETAG, approved by the SCO and used for the Technical Standards for Wind Generation and other Generator Connection [2007] review:

Principle 1	The technical standard must provide for adequate security, quality of supply and reliability.
Principle 2	Minimum, automatic and mandatory standards should be defined so that performance requirements are consistent with the potential impact of generating plant on the power system.
Principle 3	Terminology used in the technical standards should support their appropriate application. Where technically appropriate, performance of generating plant should be measured at the connection point.
Principle 4	Where reasonable, the technical standards should be written so that they are applicable to all technologies. Technology-specific terms should be used only where necessary to clarify requirements for particular technologies.
Principle 5	Where possible, the technical standards should provide clear guidance on the basis for negotiating access standards for each requirement.
Principle 6	Changes to the technical standards must include appropriate transitional arrangements.
Principle 7	Changes to technical standards are to be technically justified

Attachment 2

The principles proposed by the Reliability Panel for future and detailed comments on their operation.

	RP Proposal	Comment
Principle 1	Access standards should be aligned with the system standards wherever appropriate.	Disagree: As stated in S5.1a.1, system standards are not always met all the time in all places and therefore negotiation on local performance is necessary and may not align with the system standards.
Principle 2	Access standards should support the efficient operation of the power system.	Disagree: The Council believes that other factors such as the market rules and commercial factors have a greater influence in supporting the efficient operation of the power system. Access standards on the other hand support the integrity of the power system. Further the Council questions the need for such a principle as the NEO already includes the requirement that a rule is assessed on efficiency.
Principle 3	An access standard proposed by a connection applicant should be rejected when it fails to meet the level of the minimum access standard. The minimum access standard denotes the performance level where there is a high degree of certainty that any network user, employing any technology, located at any point on the national grid, would adversely impact system security, the quality of supply to other network users, or where relevant, the operation of the	Agree with the concept of minimum standard, but disagree with the definition: The minimum access standard is the level of performance below which a connection applicant cannot negotiate a connection. The minimum standard has previously been defined to be a “do no harm” access standard. As such it does not always pose a high degree of certainty of the connection will lead to an adverse impact on system security the quality of supply to other network users,

	power system in accordance with the system standards.	or where relevant, the operation of the power system in accordance with the system standards.
Principle 4	An access standard proposed by a connection applicant should be accepted when it meets the level of the automatic access standard. The automatic access standard denotes the performance level where there is a high degree of certainty that any network user, employing any technology, located at any point on the national grid, could connect to the power system and not adversely impact system security, the quality of supply to other network users, or where relevant, the operation of the power system in accordance with the system standards.	Agree with the concept of automatic standard, but disagree with the definition: An automatic standard denotes the level of performance that is granted automatic acceptance and a TNSP or NEMMCO cannot request a higher level of performance than an automatic standard unless they are willing to pay for it. Depending on the size and location of the connection, there may be some impact on the system.
Principle 5	A connection applicant may negotiate an access standard below the level of the automatic access standard, but above the level of the minimum access standard, where this does not adversely impact system security, the quality of supply to other network users, or where relevant, the operation of the power system in accordance with the system standards. A negotiated access standard must reflect the technical capability of the equipment to be connected, and connection applicants must prove why their plant cannot meet an automatic access standard.	Disagree: The minimum standard is still an acceptable standard**.** A participant is allowed to negotiate to meet or exceed the requirements of the network at that location as long as it is not below the minimum standard. The minimum level is still assessed against system security see S5.2.5.5 (c)(1)(ii)(C). The connecting party is obligated to provide reasonable quality plant but the NSPs needs to show why a particular standard is required for network performance. Technical capability is already reflected in the standards as the standard is designed on plant and network studies.

		While it is possible to provide evidence that the plant can meet its design specifications, it is not always possible or practical to determine if the plant can meet a given standard above its design levels.
Principle 6	A lower performance standard should be permitted at the time of connection on the condition that equipment is upgraded in the future if a higher performance standard is deemed necessary.	Agree in Principle: This should only be applicable where the higher standard is required for other parties to connect at or near the original connection point (eg harmonics at a location). The concept should be to allow connection at a lower level unless the higher level is required. The application of this principle must not hinder the application of principle 7.
Principle 7	The performance standards under a connection agreement are protected for the duration of those agreements, and a performance standard may only be changed when agreed to by the relevant network user, the relevant NSP, and NEMMCO.	Agree: However this principle is already evident in the rules. This is embodied in the transitional arrangements for new rules and the current approach to 'grandfathering'. Unless carefully applied, principle 6 has the potential to undermine this principle.
Principle 8	Technical standards should be technology, size and location neutral.	Agreed in principle: The standards should written in technology, size and location neutral terms but in some cases it will be necessary to use technology specific terms. These should only be used where it is necessary to clarify requirements for particular technologies. See principle 4 from the WETAG principle shown in Attachment 1 above.
Principle 9	Technical standards should apply to NEMMCO, NSPs,	Disagree: Technical standards are not

	Market Network Service Providers, and Generators and Customers whose equipment is registered with NEMMCO.	related to registration but rather to the actual connection. The standards are applied to all connected parties based on size, type of connection and materiality of the standard.
Principle 10	Where market arrangements can replace a technical standard, then this should be considered.	Agreed: This principle was outlined by NECA in its review – there should be a focus on the commercial provision of services to the market – however where a service is specifically locational regulated services may be more effective and efficient. The supply of reactive power is one service that should be reconsidered for provision through market arrangements.
Principle 11	Technical standards should be specific, clearly defined, unambiguous and consistent.	Agreed: The technical standards should be a coherent set of specific, clearly defined, unambiguous and consistent standards that are interlinked, and not assessed in isolation.
Principle 12	Technical standards should be measurable and assessable, in a form that allows effective compliance programs to be developed and maintained, and be enforceable.	Agreed in principle: This principle may be reasonable for a number of individual standards, however amending the technical standards to ensure that all standards to fit this rule would limit the standards to immediate physically measureable items. Some standards such as fault ride-through are not easily tested, but can be demonstrated through monitored responses to actual conditions.
Principle 13	The technical standards should place obligations on	Disagree: The term “most capable of

	the party that is most capable of responding to that obligation in a manner that advances the National Electricity Objective (NEO).	responding" is very general and difficult to determine, particularly when multiple parties are trying to connect. The principle allows almost any additional cost to be placed on a connecting party under this statement in particular with reference to deeper network augmentations.