



24 July 2020

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

Lodged via email: wholesaleperformance@aer.gov.au

RE: PROPOSED SEMI SCHEDULED GENERATOR RULE CHANGES

Dear Mr Adams,

Tilt Renewables is a leading Australasian renewable energy company engaged across all stages of project development through to operations. Tilt Renewables currently has 366 MW of operational wind farms across the NEM and New Zealand, plus a further 469 MW in construction/commissioning and over 3 GW in its development pipeline.

Tilt Renewables (TLT) welcomes the opportunity to provide feedback on the Australian Energy Regulator's (AER's) "Issues Paper – Semi scheduled Generator rule change(s)" of June 2020 (Issues Paper). TLT has concerns with both the process and content of the AER's Issues Paper. Firstly regarding the process, the AER is starting with a solution in mind rather than a clear articulation of the issue or market failure and having fully considered fit-for-purpose solution options to resolve, instead simply suggesting that this direction came from the COAG Energy Council. Further we are concerned that the AER is seeking an expedited rule change process to implement what are significant rule changes, which we believe will lead to unintended adverse outcomes for the renewable industry and for consumers.

TLT does not support the AER's preferred option to address the issue, which is to amend the existing arrangements for semi scheduled generation to 'require a megawatt dispatch target to be met by the end of the interval and an accompanying ramp rate'. We believe this option is not fit-for-purpose as it seeks to address a minor issue in the market with a major change.

TLT instead recommends the prohibition of the installation or use of systems, procedures or manual interventions to provide a reaction to price signals other than those provided via a generator's dispatch target. The Issues Paper states that: *"The key issue this rule change is seeking to address is the potential for semi scheduled generators moving from their anticipated level of output without informing the market operator of that intention through a rebid, and waiting to receive a revised dispatch target"*. TLT agrees this is a valid issue to tackle, however TLT is very concerned about the overreactive approach proposed by the AER and the major implications on the renewable industry and consumers which would result from this approach. TLT believes a minor issue warrants a minor change, and that any further reforms should be coordinated through the Market Design 2025+ program. The excessive approach to minor issues and lack of coordination across the market bodies continues to stall the energy transition and specifically renewable energy investments and growth. It appears that a sledgehammer is being recommended to crack a nut, which will inevitably lead to unintended consequences and is unlikely to meet the National Electricity Objective (NEO).



Rule Change 1: Semi scheduled generators following dispatch targets

The “key issue” identified above is one which TLT agrees is relevant, that is generators choosing to reduce their generation immediately due to market price signals, but without rebidding and then receiving a new/lower dispatch instruction from AEMO (eg. by simply switching off or turning down generation when they see a price they do not wish to generate at). Whilst such behaviour is allowed under the current rules, TLT agrees that amending the rules to close this ‘loophole’ for Semi Scheduled generators would be appropriate.

TLT does not agree however with the supposed prevalence of such behaviour as indicated in the Issues Paper, nor with the recommendations presented in the Issues Paper for addressing this issue. It is noted that differences between dispatch targets and actual generation can also be driven by factors such as:

- Forecasting error / changes in actual weather conditions;
- Slow ramping after wind turbines have been in 'paused' mode; and
- Reductions in generation associated with extreme weather conditions (eg. extreme wind speeds or temperatures) not being accurately reflected in forecasting.

No attempt appears to have been made to quantify the extent of the specific behaviour of concern and its actual impact on the market. TLT is concerned that there is significant over-reach/over-reaction in the proposed “solutions”, and believes that a far simpler and more targeted response would better address the actual issue of concern.

Specifically, TLT recommends the prohibition of the installation or use of systems, procedures or manual interventions to provide a reaction to price signals other than those provided via a generator’s dispatch target. Such a possibility is mentioned in the Issues Paper, but is discounted as being “*impractical in the circumstances*” – the reasons why the AER consider this targeted approach to be “*impractical*” are not described nor self-evident, particularly given this would be the solution which would most directly and specifically target the behaviour the Issues Paper itself describes as the “key issue”.

TLT notes that in the New Zealand market (where it also has operating wind farms and market experience) such a prohibition exists, and in that case generators need to provide a report and bona fide reason where they have been >30 MW off their dispatch target. In the NEM context, the threshold could perhaps better be represented by the greater of a fixed MW and a percentage of the generator’s dispatch target. Either way it would eliminate this behaviour, whilst at the same time accepting that variances from dispatch targets will occur for other reasons which the generator cannot control (forecast error, weather changes, plant faults etcetera).

The AER’s proposal to remove the Semi Scheduled category altogether is an over-reaction which would have consequences which do not appear to have been fully considered, and due to the unintended consequences outlined above, the AER’s preferred option is unlikely to meet the National Electricity Objective. For example by limiting Semi Scheduled generators to their dispatch target, a one-sided intermittency problem is created, whereby “under targets” cannot net off against “over targets” – as a result the benefits of diversity across the variable renewable energy fleet would be lost, renewable energy potential would be wasted, and more FCAS raise will be consumed by the market. Exacerbating the “under targets” and further reducing renewable energy production under such a scenario, the caps would deteriorate the ability to forecast the true potential output of the plant for future intervals (as real data will only be available between the cap and any downside volatility), further reducing the dispatch levels for renewable energy. These behaviours would not only make the system harder to control, they would waste zero marginal cost renewable energy for no gain, leading to higher costs to consumers.



Given the dominant cost of renewable energy assets is in the initial capital investment, even small reductions in output of a few percent per annum will make significant differences to the levelized cost of energy from that asset. For existing renewable energy assets, the effects of wasting low cost renewable energy through unnecessary constraints would be to tend to increase overall system costs (through increased energy spot prices and higher FCAS raise requirements) and emissions, as that 'lost' energy is instead supplied from higher cost and emission sources. For new assets it will simply raise the effective cost of energy from those projects as the capital cost would need to be spread across a reduced expected generation profile. Either way consumers will pay more for their energy if this rule change is implemented as suggested by the AER.

A complementary change which could be considered, along with the targeted approach proposed above, would be to adjust the market design, such that generators are less incentivised to bid at the market floor when they do not want to be actually dispatched at that price. At present generators who are bid at the floor share equally the burden of such constraints in terms of dispatch caps, while those bid above the floor will tend to be capped to zero (ie. dispatched off). As a result the majority of renewable energy generators in regions subject to frequent constraints (eg. South Australia) tend to have a standing bid at the market floor to reduce curtailment when constraints arise, not because they truly wish to be dispatched at the floor. This then creates a rush to re-bid (or in the case of some generators today, to simply withdraw their generation) to reduce generation when the price actually does go significantly negative. It is suggested that the AER consider changes to the way that dispatch priority is determined, for example such that every generator who has bid below the clearing spot price is constrained equally (rather than generators above the floor being disproportionately constrained, often to zero production). Such a change would eliminate the incentive for generators to bid at the market floor in the first place, unless they were actually satisfied to be dispatched at that level, and would result in more transparent and consistent dispatch/pre-dispatch and bidding outcomes.

The Semi Scheduled category was created for a reason – simply eliminating this whole category now, either directly or by significantly changing the expectations of performance under it, would be a significant over-reaction and would cause a range of unintended consequences for both the wider system, and for generators who have invested and registered on the basis of this category. A targeted approach limited to addressing the actual behaviour the AER says is the “key issue” would be more appropriate.

Rule Change 2: Better information provision

The Issues Paper describes this “work parcel” as: *“Semi scheduled generators being required to continually inform AEMO of any restrictions on their available capacity due to physical factors, ambient weather conditions and their market intentions.”* The three elements described in this statement should be either already covered, or able to be with simple refinements, under the current systems, through:

- Restrictions on available capacity due to physical factors: Covered through regular availability updates to AEMO (via STPASA & MTPASA)
- Market intentions: Covered via bidding (with a targeted ‘rule change 1’ per the above resolving the issue of generators reducing generation due to market prices but without re-bidding)
- Ambient weather conditions: Covered via AEMO’s AWEFS/ASEFS energy conversion model (ECM), with perhaps some refinements required to this system for it to be more comprehensive / accurate, particularly under more extreme weather conditions, as described below.

It appears that the gap today is only this final point, particularly as it relates to extreme weather conditions, and that this is a gap in AEMO processes rather than in the rules themselves. It is not clear why AEMO could not simply include curves/formulas etc for high temperature performance (and anything else considered relevant) in AWEFS/ASEFS, and make these more complete forecasts including all weather variables. These models already convert weather forecasts to energy forecasts, so encouraging a parallel system for information provision relating to this same challenge seems superfluous and prone to problems. Asking



generators for regular “information” or “updates” regarding the response of their assets to weather conditions does not make sense when there is an AEMO system running in real-time predicting energy output from those assets based on weather. Information regarding expected plant performance in extreme weather conditions such as high temperatures and extreme wind speeds is already provided by renewable energy generators to AEMO – the missing link appears to be simply incorporating this fully into the AWEFS/ASEFS energy conversion models.

In short, if market intentions via bidding are more robust (ie. the loophole ‘rule change 1’ should be targeting is addressed), generators are updating STPASA and MTPASA at the appropriate frequencies and AWEFS/ASEFS are configured to take into account all weather variables, the problem this rule change is attempting to address would appear to have already been resolved.

As an alternative, AEMO could simply drop AWEFS/ASEFS completely and simply leave Semi Scheduled generators to be responsible for the submission of their own forecasts.

Given the significant concerns raised above regarding the rule changes proposed in the Issues Paper, TLT is also concerned at the suggestion that the proposed rule changes would be fast-tracked. Unless any changes are far more limited in scope than the Issues Paper suggests they be, TLT strongly recommends a more robust and multi-stage consultation process, to ensure that rule changes are not implemented which create adverse outcomes for generators and consumers alike.

Tilt Renewables will be pleased to meet with you to discuss this submission in more detail and provide ongoing support through the consultation process. Please contact the undersigned or Rhys Albanese at rhys.albanese@tiltrenewables.com or 0423 423 797.

Regards,

A handwritten signature in blue ink that reads "Nigel Baker".

Nigel Baker

**Executive General Manager, Generation and Trading
Tilt Renewables**