



Generator ramp rates and dispatch inflexibility in bidding

Draft determination released for consultation

The Australian Energy Market Commission has made a more preferable draft rule to rationalise the existing requirements on generators to specify the minimum rates at which they may increase or decrease output.

The revised requirements would be applied consistently and proportionately, which should promote more efficient wholesale market outcomes and generation investment in the interests of consumers.

The Commission's draft determination

This more preferable draft rule has been made following the Commission's consideration of a rule change proposed by the Australian Energy Regulator (AER), which would require that ramp rates reflect the maximum technical capability 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 has 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.

The Commission has not been convinced that a change as extensive as that proposed by the AER is warranted, and has concerns that the proposed rule might be difficult to apply in practice. However, in examining and consulting on the rule change request, the Commission has concluded that the existing provisions governing ramp rates risk distorting competitive market outcomes and investment signals. The Commission's more preferable draft rule therefore refines the current arrangements to address these issues.

The Commission's more preferable draft rule would require that ramp rates provided by scheduled and semi-scheduled generators should be at least one per cent of maximum generation capacity per minute.

The revised requirements would be applied consistently and proportionately, regardless of generator size, plant configuration or technology type. This would promote more efficient wholesale market outcomes and generation investment, in the long term interests of consumers.

Commercial incentives as a driver of efficient investment

The operation of a secure electricity system requires variations in customer demand to be accommodated through changes in the output of generating plant over time. The Commission considers that commercial incentives are, and should be, the key driver for generators investing in, and maintaining, ramping capability. Flexible generating plant can best respond to price changes that signal alterations in the value the market places on the provision of energy. In this way, the commercial incentives acting on generators are aligned with the interests of consumers.

However, the presence of network congestion can result in a misalignment of these interests, and a commercial incentive can be created for generators to rebid their ramp rates to low levels to ensure that their generation output is not decreased. However, this may compromise the ability of the Australian Energy Market Operator (AEMO) to efficiently manage the security of the electricity system. Therefore, under the current market design, there is a need to place a regulatory obligation on generators to provide a minimum level of ramping capability.

The Commission's more preferable draft rule

The existing rules require that generators specify a minimum ramp rate greater than or equal to three megawatts per minute (MW/minute), or three per cent of maximum capacity for generators below 100 MW, unless there is a technical limitation on their plant.

The Commission considers that under the existing arrangements, the burden of system ramp rate capability is not applied consistently for all generating units, and is disproportionately borne by smaller generators, non-aggregated generators, and those with a larger number of generating units.

Determining minimum required ramp rates as a percentage of a generating unit's capacity treats different technology types and power station configurations on the same basis. This would promote technology neutrality and therefore the efficient operation of electricity services when generators are required to reduce output through the market dispatch process, while allowing AEMO to maintain the secure operation of the electricity system.

In addition, rules that are applied consistently and proportionately to generators should ensure that the regulatory framework does not inadvertently influence investment decisions in favour of larger or aggregated units. Investment based purely on economic and commercial considerations should result in the least cost option to meet forecast demand, in the long term interests of consumers.

The Commission's assessment of the AER's proposed rule

The Commission recognises the importance of the issues raised in the rule change request, but has not been convinced that a change as significant as that proposed by the AER is warranted. In particular, information provided by AEMO indicates that such an extensive increase in minimum required ramp rates is not necessary in order to efficiently manage system security.

The AER also raised concerns regarding other potential inefficient market outcomes, including the occurrence of counter-price flows between regions, productive efficiency losses from high cost plant being dispatched in place of low cost plant, and higher risk management costs due to higher wholesale price volatility. While agreeing that it would be desirable to minimise any such inefficiencies, the Commission notes that, in most cases, ramp rates represent only one contributing factor. To seek to resolve these issues by requiring generators to always offer the maximum technical capability of their plant also risks creating a disincentive to invest in flexible plant, as generators that are able to provide greater ramp rate capability would be disproportionately impacted.

Finally, the Commission is concerned that the proposed rule may be difficult to apply in practice. The Commission's view is that a trade-off exists between ramp rate capability and costs incurred, and this would make it problematic for the AER to determine whether the ramp rates submitted by generators represent a true reflection of the technical capability of their generating units at any given time.

The Commission welcomes submissions on this draft determination by **9 October 2014**.

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