



06 June 2008

Dr John Tamblyn  
Chairman, Australian Energy Markets Commission  
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By email ([submissions@aemc.gov.au](mailto:submissions@aemc.gov.au))

Dear Dr Tamblyn,

### **Confidentiality Arrangements in Respect of Information Required for Power System Studies**

Roaring 40s welcomes the opportunity to comment on the National Generators Forum (NGF)'s proposed Rule regarding modifications to confidentiality arrangements in respect of information required for power system studies under the Rules.

**Roaring 40s is one of the leading wind farm developers in Australia, and the leading international wind sector investor in China.**

It has approximately 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 advanced stages of development.

**Roaring 40s has pioneered the introduction of advanced wind turbines to the NEM in partnership with leading wind turbine manufacturers.**

Specifically Roaring40s' Bluff Point wind farm was the first wind farm with fault ride capability to be connected to the Australian electricity system with early application of the Vestas AGO1 technology. Roaring 40s has also been at the leading edge of achieving fault ride through capability on very weak grid applications using the advanced Vestas AGO2 technology at our Cathedral Rocks and Studland Bay windfarms. Discussions are currently underway with a leading manufacturer to introduce to the NEM turbines that are capable of both fast voltage control and fast governor action.

**Introduction of leading edge wind turbine technology to the Australian market is critical to economic utilisation of Australia's wind resources.**

Advanced fault ride through capability allows access to high quality remote wind resources while maximizing the utilisation of existing and new transmission investments. Similarly, advanced voltage and reactive power control together with fast governor capability will substantially assist meeting system security standards with the high levels of wind generation required to meet Australia's renewable energy targets. Roaring 40s continues to take the lead in investing in these advanced technologies to ensure the most efficient possible long term outcomes for the NEM.

**Leading edge technology is based on high value intellectual property.**

It is apparent that wind turbine technology is still in a phase of rapid evolution with a broad spectrum of technologies being applied, particularly in the area of injecting electricity into the grid.

For example the following technologies are currently present in the NEM:

- Directed connected induction generators;
- Doubly fed induction generators with "Crow Bar" fault ride through;
- Doubly fed induction generators with resistor controlled fault ride through;
- Doubly fed induction generators with controllable fault level contribution and;
- Gearbox-less synchronous generators with full converter grid coupling and no fault current contribution.

Similarly the following technologies are currently in operation world wide but are not currently present in the NEM:

- Induction generators with full converter grid coupling and controllable fault contribution;
- Gearbox-less synchronous generators with full converter grid coupling and controllable fault current contribution;
- Gearbox driven permanent magnet generators with full converter grid coupling;
- Gearbox-less synchronous generators with full converter grid coupling and controllable fault current contribution;
- Multi-permanent magnet generators with full converter grid coupling.

This divergence in technology is symptomatic of the competitive advantage that can be gained through technological innovation. As in any industry, investment in technological innovation is directly linked to the extent to which competitive advantage can be sustained through protection of the relevant intellectual property.

**Protection of wind turbine developer intellectual property is critical to efficient development of the NEM at this point in time.**

Over the next few years it is anticipated that wind turbine generation will represent a large proportion of the investment in generation plant in the NEM. Currently modeling of Federal Government renewable energy policy



suggests that as much as 12GW or approximately \$30 billion will be invested in wind generation over the next 10-12 years. As such very small changes in market design parameters can result in substantial changes in cost. Roaring 40s believes these market design parameters must ensure that wind generation developers in Australia have access to the best possible technology to ensure minimum cost to consumers. The Australian market is small in terms of the global market, so any perception that entry to the Australian market would threaten global competitiveness through inadequate protection of intellectual property is likely to result in manufacturers choosing to avoid the Australian market entirely. This will drive up the cost of energy production from wind generation in Australia. As wind turbine technology is generally accepted as the least cost response to Australia's renewable energy requirements, prices would be driven up resulting in increased cost to customers.

**Roaring 40s experience is that the confidentially provisions introduced under the Technical Standards for Wind and other Generation Rule changes substantially improved the quality of modeling information available for grid connection studies.**

It is Roaring40s' experience that turbine suppliers are prepared to release detailed data to the connecting NSP and NEMMCO if this data will remain confidential.

Prior to implementation of current confidentiality provisions, Australian wind farms suffered substantial lost production due to grid integration modeling issues. Any additional damage caused by reduced competition in the supply of wind turbines is not easily measured, but is likely to be substantial. Roaring 40s is aware of large production losses across a number of Australian wind farms that would appear to have arisen from restrictions on using the best possible models for grid integration studies. The confidentiality provisions of the "[Technical Standards for Wind Generation and Other Generator Connections](#)" Rule was a very positive step in resolving this problem.

**The current confidentiality arrangements require further enhancement to give developers and manufacturers full confidence that their intellectual property is adequately protected.**

Under the current arrangements, there is residual concern around the workability and enforceability of the confidentially provisions of the Rules.

Firstly, there would appear to be a substantial gap between the damage that can be sustained by an owner of intellectual property and the potential penalties on network services providers and NEMMCO under the NER. Loss of a trade secret could conceivably result in loss of tens if not hundreds of millions of dollars to a manufacturer operating in the highly competitive global market for wind turbines. It is not clear what, if any, sanction a network service provider or NEMMCO would be exposed to as a result of such a breach of the NER. Roaring 40s suggests that the AEMC should consider options for amending the Rules to either introduce penalties that are commensurate with the damage caused by the breach of confidentiality provisions, or preferably require NEMMCO and Network Service Providers to



enter into contractual confidentiality arrangements with owners of sensitive intellectual property under fair and reasonable terms.

**Roaring40s commends the NGF for taking the lead on this matter and will fully support the Rule change provided that:**

1. The detail of the information that can be released under this Rule is clarified to ensure appropriate protection of intellectual property and;
2. The workability and enforceability of existing confidentiality arrangements are enhanced in conjunction with this change.

**These requirements should be addressed as follows:**

**1. Detail of information being released.**

The Rule as proposed requires NEMMCO to provide participants and network service providers with a “releasable user guide” under the proposed Rules 3.13.3k1 and 5.3.8(c1). It is not clear what the “releasable user guide” is, or by what means it comes into existence, as it is neither defined under the existing NER or the proposed Rule.

Roaring 40s proposes that the “releasable user guide” be a document provided by the participant registering the plant which the model represents, and explicitly identified as such by the participant. The “releasable user guide” would:

- Contain sufficient information for a user to operate the encrypted or compiled version of the model in power system studies;
- Not include functional block diagrams;
- Be provided by the registered participant during the construction process and;
- For avoidance of doubt, no information provided to NEMMCO prior to the date of this Rule change can be deemed to be a “releasable user guide” unless NEMMCO is requested to do so by the participant who supplied the said information.

**2. Workability and enforceability of information provisions.**

The Rule as drafted does not address the outstanding issues around the workability and enforceability of the existing confidentiality arrangements. Roaring 40s proposes that this could be addressed simply and efficiently as follows:

In the circumstances where registered or intending participants are required to provide information that is confidential under the National Electricity Rules to NEMMCO or Network Services Providers, the recipient of the confidential information must enter into a confidentiality agreement with the owner of the confidential information under fair and reasonable terms.

**These amendments further progress the NEMMCO objective in the following ways:**

More robust confidentiality arrangements would enhance the confidence developers and manufacturers that highly detailed plant information and models could be provided to network service providers and NEMMCO without risk of losing competitive advantage through leakage of valuable intellectual property. This would ensure that the bodies charged with managing reliability, security, safety and quality of supply of electricity have access to the best possible resources to inform their decision making.

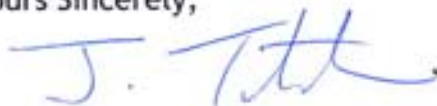
Confidentiality arrangements that more directly expose NEMMCO and network service providers to the economic harm that can arise from failure to meet confidentiality arrangements through contractual mechanisms will directly promote allocational efficiency in the NEM

**The following typographical issues are also noted:**

- P.2 of the NGF submission calls for release of source code. It is believed this was meant to say object code.
- Clauses (k1) and (k2) refer to actions pursuant to clause (l). It would appear this was meant to refer to clause (k)

We thank you for the opportunity to comment on this proposed Rule. Please do not hesitate to contact Andrew Jones (Manager Market and Regulation) on 0400 537 944 if we can clarify or assist with any of the above.

Yours Sincerely,



John Titchen  
General Manager Business Development.