Wholesale Electricity Market Rule Change Proposal Submission

RC_2019_03
Method used for the assignment of Certified Reserve Capacity to Intermittent Generators

Submitted by

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Submissions on Rule Change Proposals can be sent by:

Email to: support@rcpwa.com.au

Post to: Rule Change Panel
Attn: Executive Officer
C/o Economic Regulation Authority
PO Box 8469
PERTH BC WA 6849

1. Please provide your views on the proposal, including any objections or suggested revisions.

General

The recent review undertaken by the Economic Regulation Authority (ERA) of the Relevant Level Method for assessing the certified capacity of intermittent generator concluded that the method was “inappropriate”. As a result, Perth Energy welcomes the proposals for change.

It is rather unusual that the Rule Change Panel should make such substantial changes to the proposal originally put forward by the ERA. We have not undertaken detailed modelling of the two proposals and, unfortunately, our staff were unable to attend the full two workshops. As a result, while we are able to raise some questions we are not able to contribute much by way of suggested revisions. We have, however, gone through the rule change report in detail and worked through the slides that were presented at the first workshop by the ERA, the RCP and Alinta Energy.

Reliability Criteria

The use of a simple reserve margin above maximum demand is easily understandable by a layperson and may well have been chosen for that reason. Its major shortcoming, however, is that it provides no measure for how long any shortfall could last and it may therefore drive generation investment that does not reflect the value that the community may place on reliability. The move to using loss of load hours (LOLH) as a reliability target is sound as this provides a more nuanced measure of system performance.

The paper discusses various LOLH targets used on other systems as well as some attempts to develop a WA target from existing system rules. The State Energy Commission, SECWA, and the integrated Western Power used the figure of 5-8 LOLH per year in its long-term generation planning which is similar to the international figures quoted.

A detailed assessment of LOLH could be made based on an estimate of the value that customers place on reliability but that, in itself, is a highly subjective figure. It depends on duration of any outage, time of day, time since the last interruption and other factors. The market is probably better served adopting a measure based on other utilities' experience.

Perth Energy considers that an appropriate LOLH target should be developed by Energy Policy WA with appropriate consultation.

Modelling a time of system stress

The report notes that the WEM has excess capacity in place and has rarely experienced a 1 in 10 year demand event. This means that the capacity value of intermittent generators will, in most years, be inherently low. However, we consider that their value does need to be determined on the basis that in any year going forward we could experience a genuine peak demand. For this reason, we consider that modelling to determine the capacity value of intermittent generators should be undertaken with the forecast demand set at the 1 in 10 year level in each future year.

It would also be useful to undertake some analysis to get a much better picture of what a peak demand will look like in the future. Is it hot and still or are strong winds driving in heat from the Nullarbor? What are temperatures likely to be at various renewable energy sites and how are generators likely to respond? How much will the heat derate domestic solar PV systems? Answers to these questions would help greatly in making sure the system can cope.

Modelling wind farms capacity

We note the arguments for modelling wind farms either individually or as a fleet. The locational diversity, and hence differing performance, indicates that they should be assessed individually rather than as a single fleet.

The "delta" method appears to be a sound approach to determining the effective load carrying capacity of windfarms though we are concerned that the results are substantially different from those from previous assessments. We are concerned that the Delta assessment assigned similar capacity credits between two wind farms with substantially different capacities[1].

We appreciate that time is limited. However, a methodology that produces such unexpected results will most likely lead to perverse market outcomes, and as such, Perth Energy believes that it is worthwhile to invest in further analysis by an independent reviewer before the process is finalised.

[1] Endgame Assessment , slide 9 Grasmere [13.8 MW] and Walkaway Wind Farm [89.1 MW]

One matter that is unclear is whether the calculations take into account the date on which the plant enters service. As noted in the report, there are diminishing returns from additional investment in wind farms in a specific location. First movers should be assured that their investment is protected and that some of "their" credits are not passed to new farms in the future. Once a windfarm has been assigned capacity credits they should not be reduced as a result of new windfarms being built. We see this being philosophically similar to the protection provided under the Net Access Quantity arrangement.

As an aside, building a windfarm near that of a competitor and then being assigned some of their capacity credits, if this is permitted, could potentially be seen as misuse of market power. It would most certainly have an impact on future investments, as the third windfarm would be receiving credits from the first and second windfarm.

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2. Please provide an assessment whether the change will better facilitate the achievement of the Wholesale Market Objectives.

We consider that a more accurate estimate of the contribution of intermittent generators towards system reliability will improve market efficiency. However, we are concerned that a methodology which produces unusual or inexplicable outcomes will harm the market more than a poor methodology that is understood.

Perth Energy has a strong preference for a process that is transparent and allows market participants and prospective developers to undertake their own simulations to estimate capacity credits.

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3. Please indicate if the proposed change will have any implications for your organisation (for example changes to your IT or business systems) and any costs involved in implementing these changes.

Nil

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4. Please indicate the time required for your organisation to implement the change, should it be accepted as proposed.

Nil
