

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

Dear Mr Woodward

REVIEW OF FREQUENCY OPERATING STANDARDS FOR TASMANIA

Aurora Energy welcomes the announcement of a review of the frequency operating standards for Tasmania by the AEMC Reliability Panel (Panel). We provide the following comments in reply to the Panel's request for stakeholders to identify relevant and important economic factors that the Panel should consider when assessing any changes to the standards.

As highlighted by Alinta Energy's submission into this review, it would appear that modern thermal power generating plant, including many combined cycle generating plants, would not be able to meet the minimum access standard outlined in the current Rules (in particular Rule S5.2.5.3) in association with the current frequency standards for Tasmania. This would appear to be because modern thermal power generating plant in Tasmania would not be able to remain in continuous uninterrupted operation, as defined in the Rules.

We understand that the inability to meet the continuous uninterrupted operation requirements would mean that access could be denied for connection of these plants in Tasmania. Thus, unlike other jurisdictions, the Rules together with the current frequency standards present a technical barrier to entry to modern thermal power generating plants, including many combined cycle generating plants.

This is a significant issue for two reasons. Firstly, Tasmania is predominately supplied by hydro generation, which is currently at record low water storage levels due to current drought conditions. As a consequence, it is important to avoid barriers to entry for new generation to ensure that the supply/demand balance, with unserved energy remaining within acceptable guidelines, can be met into the future at least cost.

Secondly, it is important that technical barriers do not impede the development of greater competition in the wholesale energy market in Tasmania, which would be expected to lead to better outcomes for consumers. In the Tasmanian Regulator's draft report into the Public Benefit Assessment for Electricity Retail Competition in Tasmanian

released on 13 May 2008, the Regulator has highlighted that “both retailers and customers identified wholesale market liquidity as a potential barrier to entry or expansion in the Tasmanian electricity market”.

Aurora Energy would support the setting of a standard similar to the one proposed by Alinta Energy that allows for the connection of modern thermal generating plant in Tasmania to address both supply/demand balance and competition issues within the Tasmanian region. We note that the Transend/ Hill Michael document supplied by Alinta Energy to the Panel indicates that the proposed frequency standard is capable of being implemented. In particular, the existing power system security schemes are capable of being re-designed within the new frequency standard to ensure that power system security is maintained.

We also note that the changes to the Tasmanian frequency standard proposed by Alinta Energy are very similar to those indicated by NEMMCO as practical changes for consideration in its advice to the Panel in the 2006 review. Further refinement of these proposed changes should be considered to accommodate the operating characteristics of a range of commonly used thermal generating plants or to minimise cost impacts on the market such as frequency control ancillary services (FCAS).

Aurora Energy would like the Panel to consider one change to the frequency standard in addition to that proposed by Alinta Energy. We would like to see the load event band moved to coincide with the network event band. This would result in the following benefits:

- Reduced problems currently experienced in the NEM processes dealing with registration and dispatch of lower fast ancillary services (FCASL6). Currently a load event is considered the dominant credible contingency requiring the dispatch of FCASL6, although at times a network event can dominate. Registration of generator FCASL6 capability in Tasmania is thus based on the ability to provide the service to meet the load event band frequency range. Currently a factor is used to equate this registration with the capability to meet network events. Alignment of these two bands would eliminate the approximations that are currently used and allow explicit dispatch to occur for all credible contingency events;
- Hydro generators would be capable of supplying greater quantities of FCASL6 to this broader band;
- Reduced price of FCASL6 dispatch for many dispatch periods, with economic benefits to consumers; and
- Reduce the periods of shortage in supply of FCASL6.

Whilst this change in the value of the load event band would result in a decrease in the FCASL6 dispatched for many dispatch periods, it will result in wider frequency variations to load events than those currently experienced. These wider frequency variations are not expected to cause any material change to existing consumers and generators, as this was

the frequency operating environment in Tasmania prior to NEM entry. Consideration may need to be given to the impacts that such a proposal will have on the Tasmanian market, such as connection requirements for new generators like the Gunns Pulp Mill and changes to registration of existing FCASL6 trapeziums with NEMMCO.

With regard to the review process itself Aurora Energy is uncertain of the process and methodology that the Panel intends to follow in determining the costs and benefits of any frequency standard for Tasmania over any other. We are interested in understanding the modelling and assumptions that the Panel is likely to use in their determination and to be given an opportunity to comment as require.

In the absence of specific knowledge on the process and methodology we provide the following list of factors for consideration in determining an appropriate frequency standard for Tasmania, although the following list is not intended to be all-inclusive.

Minimal cost to consumers

A key factor in determining the ongoing operational frequency standard for Tasmania is that the standard should allow for the least cost price path to occur for energy and ancillary services in meeting the Tasmanian demand.

The load forecast used for the determination of costs and benefits should be for the longest duration as is reasonably possible and that the value of unserved energy should be considered against project lead times.

Encourage generator competition and to meet future demand

The frequency standard should not place unnecessary technical barriers to entry of generation technologies. The assessment of a frequency standard that confers a technical barrier to entry of a competitive form of generation should quantify the cost to consumers from the absence of increased competition that is likely to occur.

In assessing options for the frequency standard for Tasmania, consideration also needs to be given to the current supply/demand situation, together with the declining storage situation of hydro generation. At present there are two proposals actively being worked on to develop new thermal generators in Tasmania. These proposals are Alinta Energy's Tamar Valley Power Station and the Gunns Pulp Mill. Under the current frequency standard and Rules both proposals will not meet existing connection agreement requirements. The frequency standard should not place a technical barrier to entry for these types of plant without ensuring that alternative generating plant would be available without cost penalty.

Consideration of additional market benefit

It is important to recognise that some types of generation such as thermal plant provide voltage support at important parts of the power system, which other types of plant such as wind do not. This should also be considered in determining the appropriate frequency standard, particularly with new generation located near the Tasmanian Regional

Reference Node, as this is a major connection point for customer load and for Basslink.

System inertia is not currently ascribed a value in the NEM, but it could become an important issue into the future if modern thermal power generating plant, including many combined cycle generating plants, are not allowed to connect to the Tasmanian power system. This is because Basslink imports and wind generation currently provide no system inertia.

Consideration of market impacts

Changing the current frequency standard to a tighter standard will require more FCAS to be scheduled. The comparison between the current frequency standard and any new standard should consider the impact and availability of FCAS, (including the new plant capability to provide FCAS) but in any case the comparison should be based on the same critical contingency for all frequency standard scenarios to be considered.

In assessing the FCAS requirements of plant, the ability of new plant to enter into special protection schemes to minimise their FCAS requirements needs also to be considered.

There is also likely to be a limit to how much the frequency standard can be "tightened" by the availability (and cost) of fast ancillary services, without resulting in an unacceptable number of VoLL events.

Thank you for the opportunity to provide input into the proposed review of the frequency operating standards for Tasmania. The potential modelling to be done by the Panel is likely to be complex and the key input assumptions are likely to have a significant bearing in determining the appropriate frequency standard for Tasmania. Aurora Energy is keen to be part of this process and to give comment at each opportunity.

If you require any further explanation on the points raised above please contact Mr Shaun OLoughlin on (03) 6237 3544.

Yours faithfully

Rick Inglis
Acting General Manager Strategy and Corporate Affairs

23 May 2008