



Generator ramp rates and dispatch inflexibility in bidding

Options paper released for consultation

The Australian Energy Market Commission is seeking stakeholders' comments on options being considered to rationalise the existing requirements on generators to specify the minimum rates at which they may increase or decrease output.

These options have been developed following the Commission's consideration of responses to its more preferable draft rule published in August 2014.

The more preferable draft rule

The more preferable draft rule was made following the Commission's assessment of a rule change proposed by the Australian Energy Regulator (AER), which would require that ramp rates reflect the maximum technical capabilities of generating plant. Ramp rates are specified by generators as a component of their offers and govern the manner in which generation dispatch levels can be physically changed through time. The AER raised concerns that, at times, generators use ramp rates to achieve commercial outcomes that can lead to inefficiencies in the wholesale market and in the management of system security.

In the draft determination, the Commission explained that it was not convinced that a change as extensive as that proposed by the AER was warranted, and set out its concerns that the proposed rule might be difficult to apply in practice. However, in examining and consulting on the rule change request, the Commission concluded that potential changes to the existing provisions governing ramp rates may support more competitive market outcomes.

The current requirements for ramp rates, under which all generators with a capacity greater than 100 megawatts (MW) are required to provide ramp rates of at least 3 MW/minute, mean that the burden of system ramp rate capability is disproportionately borne by smaller and non-aggregated generators. The Commission's more preferable draft rule therefore sought to refine the current arrangements to address this issue.

The more preferable draft rule required that ramp rates should be at least one per cent of maximum capacity per minute. Such revised requirements would be applied consistently and proportionately, regardless of generator size, plant configuration or technology type, and would promote improved wholesale market outcomes by allowing AEMO to more efficiently manage the secure operation of the electricity system.

Submissions to the draft rule determination

On the whole, submissions to the draft determination were supportive of the Commission's more preferable draft rule in principle. However, some stakeholders provided evidence that compliance with the more preferable draft rule might not be practicable for some participants, particularly certain large thermal generating units. A number of stakeholders also suggested that the more preferable draft rule might lead to disproportionate or perverse outcomes in the specific case of aggregated units, as a ramp rate requirement of one per cent of the maximum capacity of the aggregated unit may not be achievable unless sufficient physical units are online at the time.

In light of these concerns, the Commission has developed two further options that would address the issues raised in submissions to the draft determination, while still better meeting the Commission's objectives for ramp rate requirements that can be applied more consistently and proportionately than the current rules. Requirements that meet these principles would be in the long term interests of consumers by allowing for the enhanced optimisation of the dispatch process and reducing, albeit marginally, the extent to which the regulatory framework influences investment decisions.

The Commission will assess these options alongside the proposed rule and the more preferable draft rule, and against the possibility of not making a rule, which is always an option open to the Commission.

Options for consideration

The two new options for stakeholder comment are as follows:

- **Option 1** would require minimum ramp rates to be equal to the lower of one per cent of maximum capacity or 3 MW per minute. For aggregated units, the requirement would be the lower of 3 MW/minute applied to individual physical units or one per cent of aggregate available capacity.
- **Option 2** would retain the current arrangements of minimum ramp rates equal to the lower of three per cent of maximum capacity or 3 MW per minute. For aggregated units, the requirement would apply to each individual physical unit.

Option 1 refines the more preferable draft rule, including through the introduction of a capping mechanism. The changes aim to address the issues raised in submissions in relation to large thermal generating units and aggregated units, while still allowing for arrangements that would contribute to the achievement of the objectives for more consistent and proportionate requirements.

Option 2 is based on the existing arrangements, but would increase the consistency and proportionality in the application of the current rule by applying the minimum ramp rate requirements equally to aggregated and non-aggregated generators. This approach has been supported by a number of stakeholders through the rule change process.

The Commission welcomes submissions on these options by **5 February 2015**.

Summary of proposed minimum ramp rate requirements for generators

	Current rule	More preferable draft rule	Option 1	Option 2
Non aggregated	Lower of three per cent of maximum capacity or 3 MW per minute, rounded down but no less than 1 MW/minute	One per cent of maximum capacity, expressed as MW/minute, rounded up	Lower of one per cent of maximum capacity or 3 MW per minute, rounded up	Lower of three per cent of maximum capacity or 3 MW per minute, rounded down but no less than 1 MW/minute
Aggregated			Lower of 3 MW per minute applied to individual physical units or one per cent of aggregate available capacity, rounded up	Lower of three per cent of maximum capacity or 3 MW per minute, rounded down but no less than 1 MW/minute, applied to individual physical units, then summed

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