



23 May 2008

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

By email ([submissions@aemc.gov.au](mailto:submissions@aemc.gov.au))

Dear Mr Woodward,

### **Review of Tasmanian Frequency Operating Standards for Tasmania**

Roaring 40s welcomes the opportunity to comment on the Reliability Panel's 'Review of Tasmanian Frequency Operating Standards for Tasmania'.

Roaring 40s is one of the leading wind farm developers in Australia, and the leading international wind sector investor in China, with over 300MW of installed capacity and several thousand MW of generation under construction or development across Australia, China, and India. To date, Roaring 40s has invested over \$350m in wind generation in the National Electricity Market (NEM), with another \$625m in the advanced stages of development.

As a significant investor operating in a number of jurisdictions, Roaring40s is acutely focussed on the importance of market design in driving efficient and timely investment in the generation sector. Roaring40s recognises the importance of the Tasmanian Frequency Operating Standards, in conjunction with the National Electricity Rules, in shaping efficient development of the Tasmanian electricity supply chain.

**The flexibility of Tasmania's current Frequency Operating Standards has allowed a diverse set of technologies to be integrated into the Tasmanian electricity system and ensures optimal development of Tasmania's high quality wind resources.**

Tasmania has a unique power system that underpins the economy by harnessing the island's abundant renewable energy resources. Due to the characteristics of hydro generation and the small size of the Tasmanian system, cost-efficient development has required broader frequency standards than many other overseas power systems. Tasmania's existing frequency standards have successfully accommodated a broad spectrum of

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generation technology including hydro, wind, peaking gas and thermal gas generation.

Roaring 40s has invested substantial effort and funds in sourcing and procuring wind generating plant that can meet the current Tasmanian Frequency Operating Standard, despite manufacturers generally indicating that such plant is not available. In concert with this, Roaring 40s has worked closely with regulators active in the development of the NER technical standards to ensure that the broadest possible range of wind generation technologies can be integrated into the Tasmanian system without an inevitable increase in cost to consumers and other generators resulting from tightening the Tasmanian Frequency Operating Standards.

The efforts by Roaring 40s and its regulatory partners to develop technology and frequency standards appropriate for Tasmania's system have been critically important for developing renewable energy projects at least cost to Australian energy users. As such we believe it is incumbent on proponents of new generating plant (and also the Reliability Panel in this case), to rigorously explore any and all alternatives to an expensive tightening of the Tasmanian Frequency Operating Standards.

**The additional cost of installing combined cycle gas plant that is suited to the existing Tasmanian system is low compared with the costs to the Tasmanian system of accommodating less suitable plant.**

In the case of new gas generation, readily available "multi-machine" aero derivative based combine cycle gas plant should be able to integrate into the Tasmanian system with little fuss, achieving similar or better fuel efficiency outcomes to equivalent "single shaft" combine cycle gas plant. It is estimated that this configuration of plant would incur an increase in capital cost of the order of 10% over a comparable single shaft installation.

This cost is likely to be much lower than the overall cost of additional FCAS and reduced wind generation output imposed on the Tasmanian system by the combination of tighter frequency standards and larger unit sizes. Roaring 40s encourage the Reliability Panel to thoroughly explore this line of investigation as a key input to the cost benefit assessment.

**Full development of Tasmania's high quality wind resources is critical to achieving a least cost response to the Federal Government's mandatory renewable energy target.**

The announcement of the Federal Government's mandatory renewable energy target makes development of Tasmania's high quality wind resources, at lowest possible cost, critical to minimising the national cost of this policy to Australian electricity users. This enhances the efficiency of the National Electricity market.

Current industry estimates are that this policy will require up to 12GW of new wind generation over the next 12 years, the majority of which will come from wind generation.

The size of this target will require a substantial contribution from Tasmania's abundant renewable energy resources. Based on Roaring 40s experience with its Woolnorth site in Tasmania and development activities in the mainland states, it is estimated that Tasmanian projects are likely to offer substantial cost savings over similar sized wind projects in low wind states such as Queensland and NSW. It is therefore essential that Tasmania's high quality wind resources are developed to the maximum degree practical in order to minimise the cost to consumers in meeting Australia's renewable energy commitments.

To ensure these impacts are adequately and accurately accounted for in the cost benefit analysis, it is important to carefully determine the ability of the Tasmanian system to accept the output from wind generation under different potential frequency standards. Specifically, lost energy impacts need to be calculated for constructed and advanced projects i.e. Bluff Point, Studland Bay and Musselroe wind farms (270MW total). Lost energy calculations also need to be performed for a range of scenarios where the capacity of installed Tasmanian wind generation is substantially increased.

**Tasmania has high quality wind resources and stands to become a green energy powerhouse for Australia. Facilitating efficient development of these resources should be a primary consideration in setting the Tasmanian Frequency Operating Standard.**

Roaring 40s currently has 140MW of wind generation operating in Tasmania at its Studland Bay and Bluff Point installations. A further 130MW is planned at its Musselroe site, a project targeting financial close prior to completion of this review. Roaring 40s has a substantial portfolio of high quality wind sites under active development and is aware of c.500MW of sites under active development by our competitors. The comparative development potential for Tasmanian wind farms is substantially more significant than projects such as the Tamar Valley CCGT in terms of value of investment, energy production, and economic activity. This suggests that a dominant consideration when setting market parameters for the Tasmanian region (in the 2-20 year timeframe) should be the dynamic efficiency signals faced by wind generation.

It is important to note that tightening the Tasmanian Frequency Operating Standards will cause generators and end users to sink substantial capital into plant that is dependant on tighter standards. Reversing this tightened frequency standard will become nearly impossible at a later point in time.

Roaring 40s urges the Panel to fully consider the dynamic efficiency impacts of any proposed change on the development of Tasmania's wind resources, and offers assistance in providing any information or data considered helpful in guiding the Panel's deliberations.

**Application of rigorous cost benefit analysis by the panel will be critical to achieving the appropriate outcomes for the market.**

It is understood that the Reliability Panel will be carrying out a cost-benefit assessment of a range of possible frequency operating standards with a view to recommending a standard that maximises net benefit to the market. The design and inputs to this test will be critical to achieving appropriate policy and efficiency outcomes.

Initial consideration of these matters has lead Roaring 40s to the view that the key considerations in the cost benefit analysis include:

- The incremental benefit of facilitating connection of additional renewable technologies to the Tasmanian system.
- The incremental costs of achieving the new standard (i.e. increased FCAS costs) to incumbents and new entrants. Roaring40s estimates the total costs of contingency services to be around \$10M per annum since market start, and that this could more than double in the event of a tighter frequency standard.
- Long term impacts on developing the Tasmanian electricity system, in particular the impacts on the costs of developing Tasmania's wind energy resources and the reduced ability to utilise Basslink.
- Whether alternative mechanisms such as a Rule change or out-of-market arrangements would be able to achieve the benefits of accommodating specific projects at a lower cost than a change to the Tasmanian Operating Frequency Standard affecting the entire regional market.

**Roaring 40s encourages the Reliability Panel to consult with industry on both the design of the cost benefit test, and the assumptions that go into the cost benefit test.**

Given the criticality and potential irreversibility of setting this standard, Roaring40s urges the Panel to spend the necessary time and effort required to rigorously gather the best ideas and data to guide their decision making in this matter.

Roaring40s encourages The Reliability Panel to seek comment from industry on both the design of the cost benefit analysis and the assumptions to be used. While Roaring 40s recognise that the cost benefit analysis require subjective assessment and access to privately held information, it is suggested that open consultation is the best mechanism by which the Panel can avail itself of the full range of leading ideas and information.

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 to clarify or assist with any of the above.

Yours Sincerely,

A handwritten signature in blue ink, appearing to read 'Mark Kelleher', with a long horizontal flourish extending to the right.

Mark Kelleher  
Managing Director