

22 July 2020

Mr Peter Adams
General Manager, Market Performance
Australian Energy Regulator
GPO Box 520
Melbourne VIC 3001

Dear Mr Adams

Semi scheduled generators – Proposed rule changes

Thank you for the opportunity to provide a submission on the proposed rule changes to Semi scheduled generators as discussed in the issues paper published by the Australian Energy Regulator (AER) on 24 June 2020.

Impact Investment Group (IIG) is a leading Australian impact investment funds manager that manages portfolios of renewable energy assets, sustainable properties and venture capital opportunities.

IIG manages the Solar Asset Fund, a wholesale Unit Trust that owns and operates the Brigalow solar farm in Queensland, a registered semi-scheduled generator (SSG).

General Comments

IIG acknowledges that semi scheduled generators under the current rules can deviate from their forecast production in response to various issues, including change in available resource, change in market price, system constraints, or operational constraints as long as they stay under the dispatch cap issued by the Australian Energy Market Operator (AEMO). IIG acknowledges that as the penetration of renewable energy generation facilities and SSGs increases over time, their operating behaviour, if not predictable to a reasonable extent, could create system control issues. Accordingly, IIG supports there being some form of rule change to address this risk.

However, IIG notes that there are substantial rule changes either under consideration or in delivery, such as Primary Frequency Response and 5-minute market settlement. These rule changes are symptomatic of a market under transition. IIG is of the view that any rule change for SSGs at this time should be as simple and non-invasive as possible while the overall market transformation is underway. As broader market issues are addressed to manage larger levels of intermittent generation, the necessary behaviour of SSGs can be adjusted accordingly.

Assessment of the proposed rule change for semi-scheduled generators to follow dispatch targets

IIG does not support the proposed rule change 1 that semi scheduled generators (SSGs) be obligated to follow their dispatch targets in a similar manner to scheduled generators.

IIG does not support the four options proposed in the issues paper for SSGs to follow their dispatch targets as the options are all unnecessarily onerous, complex and will have significant cost implications. In some

cases, the proposed changes will result in lost generation from SSGs, thereby creating significant financial harm to SSG operators and impose inefficiencies into the system.

Further, the proposed rule changes relating to SSGs following dispatch targets is not consistent with the NER objectives as they likely to reduce investment in SS generation (currently the LCOE), increase the cost to manage these assets and result in lower returns, thereby ultimately increasing electricity costs to energy consumers. It is also not leading to the most efficient operation and use of energy services by not adapting the system to take advantage of the capability of fast acting technologies.

IIG is of the view that the best method for dealing with this issue is to implement an arrangement similar to that implemented in New Zealand *where the Electricity Authority in 2019 implemented a change to the Code (equivalent to the NER) that specifically outlaws the behaviour of concern, in stating that the participant may only deviate more than 30 MW below the forecast for a “bona fide physical reason”, and added the requirement for participants to submit a report after each month detailing any occurrences and evidence of the bona fide physical reasons*¹.

There are several other matters that the AER might consider in its assessment of the proposed rule change, as discussed below:

1. Ramp rates

Were the rule change to include a requirement for SSGs to follow dispatch targets, IIG is of the view the requirement for a linear ramp for SS generators between dispatch targets will more likely increase the aggregate dispatch error (as you will lose the benefit of overs and unders) and therefore likely increase demand for frequency management services.

The proposed linear ramp rate of 20% capacity per minute does not acknowledge the capability of fast acting technologies, such as solar farms and batteries for example, and limits the potential benefits these may provide to manage the power system over the long term. This is a lost opportunity for the system as a whole. From a SS generators perspective this ramp rate is a lost revenue opportunity on both the down and upwards ramp and has potentially significant economic impacts. In IIG's view this would be the worst possible outcome for SSGs and the market generally and is not consistent with the NEL Objectives, as outlined earlier.

IIG proposes that if the rule change includes following dispatch targets then it should consider adjusting the ramp rate to reflect the technologies capability, i.e. for solar power generation assets this could be faster, say 50% of the units maximum capacity (MW/min), meaning the solar farm could ramp to zero within 2 mins rather than the 5 mins (under the current AEMO Generator Registration guidelines). This would allow generators to react more quickly (but predictably) to negative prices and produce faster (and again predictable) generation recovery in positive prices. It is also noted that faster ramp rates will allow SSGs to better react to the current inaccuracy of the pre-dispatch system.

2. Urgency for a rule change

The issues paper identified that there was a possible link between system stability and the behaviour of some SSGs relating to negative price events. In IIG's view this has not been sufficiently investigated and it is noted that coincidence does not necessarily mean causation. For example, IIG notes that Figure 2 in the issues paper, the coincidence of reducing frequency is also occurring in a period when rooftop solar PV systems are dropping in output and the evening peak could be starting to kick in.

¹ <http://www.wattclarity.com.au/articles/2020/07/semi-scheduled-generation-what-are-the-real-issues/>

IIG is of the view that this issue is not currently the most pressing market issue and the AER should therefore act with a light touch.

3. Bidding behaviour

IIG is of the view there are other methods of addressing the perceived problem. For example, the AER might consider the economic link in combination with the available resource. One way to do this would be to review the current Market Price Floor value of $-\$1000/\text{MWh}$.

Current bidding behaviour is such that there exists an incentive for some SSGs to bid low (at $-\$1,000$) in constrained TNI's to ensure they are dispatched, however when the Dispatch Price is equal to Market Floor Price some of these assets may reduce output to reduce the economic impact.

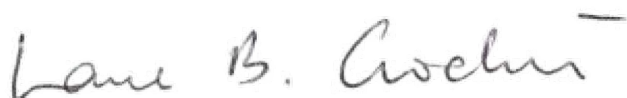
IIG proposes the AER consider raising the Market Floor Price level to say $-\$100/\text{MWh}$, which would reduce the economic cost of operating during a negative price period whilst also removing the incentive to bid low and reduce output. Secondly, this might create a higher consideration by the SSGs toward the "opportunity cost" lost for assets due to linearly ramping up through a positive priced intervals, that regularly occur after a negative priced interval and would therefore deliver bids aligned to the real opportunity cost and result in more predictable generator behaviour.

4. Pre-dispatch system

Lastly, a broader issue is the current inaccuracy of the pre-dispatch market. IIG acknowledges this is a bigger project and not easily solved, however IIG notes the National Energy Retail objective, as stated in the National Electricity Law (NEL), is: "to promote efficient investment in, and efficient operation and use of, energy services for the long term interests of consumers of energy with respect to price, quality, safety, reliability and security of supply of energy."

If you have any questions, please don't hesitate to contact Lane Crockett at Lane@impact-group.com.au .

Kind regards



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