



Australian Energy Market Commission

**Draft Rule Determination**

**National Electricity Amendment (Ramp Rates,  
Market Ancillary Service Offers, and Dispatch  
Inflexibility) Rule 2008**

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Rule Proponent  
Australian Energy Regulator

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23 October 2008

Signed:  .....

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**Chairman**  
For and on behalf of  
Australian Energy Market Commission

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## **Citation**

AEMC 2008, *Ramp Rates, Market Ancillary Service Offers, and Dispatch Inflexibility*, Draft Rule Determination, 23 October 2008, Sydney

## **About the AEMC**

The Council of Australian Governments, through its Ministerial Council on Energy, established the Australian Energy Market Commission (AEMC) in July 2005 to be the Rule maker for national energy markets. The AEMC is currently responsible for Rules and policy advice covering the National Electricity Market. It is a statutory authority. Our key responsibilities are to consider Rule change proposals, conduct energy market reviews and provide policy advice to the Ministerial Council as requested, or on AEMC initiative.

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## Summary

### The Commission's decision

The Australian Energy Market Commission (Commission) makes this draft Rule determination and the attached draft Rule on the Australian Energy Regulator's (AER's) 'Ramp Rates, Market Ancillary Service Offers, and Dispatch Inflexibility' Rule change proposal, in accordance with Section 99 of the National Electricity Law (NEL)

### Summary of the Rule change proposal

The AER's Rule change proposal (received 21 April 2008) proposed changes to the Rules relating to bidding and rebidding of ramp rates, market ancillary service offers, and dispatch inflexibility. In its proposal, the AER contended that the Rules currently permit generators to rebid technical parameters such as ramp rates, market ancillary service offers, and dispatch inflexibility in such a way to inhibit the National Electricity Market Management Co. Ltd's (NEMMCO's) ability to reduce the output of generators through central dispatch to manage system security. The proposal, in part, followed an investigation into the events of 31 October 2005 when the failure of a major transmission line in New South Wales caused significant disruption of the market.

The AER's Rule change proposal consists of the following three core components that would require relevant scheduled generators and market participants to:

1. provide a ramp rate that is:
  - greater than a minimum ramp rate of 3 MW/minute except where it can be demonstrated to NEMMCO that a lower ramp rate is required for technical or safety reasons, and
  - no more than the maximum ramp rate that an item of equipment is capable of achieving in normal circumstances.
2. provide frequency control ancillary services (FCAS) parameters for generators that reflect the technical capability of the generator's plant; and
3. declare themselves "inflexible" only when plant technical constraints justify such a declaration.

### Changes to the AER's proposed Rule amendment

Eight first round submissions were received on this Rule change proposal, all generally supporting the intent of the proposal, but suggesting some improvements to the proposed Rule change. The Commission accepted some of these changes where it considered these changes would further promote the National Electricity Objective (NEO). The Commission considers these changes do not alter the core components of the proposed Rule as set out above.

## **The Commission's reasoning for its decision**

The Commission considers the draft Rule is likely to contribute to the promotion of the NEO. The draft Rule requires that the technical parameters in relation to ramp rates, market ancillary service offers and dispatch inflexibility reflect technical capability of plant allowing NEMMCO to manage system security issues more effectively. This would improve the reliability and security of the national power system, and improve the efficiency of the operation of the National Electricity Market (NEM). For these reasons, the Commission considers that the Rule making test under section 88 of the NEL is satisfied.

## **Consultation on the draft Rule determination and draft Rule**

The Commission invites submissions on this draft Rule determination by 5 December 2008, in accordance with the minimum six week second round consultation period specified under Section 99 of the NEL.

Under Section 101 of the NEL, any interested person or body may request that the Commission hold a pre-determination hearing in relation to the draft Rule determination. Any request for a pre-determination hearing must be made in writing and must be received by the Commission no later than 31 October 2008.

Submissions may be sent electronically to [submissions@aemc.gov.au](mailto:submissions@aemc.gov.au) or by mail to:

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# 1 The AER's Rule proposal

On 21 April 2008, the Australian Energy Regulator (AER) submitted a Rule change proposal relating to the ability of relevant scheduled generators and market participants to bid and rebid technical parameters, including ramp rates, market ancillary service offers, and dispatch inflexibility profiles, in pursuit of commercial objectives when power system security could be compromised.

The proposal was precipitated by an AER investigation of the events of 31 October 2005<sup>1</sup>. On that day, NEMMCO invoked network constraints to manage the impact of a transmission outage, which had the effect of constraining the dispatch of some generation in the vicinity. The AER found that some generators took action to minimise the commercial impact of these constraints by rebidding their ramp rates to very low levels. This limited the rate that NEMMCO was able to reduce the dispatch levels of those generators, thus hindering NEMMCO's ability to effectively manage power system security during that event.

The AER also cites examples where generators have rebid market ancillary service offers or dispatch inflexibility profiles to limit the rate at which their dispatch targets can be reduced in response to binding network constraints.

The Rules currently permit generators to rebid their ramp rates, market ancillary service offers and dispatch inflexibility profiles at any time up until dispatch. Rebids must be made in good faith and must be accompanied by a reason for the rebid. No other restrictions apply.

The AER contends that the intent of the Rules is for these technical parameters to reflect the technical capability of a generator's plant. However the Rules do not make this explicit.

The AER's Rule change proposal seeks to limit the ability of relevant scheduled generators and market participants to bid and rebid technical parameters in pursuit of commercial objectives in the following three areas:

## 1. Ramp Rates

The AER's Rule change proposal imposes a minimum ramp rate of 3 MW/minute except where it can be demonstrated to NEMMCO that a lower ramp rate is required for technical or safety reasons. NEMMCO has advised the AER that a ramp rate of 3 MW/minute is sufficient to allow NEMMCO to manage system security incidents. In addition, the AER Rule change proposal limits the maximum ramp rate to that provided by the relevant scheduled generator and market participant as its generating unit data. For consistency, the AER proposed that this change cover all participants to whom obligations regarding ramp rates apply.

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<sup>1</sup> The events of 31 October 2005, Investigation Report, Australian Energy Regulator, October 2006.

## **2. Market Ancillary Service Offers**

Due to a limitation in the NEM Dispatch Engine, generators can rebid market ancillary service offers in such a way as to “trap” the dispatch level of their units at close to maximum capacity.

To address this problem, the AER has proposed a Rule amendment that would require the FCAS parameters bid by generators to reflect the technical capability of the generator’s plant.

## **3. Dispatch Inflexibility**

The Rules explicitly require generators to notify NEMMCO of dispatch inflexibility due to abnormal plant or operating conditions as soon as the generator becomes aware of such conditions, but the Rules do not explicitly prohibit use of dispatch inflexibility for other purposes such as the pursuit of commercial objectives. The AER’s investigations identified instances where generators appeared to have used dispatch inflexibility to limit the rate at which their dispatch levels can be reduced by binding network constraints following a system security incident.

To address this problem, the AER has proposed a Rule amendment that would permit generators to declare themselves “inflexible” only when plant technical constraints justify such a declaration.

## **New Civil Penalty Provisions**

In its Rule change proposal, the AER noted that it intends for the following new proposed clauses to be civil penalty provisions:

- (a) clause 3.8.3A(b),
- (b) clause 3.8.3A(d),
- (c) clause 3.8.3A(j),
- (d) clause 3.8.7A (l), and
- (e) clause 3.8.7A(m).

The AER also sought to amend the following existing civil penalty provisions:

- (a) clause 3.8.4,
- (b) clause 3.8.19,
- (c) clause 3.8.22 ,and
- (d) clause 3.8.22A.



## **2 The Commission's Draft Rule Determination**

The Commission has determined in accordance with Section 99 of the NEL to make the draft Rule.

This draft Rule determination sets out the Commission's reasons for making the draft Rule. The Commission has taken into account:

- The Commission's powers under the NEL to make the Rule;
- Any relevant Ministerial Council on Energy (MCE) statements of policy principles;
- First round stakeholder submissions; and
- The Commission's analysis as to the ways in which the draft Rule will or is likely to contribute to the achievement of the National Electricity Objective (NEO) so that it satisfies the statutory Rule making test.

### **2.1 The Commission's power to make the Rule**

The subject matters about which the AEMC may make Rules are set out in Section 34 of the Rules and more specifically in Schedule 1 to the NEL.

The proposed Rule falls within the subject matters that the AEMC may make Rules about as it relates to the regulation of:

- The NEM (as it relates to how NEMMCO manages central dispatch);
- The operation of the national electricity system for the purposes of the safety, security and reliability of that system (as it relates to the ability of NEMMCO to maintain power system security); and
- The activities of persons participating in the NEM (as it relates to the Rules of how market participants provide NEMMCO with parameters related to ramp rates and frequency control ancillary services, and circumstances in which a market participant may declare itself inflexible).

The Commission is satisfied that the AER's proposed Rule change is a matter about which the Commission may make a Rule.

### **2.2 Relevant MCE statements of policy principles**

The NEL requires the Commission to have regard to any MCE statement of policy principles in applying the Rule making test. The Commission notes that currently there are no MCE statement of policy principles that relate to the issues contained in the AER's Rule change proposal.

### 2.3 The Rule making test

The NEO is the basis of assessment under the Rule making test and is set out in Section 7 of the NEL:

“The objective of this Law is to promote efficient investment in, and efficient operation and use of, electricity services for the long term interests of consumers of electricity with respect to:

- (a) price, quality, safety, reliability and security of supply of electricity; and
- (b) the reliability, safety and security of the national electricity system.”

The Rule making test states:

“(1) The AEMC may only make a Rule if it is satisfied that the Rule will or is likely to contribute to the achievement of the national electricity objective;

(2) For the purposes of subsection (1), the AEMC may give such weight to any aspect of the national electricity objective as it considers appropriate in all circumstances having regard to any relevant MCE statement of policy principles”.<sup>2</sup>

Under Section 91A of the NEL, the Commission is also able to make a “more preferable Rule”, if the Commission is satisfied that, having regard to the issue or issues raised by the proposed Rule, the more preferable Rule will or is likely to better contribute to the achievement of the NEO. The Commission’s power to make a “more preferable Rule” commenced operation on 1 January 2008, following amendments to the NEL.

This section presents the Commission’s assessment of the extent to which the draft Rule promotes the NEO and satisfies the Rule making test.

### 2.4 The Commission’s assessment of the AER’s proposed Rule change against the National Electricity Objective

This section of the draft Rule determination sets out the Commission’s assessment of each element of the AER’s Rule change proposal against the NEO.

The AER’s Rule change proposal consists of the following three core components that would require the relevant scheduled generators and market participants to:

1. provide a ramp rate that is greater than a minimum ramp rate of 3 MW/minute except where it can be demonstrated to NEMMCO that a lower ramp rate is required for technical or safety reasons, and no more than the maximum ramp rate that an item of equipment is capable of achieving in normal circumstances.
2. provide FCAS parameters for generators that reflect the technical capability of the generator’s plant; and

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<sup>2</sup> Section 88 of the National Electricity Law.

3. declare themselves “inflexible” only when plant technical constraints justify such a declaration.

This section of the draft Rule determination sets out the Commission’s assessment of each component of the AER’s Rule change proposal against the NEO.

1. **Requiring relevant scheduled generators and market participants to provide a ramp rate between the stipulated minimum and the maximum** would assist NEMMCO to maintain system security during critical periods when network constraints are binding. This will facilitate smooth and efficient operation of the spot market, which is one of NEMMCO’s core functions. In addition, the amendment will contribute more broadly to the achievement of the NEO by clarifying the obligations, which in turn will enhance enforceability of the relevant provisions of the NER. This will ultimately work to the benefit of all market participants and stakeholders.
2. **Requiring relevant scheduled generators and market participants to provide FCAS parameters for generators that reflect the technical capability of the generator’s plant** would assist NEMMCO to operate the NEM so that electricity supply is secure. In particular, by preventing scheduled generators from varying their FCAS offer to pursue commercial objectives, NEMMCO will be able to respond more effectively to contingency events and during periods when network constraints are binding. This will help to facilitate smooth and efficient operation of the spot market, one of NEMMCO’s core functions.
3. **Requiring relevant scheduled generators and market participants to declare themselves “inflexible” only when plant technical constraints justify such a declaration** would improve the markets’ ability to deliver competitive outcomes and provide NEMMCO with the flexibility to manage events for the safe and secure operation of the power system. The amendment will contribute more broadly to the achievement of the NEO by enhancing the efficient operation of the market.

In addition, the inclusion of semi-scheduled generators in the draft Rule when the Schedule 2 of the National Electricity Amendment (Central Dispatch and Integration of Wind and Other Intermittent Generation) Rule 2008 No. 2 comes into effect (on 31 March 2009) would ensure that system security issues could continued to be managed effectively.

The Commission considers that the proposed Rule change is unlikely to impose significant costs on the relevant scheduled generators and market participants as historical evidence indicates that most participants operate their plant within the technical parameters specified in the proposed Rule. The Rule change is also not likely to require major changes to the relevant scheduled generators’, market participants’ or NEMMCO’s systems and processes since this Rule change clarifies provisions that are already in place. Some participants may require the physical and technical parameters related to their plant to be independently certified where the parameters differ from those specified by the manufacturer.

The Commission made some changes to the AER’s proposed Rule change following submissions from stakeholders and where it considered these changes would further

promote the NEO. The Commission considers that these changes maintain the core elements of the proposed Rule as discussed above. These changes are set out in Section 3.

On balance, the Commission considers the draft Rule is likely to contribute to the promotion of the NEO. The draft Rule would ensure that the relevant participants provide ramp rates that do not constrain the ability to manage system security issues and that FCAS parameters and the declaration of dispatch inflexibility reflect the technical capability of plant.

The proposed Rule would assist NEMMCO in responding to system security issues effectively and hence improve the reliability and security of the power system, and improve the efficiency of the NEM. For these reasons, the Commission considers that the Rule making test under section 88 is satisfied.

The draft Rule will also enhance the AER's ability to enforce the provisions, which in turn will help to maintain system security as well as the efficient dispatch outcomes in the NEM.

## **2.5 Consultation**

The Commission invites submissions on this draft Rule determination by 5 December 2008, in accordance with the minimum six week second round consultation period specified under Section 99 of the NEL.

Under Section 101 of the NEL, any interested person or body may request that the Commission hold a pre-determination hearing in relation to the draft Rule determination. Any request for a pre-determination hearing must be made in writing and must be received by the Commission no later than 31 October 2008.

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### 3 Changes to the AER's proposed Rule

First round submissions proposed a number of improvements to the AER's proposed Rule change and suggested some drafting changes. In addition, NEMMCO submitted that Schedule 2 of the National Electricity Amendment (Central Dispatch and Integration of Wind and Other Intermittent Generation) Rule 2008 No. 2 in relation to the ramp rates of Semi-Scheduled Generators should be changed to clarify that dispatch offers for a Semi-Scheduled Generator should also include ramp rates and that Semi-Scheduled Generators should also be able to rebid available capacity, dispatch inflexibilities, or ramp rates.

The Commission accepted most of the changes proposed by the stakeholders, where it was shown to further promote the NEO. These changes are listed below. Detailed reasoning and the Commission's response to submissions are set out at **Appendix A**.

1. The draft Rule specifies that lower threshold for ramp rate is the lower of 3MW/minute or 3% of the registered unit size.
2. The draft Rule clarifies that the minimum ramp rate is to apply to individual physical generating units as opposed to aggregated generating units.
3. The draft Rule clarifies that the ramp rate should be rounded to a ramp rate that can be safely complied with, to reflect NEMMCO's processes that require data to be entered as an integer.
4. The Draft Rule seeks to amend Schedule 2 of the National Electricity Amendment (Central Dispatch and Integration of Wind and Other Intermittent Generation) Rule 2008 No. 2 to require Semi-Scheduled Generators to include ramp rates in their dispatch offers and to comply with this Rule change.

The draft Rule includes a number of drafting changes to the AER's proposed Rule change.

The Commission supports the proposal by the AER that clauses 3.8.3A(b), 3.8.3A(d), 3.8.3A(j), 3.8.7A (l), and 3.8.7A(m), subject to the outcomes of this Rule change process, be civil penalty provisions. Under the NEL, civil penalty provisions in the NEL may only be created with the MCE's agreement and by means of including the number of the relevant provision in the National Electricity (South Australia) Regulations.

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## **A The Commission's Analysis**

This appendix outlines the Commission's response to submissions, and the Commission's analysis and reasoning for any changes made to the AER's proposed Rule amendments.

### **A.1 The underlying cause**

#### **A.1.1 The AER's proposal**

The AER's proposal would limit the ability of the relevant scheduled generators and market participants to bid and rebid technical parameters in pursuit of commercial objectives when power system security could be compromised.

#### **A.1.2 Submissions**

AGL and the NGF suggested that the Commission should reconsider addressing the underlying cause of the symptoms identified by the AER, which is the lack of a mechanism to allocate resources during congestion.

The NGF contends that the Rules that the AER is now seeking to change all appear to have been drafted on the implicit assumption that participants will wish to be dispatched in accordance with their market offers or bids. This may appear a natural assumption given the discretion that participants have to structure offers and bids as desired and further the opportunities that they have to change offers or bids when market circumstances have changed. The NGF states that this assumption breaks down when there is a significant mismatch between the market dispatch process and the market settlement process, as now applies in the presence of transmission network congestion.

#### **A.1.3 The Commission's Analysis and Reasoning**

The Commission considered changes to the NEM's congestion management regime against the NEO, recommended Rule changes and flagged areas requiring further consideration in the future in its report on the Congestion Management Review (CMR Review) in June 2008<sup>3</sup>.

The Terms of Reference for the CMR Review required that the Commission develop arrangements to improve the management of physical and financial trading risks associated with material transmission congestion. The Commission was also tasked with developing a location specific interim constraint management mechanism for managing material constraint issues until such time as they are addressed through investment or region boundary change.

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<sup>3</sup> Congestion Management Review, Final Report, Australian Energy Market Commission, June 2008.

The Commission was not persuaded that a location-specific interim constraint management mechanism will promote the NEO at this stage, given the prevailing patterns and economic materiality of congestion. Analytical work by the AER and by us suggested that productive inefficiencies from dis-orderly bidding have been relatively minor to date. In addition, empirical research from NEMMCO showed that congestion has tended to be transitory and influenced significantly by network outages, hence it would be difficult to target exactly where localised pricing interventions should be applied.

Given the evidence that showed that transmission congestion has not been a material problem, and given the complexities associated with designing a location-specific interim constraint management mechanism the Commission was not persuaded that such a mechanism represents a net improvement in market efficiency at this time.

In response to the Terms of Reference, the Commission recommended four specific Rule changes to the MCE to improve the arrangements for managing financial and physical trading risks associated with material network congestion. The changes focus on enhancing the quality of information available to market participants to help them understand the risks associated with congestion, and on improving the effectiveness of risk management instruments.

The Commission noted that the impact on the NEM of government policy initiatives in response to climate change (including the promotion of renewable energy technologies) will be profound. These changes are likely to “stress test” the NEM’s regulatory framework including the Congestion Management Regime, which may require a more fundamental change.

On 25 August 2008 the AEMC commenced the Review of Energy Market Frameworks in light of Climate Change Policies. The Terms of Reference for the Review have been provided by the Ministerial Council on Energy (MCE).

The Review will focus on assessing how the Australian Government’s Carbon Pollution Reduction Scheme (CPRS) and expanded Renewable Energy Target may affect the existing energy market frameworks and to determine, what if any amendments are needed to those frameworks as a result.

The Commission considers the Review of Energy Market Frameworks in light of Climate Change Policies is the appropriate forum to consider mechanisms to allocate resources during congestion. In the meantime, the Commission will consider any necessary incremental Rule changes relating to these issues that satisfies the NEO.

#### **A.1.4 The Commission’s Decision**

The Commission notes the views of AGL and the NGF.

## **A.2 Minimum ramp rate specified in MW/minute**

### **A.2.1 The AER's proposal**

The AER's proposal would impose a minimum ramp rate for the relevant Scheduled Generators, Market Customers, or Market Network Service Providers of 3 MW/minute, except where a lower ramp rate is required for technical or safety reasons.

### **A.2.2 Submissions**

Hydro Tasmania contended that a fixed minimum ramp rate independent of generator size would penalise smaller units unfairly and potentially create a wealth transfer to larger generators. Hydro Tasmania proposes addressing this issue by having setting minimum ramp rate proportional to the registered unit size (rounded to the nearest integer).

AGL was concerned that a uniform minimum ramp rate would unfairly penalise smaller participants. AGL cited the example of where a 50 MW unit would be required to ramp at 6% of its maximum capability, whereas a 600 MW unit would only be required to ramp at 0.5% of its maximum capability. AGL suggested that the minimum ramp rate should be set to the lesser of 1% of the registered capacity of the unit (rounded up to the nearest integer) and the registered maximum ramp rate from Schedule 3.1 of the Rules for that unit. AGL contended that this would allow proportionate sharing of a constrained resource for units of all sizes (whether aggregated or not), and allow for technical constraints as registered in Schedule 3.1 of the Rules.

### **A.2.3 The Commission's Analysis and Reasoning**

The AER's proposal is based on the analysis of bids for 2007 which shows that all except for a handful of generators' bid at 3MW/minute or greater most of the time. Past ramp rate bidding practices, therefore, suggest that a level of 3MW/minute minimum ramp rate would be sufficient for most generators. The AER also advised that NEMMCO is of the view that 3MW/minute should accommodate the vast majority of system security issues that may arise in the context of the national electricity market.

The Commission also notes that a ramp rate of 3MW/minute applied to the physical generating units as discussed in section A.3 would result in a disproportionately high ramp rate for smaller aggregated units.

In light of the equity issues raised by Hydro Tasmania and AGL, and the impact on ramp rates when applied to physical generating units, NEMMCO was consulted to establish if a minimum ramp rate linked to the registered unit size might be accommodated. NEMMCO has indicated that a minimum ramp rate of the lower of 3 MW/minute or 3% of the registered unit size, except where a lower ramp rate is

required for technical or safety reasons, is likely to accommodate majority of system security issues that may arise in the context of the national electricity market.

#### **A.2.4 The Commission's Decision**

The Commission has decided to amend the proposed clause 3.8.3Ab(1) to permit a minimum ramp rate of the lower of 3MW/minute or 3% of the registered unit size.

### **A.3 Application of minimum ramp rates to aggregated units**

#### **A.3.1 Submissions**

Macquarie Generation believed that the AER's proposed minimum ramp rate could be interpreted as applying to aggregated units rather than the individual physical units that form the aggregated unit. Macquarie Generation proposed addressing this issue by changing the definition of "generating unit" to refer to a single, physical unit.

TRUenergy believed that minimum ramp rates should apply to single physical generating units rather than aggregated units.

#### **A.3.2 The Commission's Analysis and Reasoning**

The Commission accepts the AER's view that the provisions of the NER relating to ramp rates, including the ability to bid and rebid ramp rates, were intended to be linked to physical or technical capabilities of the relevant plant or equipment. The intent of the AER's proposal is to ensure that sufficient ramping capability is available to NEMMCO to ensure that system security is maintained.

The Commission notes that the Rule change as proposed may lead to incentives to aggregate units. However, the application of a 3MW/minute ramp rate, as proposed, to individual physical units, may impose a higher burden on smaller generating units that are currently aggregated.

The Commission's decision to permit a minimum ramp rate of the lower of 3MW/minute or 3% of the registered unit size in section A.2 mitigates the impact on smaller generating units.

#### **A.3.3 The Commission's Decision**

The Commission has decided to clarify that the ramp rates would apply to individual physical generating units. Where physical generating units are aggregated, the ramp rates applicable to each separate generating unit are to be added together.

## **A.4 Ability for generators to offer ramp rates less than 3 MW/minute**

### **A.4.1 Submissions**

Delta Electricity was concerned that the long-term operational efficiency would be reduced if a minimum ramp rate of 3 MW/minute was adopted. Base-load plant generally operate at maximum output 24 hours a day, and thus have little need to ramp production up or down. Whereas mid-merit plant ramp production up and down throughout the day to meet changes in demand. Delta Electricity explained that to minimise the additional stresses on plant from ramping, generators generally ramp their plant at a rate well below the plant's technical capability. For aging plant such as Munmorah Power Station, Delta often sets a ramp rate of less than 3 MW/minute under normal operating conditions to deliver the lowest operating cost over the remaining life of the plant. Forcing mid-merit plant to ramp at a rate of at least 3 MW/minute may result in some mid-merit plant removing themselves from price setting by bidding into higher priced bid bands which would result in the dispatch of higher cost plant.

Delta proposed allowing the relevant scheduled generators or market participants to bid a ramp rate that may be less than 3 MW/minute, if it is necessitated by operating conditions that prevent the relevant generating unit from maintaining a ramp rate of at least 3 MW/minute, after obtaining approval from NEMMCO.

### **A.4.2 The Commission's Analysis and Reasoning**

The Commission acknowledges Delta Electricity's concerns that for aging plant such as its Munmorah Power Station, a ramp rate of 3 MW/minute is technically possible, but would result in higher "wear and tear" costs compared to newer plant.

The AER's Rule change proposal would permit plant that is not able to physically or safely ramp at 3 MW/minute, due to an event or occurrence, to submit a ramp rate that is less than 3 MW/minute (3.8.3A(c)). The proposed Rule that limits the ramp rates to between 3 MW/minute and the maximum ramp rate, will not apply where the ramp rate of the plant is determined to be less than 3 MW/minute (3.8.3A(i)).

Further, the maximum ramp rate is defined in the proposed Rule as that which an item of equipment is capable of achieving in normal circumstances. This may be:

- (a) as specified by the manufacturer; or
- (b) as independently certified from time to time to reflect changes in the physical capabilities of the equipment.

The Commission is of the view that the proposed Rule provides sufficient scope for establishing optimal ramp rates for aging plant under normal operating conditions.

In addition, a requirement on NEMMCO to provide prior approval for ramp rates lower than the minimum for operating reasons could lead to complex arrangements, if they are to be applied in a consistent and transparent manner. The Rules would need to provide an approval process or for NEMMCO to establish and publish

guidelines on how it would approve lower ramp rates in the circumstances outlined by Delta Electricity.

#### **A.4.3 The Commission's Decision**

Based on the above, the Commission has decided not to make any changes to the proposed Rule.

### **A.5 AER audit of ramp rates slower than 3 MW/minute**

#### **A.5.1 Submissions**

Snowy Hydro believed that any generator that notifies NEMMCO of a ramp rate which is less than the proposed minimum should be audited by the AER.

#### **A.5.2 The Commission's Analysis and Reasoning**

Under the NEL, the AER's enforcement role and powers allow it to investigate and take action against possible breaches of the Rules. The AER has proposed that the new clause setting a minimum ramp rate of 3 MW/minute be a civil penalty provision. The AER has proposed the new clause 3.8.3A(f) that would allow the AER to request additional information from the relevant scheduled generator or market participant to verify a reason provided for a ramp rate below the minimum.

The Commission believes that the AER has adequate powers under the NEL to investigate and take action against breaches of the Rules where necessary. The AER currently has broad discretion as to how it monitors compliance with the Rules and its methods for detecting Rule breaches by Market Participants. The Commission considers that placing an obligation on the AER to audit every notification of ramp rates below the minimum would place an inefficient burden on the AER. In the absence of a mandatory audit requirement, the AER would have scope to develop an efficient method of monitoring and detecting breaches of any new requirements resulting from this Rule change.

#### **A.5.3 The Commission's Decision**

The Commission has decided not to impose an obligation on the AER to audit any generator that notifies NEMMCO of a ramp rate which is less than the proposed minimum.

## **A.6 The rounding of ramp rates to an integer (proposed clause 3.8.3A(d))**

### **A.6.1 Submissions**

The NGF was concerned that due to the rounding of ramp rates to an integer number by NEMMCO's systems, the proposed Rule change could result in some generators with a requirement to ramp at a rate slower than 3 MW/minute being forced to ramp at an unsafe rate.

### **A.6.2 The Commission's Analysis and Reasoning**

The proposed clause 3.8.3A(d) requires that any submitted ramp rate that is less than 3 MW/minute be at least the maximum ramp rate that the plant can safely attain. As NEMMCO's data entry process requires ramp rates to be integer numbers, clause 3.8.3A(d) could be interpreted as requiring a generator that can only safely ramp at 1.1 MW/minute to submit a ramp rate of 2 MW/minute.

The Commission agrees that proposed clause 3.8.3A(d) could be interpreted as requiring a generator to ramp at an unsafe rate. In practice this issue is unlikely to be material because the Commission would expect the AER to be pragmatic in interpreting and enforcing this requirement. However to be consistent with good regulatory practice principles, the Commission holds the view that the Rules should not impose obligations on the relevant scheduled generators and market participants that cannot be safely complied with. As such the Commission has decided to amend proposed clause 3.8.3A(d) to remove any doubt that proposed clause 3.8.3A(d) could not require generators to ramp at an unsafe rate.

The Commission believes that it is the words "at least" that have resulted in the issue identified by the NGF. These words are unnecessary as no generator would voluntarily submit a ramp rate that is greater than the rate which that generator can safely attain. By removing these words, the clause would read

*" (d) Where a Scheduled Generator, Market Customer or Market Network Service Provider provides a ramp rate to which this clause 3.8.3A applies, that is less than 3 MW/minute, it must provide a ramp rate that is ~~at least~~ the maximum the relevant generating unit, scheduled load or scheduled network service can safely attain at that time."*

Under this revised drafting, a Generator would be required to provide a ramp rate that is the maximum the generating unit can attain at that time. Therefore as NEMMCO's data entry process requires integer numbers, a Generator that can only safely ramp at 1.1 MW/minute would be required to provide a ramp rate of 1 MW/minute because 2 MW/minute is greater than the maximum ramp rate that generator can attain.

### **A.6.3 The Commission's Decision**

The Commission has decided to amend proposed clause 3.8.3A(d) to remove any doubt that the proposed clause could not require generators to ramp at an unsafe rate.

## **A.7 Provision of ramps rates via SCADA**

### **A.7.1 Submissions**

NEMMCO notes that Scheduled Generators are also able to vary ramp rates using SCADA, and that this is the means most commonly used by Generators for varying ramp rates. NEMMCO contends that there are no practical arrangements nor is it feasible for reasons to be provided and recorded when SCADA limits are changed. NEMMCO considers that the AER's proposal should address this issue.

### **A.7.2 The Commission's Analysis and Reasoning**

In the event that a Scheduled Generator seeks to vary ramp rates to parameters outside those specified in the Rules, it has an obligation to comply with the Rules in terms of providing a statement of reasons to NEMMCO.

The Commission acknowledges that when a Generator changes its ramp rates via the SCADA system, there is no provision to provide reasons where the ramp rate is outside the proposed limits. Under such circumstances, the Commission considers that the onus should be on the Generator to rebid that ramp rate through NEMMCO's bidding systems to reflect the revised the ramp rate provided via SCADA systems. The reasons should be provided as part of the rebid.

### **A.7.3 The Commission's Decision**

The Commission has decided not to amend this aspect of the Rule change proposed by the AER.

## **A.8 New definition "maximum nameplate ramp rate"**

### **A.8.1 The AER's proposal**

The AER's proposal would introduce the new definition "maximum nameplate ramp rate" to ensure that the ramp rates provided in accordance with schedule 3.1 are physical maximums.



## **A.8.2 Submissions**

NEMMCO believed that the word “nameplate” is not appropriate as ramp rates limits do not appear on nameplates. NEMMCO proposed removing the word “nameplate” from the definition.

## **A.8.3 The Commission’s Analysis and Reasoning**

The Commission notes that the use of the term ‘nameplate’ may be misleading.

## **A.8.4 The Commission’s Decision**

The Commission has decided to amend the definition to maximum ramp rate as proposed by NEMMCO.

## **A.9 Definition of “ramp rate”**

### **A.9.1 The AER’s proposal**

The AER’s proposal would amend the definition of “ramp rate” by clarifying that the ramp rate must be expressed in MW/minute, and by specifying that a ramp rate can include both upward and downward rates of change.

### **A.9.2 Submissions**

NEMMCO did not believe the addition of the words “upward and downward” adds any value to the definition. The critical concept is the available rate of change that is offered or bid, not the actual ramp rate to which a unit is dispatched. NEMMCO proposed amending the definition of ramp rate to “The rate of change of active power (expressed in MW/minute required for dispatch”.

### **A.9.3 The Commission’s Analysis and Reasoning**

The Commission accepts NEMMCO’s view and reasoning that the distinction between “upward and downward” rate of change is not necessary.

### **A.9.4 The Commission’s Decision**

The Commission has decided to amend the definition of ramp rate in Schedule 3.1.

## **A.10 Market Ancillary Service technical characteristics**

### **A.10.1 The AER's proposal**

The AER's proposal would require Market Ancillary Service Offers to represent the "technical characteristics" of the plant.

### **A.10.2 Submissions**

Delta Electricity contended that a generating unit's FCAS capability can vary from its technical performance standard as a result of changing plant conditions. Delta sought clarification that "technical characteristics" refers to a plant's technical characteristics at the time of dispatch.

TRUenergy stated that ensuring FCAS bids completely align with actual capability is not possible because precise capabilities vary with time and operating conditions. TRUenergy proposed a level of flexibility be provided. TRUenergy understood that considerations of this nature influenced the AER's decision to propose an absolute minimum ramp rate rather than a ramp rate based on technical characteristics.

Macquarie Generation contended that the obligation to demonstrate that Market Ancillary Service Offers represent the physical or technical capability of plant during any particular market event is potentially a cumbersome and costly exercise. Macquarie Generation proposed using a more general approach such as minimum and maximum enablement points which would avoid the need to define the technical capability of the plant. It proposed setting a minimum and maximum enablement points to >60% and <90%, respectively of the unit's registered capacity. This would align the requirements for Market Ancillary Service Offers with that for ramp rates where the AER chose to propose a minimum ramp rate to avoid the costs and difficulties of a solution based on technical limits.

### **A.10.3 The Commission's Analysis and Reasoning**

The Commission accepts the view of Delta Electricity that the 'technical characteristics' should reflect the plants technical characteristics at the time of the dispatch.

The AER considers that the FCAS trapezium is designed to represent technical limitations associated with the plant that will be supplying FCAS, although not explicitly stated in the NER. The AER notes precedents occurring in the past, where FCAS was bid or rebid to pursue commercial objectives, that have affected NEMMCO's ability to ensure security of the system however, the frequency of such occurrences have been low.

The Commission agrees with the AER that the NER needs to clarify that the FCAS bids and rebids should represent technical limitations associated with the plant that will be supplying FCAS.

The Commission notes the preference by TRUenergy and Macquarie Generation for limits to be established for the minimum and maximum enablement points to reflect the fact that it is not possible to completely align the FCAS bids to actual capability and potentially cumbersome and costly exercise to demonstrate that the bids represent physical and technical capability. The alternative of setting the technical parameters with reference to the unit's registered capacity could result in similar issues as for ramp rates where due to aging plant or changing operating conditions a unit is not able to achieve the specified limit. This is likely to require additional Rules that accommodate the needs of those units which may need to operate outside the limits.

With respect to stakeholder concerns as to how the AER may monitor and enforce compliance with the technical limitations imposed by the Rules, the Commission notes that the AER has published an AER Compliance and Enforcement – Statement of Approach. The Statement of Approach states that:

*“The AER aims to work co-operatively with participants to assist them to understand their obligations under the NEL, NER and associated regulations and to develop appropriate compliance programs. Fostering co-operation and voluntary compliance is discussed in chapter 5 of the Statement of Approach. Chapter 5 notes that informing participants about the AER’s approach to its monitoring, compliance and enforcement activities will help to foster a cooperative approach and encourage voluntary compliance. A responsible and cooperative approach on the part of participants will help to minimise the intensity and intrusiveness of the AER’s monitoring, compliance and enforcement activities. The AER welcomes the opportunity to address any questions participants might have regarding compliance with their obligations.”*

The NER requires that the monitoring processes adopted by the AER are amongst other things, consistent over time and cost reflective. In light of the small number of occurrences, the complexity that could result in the Rules for accommodating different conditions, and the fact that the AER would adopt a pragmatic approach to compliance, the Commission believes that clarification that FACS parameters should reflect plants technical capability would be sufficient.

#### **A.10.4 The Commission’s Decision**

The Commission has decided to clarify the proposed Rule 3.8.7A(m) that FCAS rebids made under 3.8.22 must represent technical characteristics at the time of dispatch. The Commission has decided not to establish limits for the minimum and maximum enablement points.

#### **A.11 Dispatch Inflexibility**

##### **A.11.1 The AER’s proposal**

The AER’s proposal would permit generators to declare themselves “inflexible” only when plant technical constraints justify such a declaration.

### **A.11.2 Submissions**

None of the submissions identified any specific issues in relation to the AER's proposed Rule change on this aspect.

### **A.11.3 The Commission's Assessment and Decision**

The Commission considers that requiring relevant scheduled generators and market participants to declare themselves "inflexible" only when plant technical constraints justify such a declaration would improve the market's ability to deliver competitive outcomes and provide NEMMCO with the flexibility to manage events for the safe and secure operation of the power system. The Commission has decided to include the AER's proposed Rule change in the draft Rule.

## **A.12 Semi-Scheduled Generators - Dispatch Offers**

### **A.12.1 Submissions**

NEMMCO submitted comments in relation to the ramp rates of Semi-Scheduled Generators as contained in Schedule 2 of the National Electricity Amendment (Central Dispatch and Integration of Wind and Other Intermittent Generation) Rule 2008 No. 2.

NEMMCO notes that the Commission's final Rule determination on the "Central Dispatch and Integration of Wind and Other Intermittent Generation" Rule change stated that ramp rate limits would be included for Semi-Scheduled Generators. However clause 3.8.6(g) which specifies the contents of a dispatch offer for a Semi-Scheduled Generator does not include ramp rates. NEMMCO contends that this was an omission and proposes amending clause 3.8.6(g) to include ramp rates as part of this Rule change.

### **A.12.2 The Commission's Analysis and Reasoning**

In its Final Determination on the "Central Dispatch and Integration of Wind and Other Intermittent Generation", the Commission's policy position was for ramp rate limits to be included for Semi-Scheduled Generators. The Commission considers that amending clause 3.8.6(g) as proposed by NEMMCO would clarify the Commission's policy position as outlined in its Final Determination on the "Central Dispatch and Integration of Wind and Other Intermittent Generation" Rule change.

### **A.12.3 The Commission's Decision**

The Commission has decided to amend clause 3.8.6(g) of the National Electricity Amendment (Central Dispatch and Integration of Wind and Other Intermittent Generation) Rule 2008 No. 2. to include ramp rate.

## **A.13 Semi-Scheduled Generators – Rebidding Ramp Rates**

### **A.13.1 Submissions**

NEMMCO submitted comments in relation to the ramp rates of Semi-Scheduled Generators as contained in Schedule 2 of the National Electricity Amendment (Central Dispatch and Integration of Wind and Other Intermittent Generation) Rule 2008 No. 2.

NEMMCO notes that clause 3.8.22(b) that relates to rebidding does not include semi-scheduled generating units. NEMMCO submits that semi-scheduled generating units should be included otherwise Semi-Scheduled Generators would not be able to rebid available capacity, dispatch inflexibilities, or ramp rates.

### **A.13.2 The Commission’s Analysis and Reasoning**

In its Final Determination on the “Central Dispatch and Integration of Wind and Other Intermittent Generation”, the Commission’s policy position was for Semi-Scheduled Generators to be able to rebid available capacity, daily energy constraints, dispatch inflexibilities and ramp rates. The Commission considers that applying clause 3.8.22(b)(1) to Semi-Scheduled Generators would clarify the Commission’s policy position as outlined in its Final Determination on the “Central Dispatch and Integration of Wind and Other Intermittent Generation” Rule change.

### **A.13.3 The Commission’s Decision**

The Commission has decided to amend clause 3.8.22(b)(1) of the National Electricity Amendment (Central Dispatch and Integration of Wind and Other Intermittent Generation) Rule 2008 No. 2. to permit Semi-Scheduled Generators to rebid available capacity, daily energy constraints, dispatch inflexibilities and ramp rates.

## **A.14 Semi-Scheduled Generators – Ramp Rates, Market Ancillary Service Offers and Dispatch Inflexibility**

### **A.14.1 Commission’s Considerations**

The Commission notes that the AER’s Rule change proposal does not consider the application of the Rule to Semi-Scheduled Generators as contained in Schedule 2 of the National Electricity Amendment (Central Dispatch and Integration of Wind and Other Intermittent Generation) Rule 2008 No. 2 that is to come into effect in March 2009.

The Commission considers that issues identified by the AER for Scheduled Generators, Market Participants with generating units, scheduled network services and/or scheduled loads is also relevant for Semi-Scheduled Generators in the event of a binding network constraint. Bidding and rebidding of technical parameters such as ramp rates, market ancillary service offers, and dispatch inflexibility by Semi-

Scheduled Generators in the manner outlined by the AER in its Rule change proposal could also inhibit NEMMCO's ability to reduce the output of generators through central dispatch to manage system security.

For this reason, the Commission considers that the AER's proposed Rule change should also apply to Semi-Scheduled Generators.

#### **A.14.2 The Commission's Decision**

The Commission has decided to amend the AER's proposed Rule change to include Semi-Scheduled Generators in addition to Scheduled Generators, Market Participants with generating units, scheduled network services and/or scheduled loads when the National Electricity Amendment (Central Dispatch and Integration of Wind and Other Intermittent Generation) Rule 2008 No. 2 comes into effect.

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