

8th October 2014

Australian Energy Market Commission
PO Box A2449
Sydney South NSW 1235

Submission lodged online at: www.aemc.gov.au

Project Number: ERC0165

Dear Mr Pierce

Generator ramp rates and dispatch inflexibility in bidding – Draft Rule Determination

Snowy Hydro supports the AEMC's draft rule determination to reject the AER's rule change to require that ramp rates reflect the maximum technical capability of generating plant. We agree with the AEMC's assessment that the AER rule change was:

- Un-proportional to the issues raised;
- Would be difficult to apply in practice, create material uncertainty, and hence would increase the cost of participation in the NEM with no commensurate benefit; and
- Create disincentives to invest in flexible and peaking plant, as these generators have greater ramp rate capability and would be disproportionately impacted.

Snowy Hydro also supports the Commission's draft rule to not include any changes to the requirements in relation to dispatch inflexibility profiles.

Although the Commission does not support the AER's proposed rule and acknowledges that the current minimum ramp rate requirements provide sufficient capability for AEMO to manage the secure operation of the electricity system, the Commission considered that the existing rules may prevent this from being achieved at the lowest cost. The Commission has determined to make a more preferable draft rule. We have interpreted three key principles underpinning the AEMC's more preferable draft rule:

1. Ramp rates are a commercial parameter and commercial incentives are the key driver for ramp rate capability which is necessary to provide energy to the market at times of highest value.
2. Regulatory obligation on generators should be the minimum required for AEMO to fulfil its system security obligations.
3. The revised minimum ramping requirements would be applied consistently and proportionally to be competitive / technology neutral to all generators regardless of generator size, plant configuration or technology type.

While we support these principles the AEMC's more preferable draft rule does not meet the competitive / technology neutrality principle with Aggregate units compared to physical units.

Our submission highlights the inequity of the preferable draft rule and proposes as an alternative solution which treats all generators equally. The submission proposes a minimum requirement based on 0.5% would be more consistent with the recognition that ramp rates are a commercial parameter. Finally, we highlight that the draft rule will impact transmission access and hence the rule commencement date requires an adequate transition period.

1.0 Disproportionate impact on Aggregate units

In this section we show the disproportionate impact of the AEMC's more preferable draft rule on aggregate units compared to physical units, we show how the draft rule may create perverse incentives for disaggregation, and finally highlight an alternative solution which meets all principles and treats all generator types and configurations equitably.

Illustrative example showing disproportionate burden on Murray Aggregate unit compared to physical unit

The AEMC's more preferable draft rule requires the up ramp rate and down ramp rate to be at least one per cent of the maximum generation capacity as defined under schedule 3.1 of the Rules. Schedule 3.1 requires generators to provide data used of bid and offer validation. Maximum generation capacity for an Aggregate unit is based on the assumption that all individual generators in the aggregate unit generator are generating at the same time. We highlight in the example below that this is problematic and may result in unintended inefficiencies.

For example:

Murray Aggregate unit has a maximum generation capacity of 1500MW consisting of 10 × 95MW units and 4 × 137.5 MW units. There are 14 physical units in total.

It is extremely rare for ALL 14 physical units to be operating (synchronised) in the Murray Aggregate unit.

If only 1 × 95MW unit was operating the Draft Rule would impose a ramping requirement of 15MW/minute for the Aggregate generator compared with only 1MW/minute if the unit was disaggregated.

Clearly this violates the competitive/technology neutrality principle. In some circumstances the AEMC's more preferable draft rule would be impossible to comply with.

A simple analogy which highlights the inequity of this issue is when a physical is shut down or not on-line there is no ramping requirement. The same should apply to units in an Aggregate unit generator.

The Draft Rule would create perverse incentives for disaggregation

Aggregated generator units are an efficient mechanism to allocate generation to multiple generator units that share a common fuel resource.

AEMO has no issues with the use of aggregated units as highlighted by the fact that AGL, Aurora Energy, Energy Brix, EnergyAustralia, Hydro Tasmania, Origin Energy, GDF Suez, QGC Sales QLD Pty Ltd, Snowy Hydro, and Synergen Power are businesses which have aggregated units.

There are relevant aggregation guidelines under section 3.8.3 of the Rules and Market Participants can aggregate their relevant generating units provided they meet relevant criteria in these guidelines.

The Draft Rule may create perverse incentives to disaggregate if the ramping requirement for an aggregate generator with less than the maximum number of physical units in the aggregate group on-line results in dis-proportionate risks and costs compared to operating in a disaggregated configuration. Should disaggregation occur for these reasons there would be an ensuing loss of efficiency as more resources would be required to dispatch generation plant.

Our proposed solution that meets all principles

Our proposed solution for Aggregate units is to require minimum ramping capability based:

- Physical units which are on-line and synchronised.
- The maximum generation capacity of the Physical unit.

For example for the Murray aggregate unit, if 5×95 MW units were on-line, the ramping requirement is $5 \times 95 \times 1\% = 5$ MW/minute.

Snowy Hydro has confirmed with AEMO technical staff that relevant Market data is available for Snowy Hydro's proposed solution to be implemented. That is the AER would be able to access relevant market data to verify and monitor minimum ramping requirements for Aggregate unit generators thereby fulfilling its market surveillance obligations.

Snowy Hydro is aware of clause 3.8.3A(e) of the Rules which would allow Aggregate unit generators to provide AEMO with a brief, verifiable and specific reason why the ramp rate is below the minimum required. However, the compliance cost to owners of Aggregate generators to have to continually monitor the number of physical units on-line and provide a verifiable and specific reason why the ramp rate is below that specified by the full output of the Aggregate unit is in our opinion an unreasonable and costly burden.

It would be perverse that such a cost burden would drive Aggregate generators to disaggregate thereby removing the efficiency benefits of aggregation in the first instance.

For completeness we also highlight an alternative solution for Aggregate units ramping requirement based on "InitialMW" (cleared dispatch in the previous Dispatch period) multiplied by 1%.

However we note this may raise competitive neutrality concerns from Non-aggregate units.

2.0 Minimum ramping capability should be no more than 0.5%

Snowy Hydro agrees with the Commission that “commercial incentives are, and should be, the key driver for generators investing in, and maintaining, ramping capability¹”.

We have performed analysis of NEM total ramp rates under different regulatory requirements for all Dispatchable Units ID (DUIDs) in the NEM. The table below shows the total NEM ramping capability per minute under the Current Rule and the Draft Rule:

Total NEM Ramp rate		
	Method	MW/min
1	Current ramp rate	496
2	0.5% of max capacity	354
3	1% of max capacity	591
4	0.8% of max capacity	512

From the table above the Draft Rule of 1% exceeds AEMO’s current requirement to maintain system security.

With the current over supply of generation and transmission which is sufficient to meet reliability standards for at least another 10 years we argue that the current regulatory ramping requirement exceeds AEMO’s quantity to allow it to maintain system security. We note that 0.8% replicates the current level of minimum ramping in the NEM.

In line with the AEMC stated principles of ramping being a commercial parameter, the regulatory amount being the minimum requirement, and competitive / technology neutrality we advocate the minimum ramping capability should be no more than 0.5%.

Anything above 0.5% hinders commercial incentives to have flexible plant.

3.0 Rule commencement date

The Rule change materially affects transmission Access in the market. For instance Murray aggregate unit was required to ramp at 3MW/minute under the current Rules and this may be substantially increased to 15MW/minute if the preferable draft rule is implemented. In a half hour trading interval the reduction in access could be as high as 360MW. This would be a significant reduction in transmission access thereby significantly reducing the capability of this plant to hedge sold forward contracts. Therefore the draft Rule if implemented must impact on the risk of sold forward contracts.

To provide cashflow certainty to meet fixed costs a large proportion of a generators hedge contracts are sold at least out to 3 years.

¹ AEMC Draft Determination, page i

The Rule Commencement Date must reflect and recognise this increase hedge contract risk and therefore have an appropriate transitional notice period.

Snowy Hydro suggests a Commencement Date no earlier than 1 January 2017 (i.e. 2 years notice) to allow Market Participants to manage their risks.

In summary

Snowy Hydro commends the AEMC for rejecting the AER's rule change proposal. The Commission has correctly identified that the rule change is an un-proportional to the issues identified, would be difficult to implement, and would create disincentives to invest in peaking and flexible generation plant.

While we support the AEMC's principles underpinning its more preferable draft rule we have highlighted that the principle of competitive/technology neutrality is violated for Aggregated units when compared with physical generator units.

We propose a simple and equitable solution for Aggregated units based on physical units on-line and the registered capacity of these physical units. AEMO technical staff has confirmed that market information is available to implement this alternative solution.

Snowy Hydro has highlighted through an illustrative example that our proposed solution would place equal obligations on both Aggregated and Physical generator units.

Consistent with the low growth environment, decrease in overall market volatility, and recognition that ramping capability is a commercial parameter we question whether the draft rule requirement of 1% exceeds and is inconsistent with overall ramping requirements. We therefore advocate that the minimum ramping requirement should be no more than 0.5%.

Finally we highlight the fact that regulatory ramping requirements impacts on transmission access and hence this impacts on the ability of Participants to manage the risk of sold forward contracts. In recognition of this risk an appropriate transition period is required for Market Participants to re-adjust their portfolios and risk profiles. We therefore advocate the Commencement date for the Rule should be no earlier than 1 January 2017.

Snowy Hydro appreciates the opportunity to respond to this consultation. Should you have any enquires to this submission contact Kevin Ly on kevin.ly@snowyhydro.com.au or on (02) 9278 1862.

Yours sincerely,



Roger Whitby
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