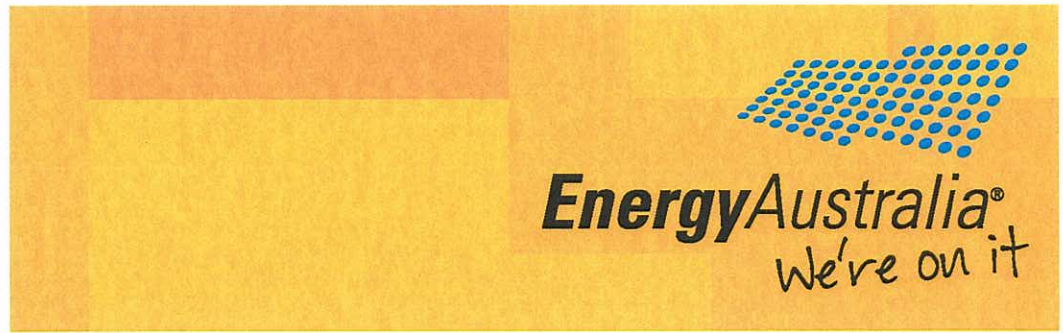


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13 February 2009

Mr Ian Woodward
Chairman
The Reliability Panel
Australian Energy Market Commission
PO Box A2449
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Email to: Panel@aemc.gov.au

Dear Mr Woodward

EnergyAustralia's submission on the Reliability Panel's draft report on technical standards

EnergyAustralia welcomes the opportunity to respond to the Reliability Panel's (Panel) draft review of technical standards in the National Electricity Rules (Rules). We consider the principles in the draft report will provide an effective framework for the AEMC to conduct its forthcoming review of the content of technical standards in the Rules. In particular, EnergyAustralia strongly supports the Panel's recommendations for clear and measurable technical standards in the Rules and transparent processes to ensure ongoing compliance with these standards.

EnergyAustralia is concerned with the Panel's recommendation that the Rules should not include technical requirements for non-registered generators (including embedded generators). In this submission, we note that non-registered generators impact on the performance and reliability of a distribution network and therefore on a DNSP's ability to comply with its network performance requirements under the Rules. To address this concern, the Rules should include high level principles that expressly permit a DNSP to impose technical standards on a non-registered generator to enable the DNSP to comply with its performance requirements.

In its draft report, the Panel examined an issue raised in Energex's submission concerning the technical standards that should apply to embedded generators. The Panel noted that embedded generating units over 30MW are required to register with NEMMCO and are therefore required to comply with the technical requirements in the Rules. It also observed that NEMMCO exempts generating units with capacity of less than 5MW, and sometimes between 5MW and 30MW, from registration.

After examining the issues raised by Energex, the Panel concluded that non-registered generators should not be required to comply with technical standards in the Rules. It noted at p 27:

"Generators exempt from registering would generally have minimal impact on the power system, and any impact would be largely local. It would be inefficient to require such generators to comply with standards developed to apply across

the NEM, when potentially less onerous and less complex standards could satisfy the requirements of the local network.”

We consider the Panel has not fully appreciated the significant local impacts that non-registered generating units have on the performance of a distribution network. Chapter 5 of the Rules is concerned with ensuring access to the national grid in a manner which does not interfere with the operation of and performance of the power system by NEMMCO and NSPs in accordance with Chapter 4. Chapters 4 and 5 impose specific obligations on NSPs to meet network performance requirements. It is EnergyAustralia’s experience that embedded generating units of less than 5MW in capacity can significantly impact on a DNSP’s ability to meet these requirements particularly those relating to voltage fluctuations and harmonic voltage. Consequently, we consider the Rules should be concerned with technical standards for non-registered generators to enable a DNSP to fulfil its requirements under the Rules.

In addition to significant local impacts, we note that small embedded generators can also adversely affect the overall power system. For example, many non-registered generating units in our network are technically ill-equipped to withstand voltage dips arising from faults on the transmission system and consequently disconnect from the distribution network when the fault occurs. While this type of problem may not impact power system stability in the short term when the total amount of embedded generation is small, an increase in the number of embedded generators¹ has potential to have more than localised impacts should common mode outages occur. We therefore consider it prudent to impose technical requirements on embedded generators to ensure that the equipment connected to the network does not adversely affect the power system in the medium to long term.²

The current Rules do not provide sufficient certainty with respect to the application of technical requirements on non-registered generators. Schedule 5.2 of the Rules³ can apply to non-registered generators which are connected or intended for use in a manner that the DNSP considers is likely to cause a ‘material degradation in the quality of supply to other network users.’⁴ . The Rules do not clarify the criteria for a ‘material degradation’, nor do they specify a process which clearly establishes whether Schedule 5.2 applies to a particular generator. It might be inferred that the DNSP would not allow connection in a manner which is likely to cause a material degradation in supply quality, but again there is no clear process for this and the compliance obligations upon the generator are uncertain. This uncertainty may result in protracted access negotiations and disputes between the DNSP and a connecting generator. Further, the Rules are unclear on whether a DNSP can impose technical standards on connecting parties if the DNSP considers that the connection may cause damage to its assets (without affecting power quality).

We submit that the Rules should include a clear provision to permit a DNSP to assess the likely impact of a generator connecting and impose technical requirements (including from Sch 5.2 where appropriate) on embedded generators which are necessary to enable the DNSP to comply with its Rules obligations with respect to quality, safety and reliability of the network. This assessment would take place as part of the connection process and where Sch 5.2 is applied it should be notified to NEMMCO

¹ The City of Sydney is for example proposing that 330MW of embedded generation should be installed in the CBD.

² This would also avoid having to impose technical standards on embedded generators on a retrospective basis if issues with power system security arise in the future.

³ Schedule 5.2 of the Rules sets out the technical standards that apply to registered generators.

⁴ Schedule 5.2.1 of the Rules states that: Schedule 5.2 does not apply to any generating system that is: (1) subject to exemption from registration under clause 2.2.; or (2) eligible for exemption under any of the guidelines issued under clause 2.2.1(c), and which is connected or intended for use in a manner the Network service Provider considers is unlikely to cause a material degradation in the quality of supply to other network users.

for compliance purposes. Compliance and enforcement of these matters should not be left to the NSP as part of the connection agreement. The Rules should also:

- permit a DNSP to obtain all necessary information and assurances relating to the impact of the embedded generator on the performance and reliability of the network; and
- ensure ongoing compliance by the non-registered generators with the technical standards in the connection agreement.

In addition to Rule requirements discussed above, EnergyAustralia considers it would be beneficial to develop nationally consistent technical standards for each generation class below 30MW. We note that Australian Standards currently apply to inverter connected units up to 10kVA for single phase and 30kVA for three phase units. Similarly, we consider that an industry code could set out uniform technical standards for other types of generation below 30MW. The industry code would need to be sufficiently flexible to allow DNSP's to take into account the particular circumstances of the network when imposing standards on connection applicants.⁵

We note that the Energy Networks Association (ENA) or StandardsAustralia would be an appropriate body to develop national technical standards for generators under 30MW. ENA recently released a policy framework discussion paper on embedded generation in November 2008, which discussed the issue of technical requirements for generators. We refer the Reliability Panel to the report and support the views of ENA that it may be beneficial to develop technical standards requirements for each generation class below 30MW.

In summary, we consider the Panel should re-consider its recommendation not to include Rules relating to technical standards for non-registered generators. Our view is that the Rules should include provisions that would enable DNSPs to impose technical requirements on non-registered generators if the connection has the potential to adversely impact a DNSP's ability to meet its obligations under the Rules. In addition to this, we consider that the Panel should recommend that ENA or StandardsAustralia develop a set of national technical standards for different types of generating units less than 30MW.

On a final matter we note that the Reliability Panel's review is being undertaken concurrently with the MCE's review into national distribution connection and planning arrangements. We consider there would be merit in policy makers adopting a consensus approach on the connection arrangements which should apply to embedded generators under the Rules.

Should you have any questions in relation to this submission please contact Ms Catherine O'Neill on (02) 9269 4171.

Yours sincerely



TREVOR ARMSTRONG
Executive General Manager (Acting)
System Planning & Regulation

⁵ We note that size, location, technology and timing are all factors that a DNSP needs to assess to establish whether an embedded generator will adversely impact on a DNSP's network performance requirements.