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Non-scheduled Generation and Load in Central Dispatch
Reference: ERC0203

The Australian Energy Council (the “**Energy Council**”) welcomes the opportunity to make a submission in response to the Australian Energy Market Commission’s (“**AEMC**’s”) *Non-scheduled Generation and Load in Central Dispatch Draft Rule Determination*.

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 10 million homes and businesses.

Introduction

The Energy Council does not support the AEMC’s decision not to make the proposed rule. It is evident that as the quantum of non-scheduled generation and load increases as a proportion of the National Electricity Market (“**NEM**”), the Australian Energy Market Operator’s (“**AEMO**’s”) ability to dispatch the market efficiently will be compromised by information asymmetry. The AEMC’s draft decision not to make the proposed rule change, nor to make a more preferred rule, will compromise both AEMO’s oversight of the market and market participants’ ability to participate in the market efficiently.

Discussion

The Draft Determination acknowledges¹ that the outlook for generation capacity in the NEM is:

- “a reduction in large non-intermittent generators
- an increase in smaller generating units (between 5MW and 30 MW)
- a higher proportion of intermittent generation than historically has been the case
- an increasing availability of storage technologies
- increased levels of distributed energy resources which are generally at the smaller end of the generation capacity, that is, at less than 5MW
- a higher proportion of generation and storage capacity being owned and controlled by consumers rather than traditional energy suppliers.”

The Energy Council agrees with this outlook, and suggests that larger generators within the 5-30MW band will continue to seek registration as non-scheduled generators, due to the benefits of not being constrained off, not being liable for FCAS costs² and being able to maintain the choice of whether to generate, depending on the wholesale price at the time.

¹ pp. 24-25

² The causer pays factors resulting from demand contributions (including non-metered generation) are combined and allocated to a quantity known as the “residual”. However, National Electricity Rules clause 3.15.6A(i)(2) requires that this residual component be recovered only from Market Customers. This means that non-scheduled generation may not be allocated costs under the current methodology. Under NER clause 2.2.2, only scheduled generating units are required to have adequate telemetry to participate in central dispatch, and as a result, many non-scheduled generating units under 30MW fall into the category of non-metered generation.

The “reduction in large non-intermittent generators” is significant, with 5,000MW of coal-fired generation having left the market since 2012. It is understandable, therefore, that AEMO would have increased difficulty in maintaining forecasting accuracy, particularly as it is still using a limited 20 year-old neural network model. In fact, AEMO acknowledged in its submission that increasing the scope of generation covered by the central dispatch process would improve market efficiency and power system security.³ In contrast, the AEMC asserted that the University of Wollongong report concluded that “the benefit from the rule change requests would be very limited if AEMO continues to use the current neural network model”⁴, yet this statement is only contained in the report’s executive summary and the proposed rule change is not discussed in the body of the report at all. On this basis, the Energy Council fails to see how this conclusion can be drawn, and does not find the AEMC’s assertion proven.

The additional supplementary report, the EY Report⁵, which was hampered by a lack of availability of five minute data, did conclude that demand forecasting accuracy could be improved by the scheduling of large loads and non-scheduled generators, and went on to say that, “the scheduling of facilities such as smelters and Townsville Zinc, whose contribution to regional error appears more closely related to price signals, is more likely to improve dispatch accuracy”.⁶ The Energy Council believes that if better quality data had been available, and the scope of work (which was not explicitly disclosed in the report) had been broadened to quantify the change in wholesale market prices as a result of improved accuracy, the findings of the report would have been even more significant.

In any case, the benefits of the rule change (or an appropriate more preferable rule) are not limited to improving AEMO’s forecasting capabilities, useful though that is. Market efficiency is also improved by other market participants having visibility of price-dynamic behaviour by resources currently outside the scheduling process. This will be even more important if five minute settlement is introduced, given that the argument in its favour is that this will attract new participants into the market, such as battery storage and demand response, which by definition will be price-sensitive participants if their entry is precipitated by changes to the price-setting process.

In terms of analysis of the costs of implementation, the Energy Council is disappointed that there has been no analysis to quantify the benefits or identify the costs of an inefficient market. Seeking to assess the costs to additional market participants of being scheduled, the Draft Determination cites impromptu comments from the industry workshop of “up to \$10 million per annum for a participant that is actively trading during business hours”⁷. The use of this cost estimate is troubling in two respects. Firstly, detailed costs estimates provided to the AEMC in previous rule change processes have been ignored or marginalised, whereas this generic comment appears to have been given canon status, and secondly the comment (made by an Energy Council member) was “heading towards \$10 million” – i.e. not \$1 or \$2 million - and able to be reduced by third party arrangements, not “up to \$10 million”. The recent Ancillary Services Unbundling rule change is predicated on the assumption that a market participant is able to provide such trading services and earn a return in Frequency Control markets, so the assumption that such arrangements for the energy market would not emerge rapidly are unsustainable. In any case, concerns over the costs of full scheduling may be addressed by considering whether there are lower-cost alternatives that still meet the core criterion of providing greater transparency of (potentially) price-sensitive participants’ behaviour in the wholesale market.

Registration of units

AEMO is currently considering how best to integrate battery technology into the power system. It has proposed in its *Interim Arrangements for Utility Scale Battery Technology*⁸ that “proponents of battery systems with an aggregate nameplate rating greater than or equal to 5 MW, whether directly connected to the network or

³ AEMO, 2016, *Non-scheduled Generation and Load in Central Dispatch Rule 2016 Consultation*, p. 4

⁴ p. 110

⁵ Ernst & Young, 5th September 2016, *Non-scheduled Generation and Load in Central Dispatch Rule Change Request*

⁶ Executive Summary

⁷ p. 45

⁸ http://www.aemo.com.au/-/media/Files/Electricity/NEM/Participant_Information/New-Participants/Interim-arrangements-for-utility-scale-battery-technology.pdf accessed 28th July 2017

integrated behind the meter with new or existing generation are to be registered as both Generators and Market Customers. Their generating units should be classified as scheduled and market, and the load classified as scheduled load".⁹ This is important to system security due to the ability of batteries to switch rapidly from being a generator to being a load. It makes sense therefore that, in the spirit of technology neutrality, to ensure that system security is maintained, and to provide proper market signals, that all generators and loads be treated consistently and classified accordingly, and the proposed rule made.

The AEMC concludes that AEMO has all the necessary powers¹⁰ it needs to compel generators and loads to participate and allow it to improve forecasting accuracy, but it's apparent that it has been reluctant to compel generators and loads, therefore a rule change is needed to improve market outcomes.

The Energy Council also believes that it is important for the integrity of the price setting process that the current National Electricity Rules obligations which apply to scheduled generation and load should also apply to price sensitive generation and loads which are currently allowed to be non-scheduled, and as AEMO suggests in its submission, the threshold for inclusion in dispatch should be determined by the AEMC as part of its consideration of the proposed rule change, since "AEMO's exemption criteria of 5MW has no technical or economic basis for determining the appropriate level for the central dispatch process".¹¹

At the appropriate size threshold, the Energy Council believes that all generators and loads need to inform the market of their intentions and to honour these bid & offer intentions.

Conclusion

In conclusion, the Energy Council is concerned that NEM system security and market efficiency will become increasingly compromised by AEMO's lack of visibility of non-scheduled generation and load. The Energy Council believes the case for not making the rule change has not been proven, and recommends the AEMC reconsider its draft decision.

Any questions about this submission should be addressed to Duncan MacKinnon, by e-mail to duncan.mackinnon@energycouncil.com.au or by telephone on (03) 9205 3103.

Yours sincerely,



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⁹ p. 1

¹⁰ p. 49

¹¹ p. 4