

1 October 2008

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

Dear Mr Woodward

**Frequency Operating Standards for Tasmania
Interim Frequency Standard Determination Supplementary Submission**

This letter is submitted by Aurora Energy (Tamar Valley) Pty Ltd (AETV) the new owner of the Tamar Valley Power Station under construction at Bell Bay in northern Tasmania. AETV is a subsidiary company of Aurora Energy Pty Ltd and apart from ownership all other arrangements are unchanged. The new owners are in full support of previous submissions provided by Alinta Energy into this review process. We would like to make the following comments in support of the interim determination by the Reliability Panel's draft report on Frequency Operating Standards (FOS) in Tasmania.

AETV strongly supports the interim decision to adopt a frequency standard that is suitable for the CCGT technology plant and acknowledges that the revised frequency band set is more appropriate for the technology.

While acknowledging that the new standard will provide a pathway to allow connection of CCGT generators into the grid, there are two key fundamental issues that in our view need to be clearly addressed in the final determination. These issues are critical to making the standard practically implementable and to eliminate barrier to entry of efficient sized industrial gas turbines in Tasmania.

Limiting Generator Contingency

The Panel has identified that it is necessary to limit the maximum generator contingency. In section 4.4.1 of the Report the Panel states:

“The Panel considers that ideally the size of the contingency should be determined dynamically following an economic trade off between the benefits of the resulting generation and the costs of the associated FCAS.”

AETV strongly supports this policy position.

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In spite of this policy preference the Panel has proposed a fixed limit on generator size (144MW) and has sought stakeholder comments on the approach (Report Section 4.4.1 p22).

AETV believes that fixing the largest generating contingency is poor policy because it:

- 1 does not acknowledge the dynamic nature of the contingency issue;
- 2 restricts the possibility of market outcomes to the generator contingency limit;
- 3 requires a modification of the FOS by the Reliability Panel rather than allowing the limit to be varied as part of the management process of the system.

The basis of 144 MW (other than that it is the existing contingency limit) is not documented nor supported by any analysis by the panel or its consultants. AETV's own market simulations presented as a supporting secondary submission in the course of these deliberations to the panel has clearly shown that 160 MW is not a problem in Tasmania and for a significant period it is feasible to dispatch even higher.

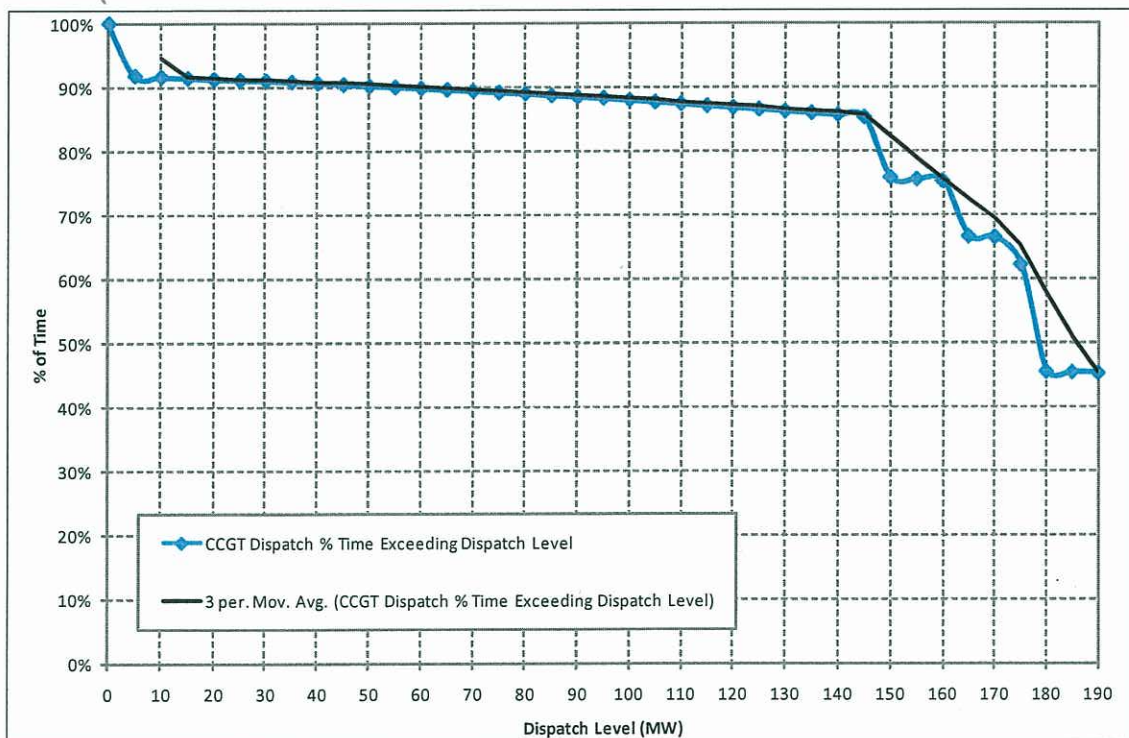


Figure 1 Co-optimised CCGT dispatch duration curve

In the Report the Panel states:

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“The Panel also considered a variable contingency size limit that depended on variables such as system load and Tasmanian inertia, for example, a contingency limit of say 15% of the Tasmanian demand. The Panel notes that a disadvantage of a fixed limit of 144 MW is that at periods of high load, and higher FCAS availability, this may be overly restrictive on the operation of the higher efficiency generating unit, and thus is likely to be less efficient. However, the Panel notes that a variable contingency limit would still be arbitrary to some degree and may not necessarily reflect the economic trade off between contingency size and FCAS costs.”

AETV contends that further work is required to define a constraint equation that better delivers the economic trade offs associated with FCAS costs.

We strongly believe the policy intent of the Panel is better achieved by giving a formal authority to NEMMCO to formulate a constraint equation to determine maximum dispatchable generation at each trading period for inclusion in the NEMDE dispatch process. In fact NEMMCO in its recent review (July 2007) has concluded that formulations of such constraints for managing unit size are not technically complex and are easily implementable. This approach is also consistent with how similar size issues are managed currently by NEMDE. For example constraints that limit the generator output and loadings of transmission lines to be less than the ratings are managed by constraint formulations. There are no restrictions placed within NER or the reliability standard on what size transmission lines are to be built or generators installed. Larger transmission lines and generators are currently registered and effectively operated without any need to specify a maximum size in the standard. The inclusion of a specific unit size of 144MW is major departure from this and will create a significant barrier to bringing efficient plant into Tasmania.

Ambiguity in Application of UFLSS in New Standard

The first issue largely focussed on providing clarification of the underlying supporting systems on which the standard is intended to work. AETV believes that the revised standard specifically needs to state that the recommended changes to the FOS will be supported by an appropriate design of the UFLSS schemes (at the lower end of operation) to accommodate the declared plant capability. This has been clearly identified for over frequency operation in clause 5.2.3 where it is specified that the OFGSS schemes need to be accommodated for tripping units in accordance with the capability of the plant. Corresponding statements for the lower operating range are essential to avoid any ambiguity in the interpretation of the standard (i.e. redesign of UFLSS needs to accommodate for CCGT plant characteristics below 47.5Hz).

Without appropriate design of the UFLSS and OFGSS schemes the proposed standard will not permit CCGT and thermal units to be deemed compliant when operating at their declared capability.

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In summary there are two modifications requested to the proposed interim standard to clarify the overall intention of the changes. AETV recommends inclusion of the following additional clauses in the rules:

- ☐ The Standard include an additional requirement that will give authority to NEMMCO to develop appropriate constraints to dispatch the maximum capacity of the CCGT to a number of key measurements in Tasmania, particularly system load, Basslink flow, system inertia, and other factors (such as to facilitate Basslink reversal). Nevertheless, the effectiveness of any constraint on generator contingency size should be reviewed after a period of 12 months under the new standard.
- ☐ The Standard specifically states that the FOS is to be supported by an appropriate design of UFLSS and OFGSS to accommodate specific frequency duration operating capability of CCGT and thermal units.

AETV once again acknowledges and supports the significant step taken by the Reliability Panel to introduce a standard that can now accommodate thermal and CCGT units in Tasmania. The additional clarification and recommended approach for managing the unit size will eliminate barriers to entry of efficient generating units and ensure security of supply is maintained. We would propose that these new standards should take effect by 20 April 2009 to allow for initial synchronization of the CCGT.

Please contact Allan Coleman on (08) 6213 7225 if you have any queries on these matters.

Yours sincerely



Michael Brewster
Chief Executive Officer

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