

Australian Energy Market Operator  
Level 22  
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Submitted via e-mail to: [lor2018@aemo.com.au](mailto:lor2018@aemo.com.au)

## Changes to Reserve Level Declaration Guidelines

The Australian Energy Council (the “**Energy Council**”) welcomes the opportunity to make a submission in response to the Australian Energy Market Operator’s (“**AEMO’s**”) *Changes to Reserve Level Declaration Guidelines Issues Paper*.

The Energy Council is the industry body representing 21 electricity and downstream natural gas businesses operating in the competitive wholesale and retail energy markets. These businesses collectively generate the overwhelming majority of electricity in Australia and sell gas and electricity to over ten million homes and businesses.

### Discussion

Under Clause 4.8.4A(e) of the National Electricity Rules, AEMO is obliged to follow the Rules Consultation Procedures when amending the Reserve Level Declaration Guidelines.<sup>1</sup> The Energy Council strongly supports a continuing evolution of the Forecast Uncertainty Measure (“**FUM**”) process, and considers it timely to review after the first summer’s operation. It is also appropriate that AEMO conducts further reappraisals after each summer and winter period.

The Retraining Report<sup>2</sup> shows that incorporating the first quarter’s data into the Bayesian Belief Network’s inputs generally decreases the FUM, thereby improving the forecasting system accuracy and reducing the cost of unnecessary intervention. This is an example of the benefits of regular improvements in the measure.

While Clause 8.9 of the National Electricity Rules does not set out the detail expected in the consultation, the Energy Council envisaged that there would be a broader scope, and more detail of the proposed changes and their rationale than the four pages set out in the Issues Paper.

The Energy Council also finds that testing the retraining by using only a week for comparison, as was set out in the Retraining Report, is inadequate. The Retraining Report should analyse the number of forecast LoR2 notices versus the actual number of LoR2 notices over a longer period, to provide an indication of the number of false positives.

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<sup>1</sup> The procedures set out in Clause 8.9, less a number of exceptions listed at Clause 4.8.4A(e).

<sup>2</sup> AEMO, *NEM Lack of Reserve Framework Retraining Report*, 21<sup>st</sup> June 2018

### *Confidence Intervals*

The Issues Paper doesn't reconsider whether the initial confidence levels remain appropriate.<sup>3</sup> The confidence level is the key judgemental parameter that balances reliability against the cost of intervention. To exercise this judgement, it is important that as much history as possible is analysed to assess whether the confidence level (and other parameters) have been optimally set.

Historical data should be analysed to test whether:

- the number of observed false positive and negative forecasts matches what is expected by the initial confidence levels. For example, as the forecasting horizon of 21.5 to 72 hours has a confidence interval of 95%, the Energy Council would expect that no less than 1 in 20 forecast LoR2s would result in an actual LoR3.
- the confidence levels themselves are appropriate. For example, this would include an assessment of the actual costs of intervention events resulting from LoR2 declarations. This could be balanced against the economic benefit of avoided load interruption (as expressed in AEMO's Value of Customer Reliability) multiplied by the probability of its occurrence as expressed in the confidence interval.

### *Explanation of changes*

The Energy Council also has concerns about the inadequate justification for the changes proposed to the Guidelines. For example, the Guidelines state that the number of models can be reduced from nine to three per forecast region, "with no adverse impact on forecast accuracy".<sup>4</sup> The Issues Paper and supporting documentation offers no evidence for this assertion. The Issues Paper goes on to suggest that additional predictors could be included in the Bayesian Belief Network Model, and refers to Appendix A.2.1 of the Guidelines.<sup>5</sup> As the Guidelines stand, Appendix A.2.1 "Sensitivity Analysis" discusses tests AEMO conducted to assess the impact of input nodes, but by the Energy Council's reading this does not grant AEMO the latitude to incorporate additional inputs in the model's calculations without consultation with stakeholders.

### *Energy-limited plant*

The Issues Paper also indicates that AEMO is considering revising the definition of RXS "Regional Excess Supply". The Energy Council supports the expansion of the definition, but questions the treatment of energy-limited plant, as it is not possible to capture all the operational complexities of energy-limited plant in an LoR2 forecast. The Energy Council submits that owners of energy-limited plant are likely to retain some energy in order to be able to quickly dispatch capacity should a deterioration in conditions occur, therefore AEMO's proposal may not incorporate energy-limited plant into its forecasts adequately.

### *Reasonability limits*

The Energy Council supports the use of reasonability limits which were rapidly introduced as the system was going live. These limits have become an important safety net feature of the tool and therefore should be contained within the Guidelines, and their appropriate levels discussed in the Issues Paper. The paper should include analysis of how much they have bound the FUM to date, and if not, the maximum FUM values to date.

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<sup>3</sup> Listed in Appendix B of the *Reserve Level Declaration Guidelines*

<sup>4</sup> Issues Paper, p.5

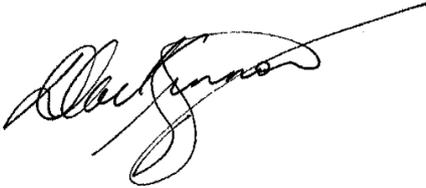
<sup>5</sup> Ibid., p.6

## **Conclusion**

In conclusion, the Energy Council believes the abbreviated Issues Paper and its supporting documentation is wholly inadequate for industry to properly assess AEMO's planned changes to the Guidelines. It is important for system reliability and stakeholder contentment for the coming summer that significantly more detail is provided, and draft Guidelines released before their implementation.

Any questions about this submission should be addressed to the writer, by e-mail to [Duncan.MacKinnon@energycouncil.com.au](mailto:Duncan.MacKinnon@energycouncil.com.au) or by telephone on (03) 9205 3103.

Yours sincerely,

A handwritten signature in black ink, appearing to read 'Duncan MacKinnon', with a long horizontal stroke extending to the right.

### **Duncan MacKinnon**

Wholesale Policy Manager  
Australian Energy Council