

Electricity Supply Industry Planning Council

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PC2005/0037

13 February 2009

Mr Ian Woodward  
Chairman, Reliability Panel  
Australian Energy Market Commission  
Level 5,  
201 Elizabeth Street  
SYDNEY NSW 2000

Dear Mr Woodward,

**RE: TECHNICAL STANDARDS**

The Electricity Supply Industry Planning Council (ESIPC) appreciates the opportunity to respond to the Reliability Panel's draft report on Technical Standards. The ESIPC appreciates the Panel's work to date in setting out a set of principles that should be applied in revising technical standards.

South Australia has considerable experience in the connection of a large amount of generation relative to the pre-market generation and large amounts of new technology generation. In these respects, we would consider that South Australia represents in many ways a test bed for the future as the CPRS and extended MRET schemes drive a marked turnover in the generation fleet over the next decade. Analysis and advice by the ESIPC has led to the undesirable outcome where South Australia has been required to introduce unique rules with respect to technical standards. We consider that the power system would not have been able to connect the amount of wind generation it already has without something equivalent to these higher standards. We are currently dealing with applications for further wind generation of hundreds of megawatts which will only reinforce that point. We have therefore considered again, in the light of the principles proposed, where the

weaknesses are in the national framework for technical standards that requires us to impose somewhat higher standards in South Australia albeit those standards are within the negotiable range within the national Rules.

While we agree with the majority of the draft report, we propose the Panel consider refinements in the following areas

#### **Principle 5 – Ability to Negotiate**

The ability to negotiate individual technical standards is key to obtaining economic outcomes. It is clear that not all regions, all areas or all connection points within areas could sustain plant of the same technical characteristics. However in the case of some standards, the framework within which negotiation is to proceed is unclear. For example, *S5.2.5.13 Voltage and reactive power control* sets out in considerable detail the automatic and minimum access standard. The section on negotiated access standards (clauses (e), (f) and (g)) provides no objective or first order principle to guide any negotiation other than to be as high as could be “reasonably achieved”.

The context of any negotiation also needs to take into account the development of the system at least over the short to medium term. While it may be possible to connect one or two modest size generators at something close to the minimum standards, the application of low standards across a significant number of generators seeking connection in the same region is likely to be unacceptable. We note the experience of Germany where an earlier decision to require no fault ride through capability or SCADA facilities of wind farms undoubtedly seemed reasonable when considering an individual wind farm. Those policies have now reversed and their connection Code is tougher than the arrangements in South Australia although they are left with a legacy of 15,000 MWs of wind farms to which the central dispatch is blind and which trips off when the system is under stress.

The negotiated standards under Section *S5.2.5.1 Reactive power capability*, would appear, at least on first reading, to recognise this point. However the requirement to take into account *considered projects* is inadequate given that the definition of considered projects excludes other generators and the interpretation of “at least” appears fraught. Reactive power requirements in the technical standards have wider problems in our view which are addressed further below.

It is recommended that the Principle be modified to reflect the need to consider the planning context within which any assessment of likely impacts is being made.

#### **Principle 6 - Deferred Standards**

The intent of this principle is reasonable. However the practicality of later remedies and power to enforce any such requirements needs to be considered.

## **Principle 10 - Market Arrangements as an Alternative to Technical Standards.**

The Planning Council agrees that in some cases market arrangements can be developed to negate, or at least mitigate, the need for technical standards. This applies already in the NEM with generator governor requirements which are now primarily driven by the financial incentives through the FCAS markets for regulating reserves. This principle could, however, be generalised to any form of financial incentive.

### **Reactive Power Requirement**

The example of reactive power used under principle 10 appears to us to be a “step too far”. In particular, a marginally priced reactive power market would, in our view, be too complex, difficult to fit to a regional market, too prone to localised market power and generally have too high a transaction cost given the overall cost of reactive power in the system. Any market based approach also seems inconsistent with the fact that a considerable source of supply of reactive capability comes from regulated network service providers.

While we consider a full market approach to be unattractive, the National Market arrangements desperately needs an overall framework for reactive power. The framework would assign roles and responsibilities for the provision of reactive power across generators, TNSPs and DNSPs. Once responsibilities are clearly assigned, arrangements could be devised which allow parties to “trade” their requirements with others in seeking to gain the most economic solution to the overall needs. Within this framework, connection could be negotiated and parties would know that their ability to meet or exceed their responsibilities would deliver them ongoing commercial advantage.

This is in stark contrast to the current arrangements where a generator who negotiates its technical standard to a level where it has no reactive capability is obligated to supply nothing when operating while a generator which is required to have a significant reactive capability must supply to that capability in perpetuity and with no reward. In fact, we have often seen generators in South Australia with significant reactive capability be constrained down in the market when they could only provide some portion of that capability despite their still producing a greater reactive capability than many other generators. Clearly this skews the incentives in negotiating reactive power capability to the minimum, a position which is unsustainable if pursued by all future generators.

To assist in the Panel’s consideration of these matters, the ESIPC has had Oakley Greenwood consultants develop the basic concept of such a framework. This aims to develop a framework to a conceptual level to illustrate the potential. A brief paper from Oakley Greenwood is attached and the ESIPC would be pleased to answer questions or provide a presentation on the concept. At this stage, the attached document is only in draft form and the Planning Council would like it to remain **confidential** until such time as it is finalised. The ESIPC will also provide this material to

the AEMC's Review of Energy Market Frameworks in light of Climate Change Policies as we consider it is also germane to their considerations.

Yours sincerely,

David Swift  
CHIEF EXECUTIVE