



Australian Energy Market Commission

**Rule Determination**

**National Electricity Amendment  
(Setting VoLL Following the Shedding of  
Interruptible Load) Rule 2008**

Rule Proponent:  
Australian Energy Regulator

20 November 2008

Signed: .....

*John Tamblyn*  
**John Tamblyn  
Chairman**

For and on behalf of  
Australian Energy Market Commission

**Commissioners**

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## **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 and elements of the natural gas markets. 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 on Energy as requested, or on AEMC initiative.

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## Abbreviations

ACCC	Australian Competition and Consumer Commission
AEMC	Australian Energy Market Commission
AER	Australian Energy Regulator
Commission	see AEMC
CPI	Consumer Price Index
EA	EnergyAustralia
ERAA	Energy Retailers Association of Australia
kV	Kilovolt
MCE	Ministerial Council on Energy
NEL	National Electricity Law
NEM	National Electricity Market
NEO	National Electricity Objective
NEMMCO	National Electricity Market Management Company
NGF	National Generators Forum
Rules	National Electricity Rules
TNSP	Transmission Network Service Provider
VoLL	Value of Lost Load

## Summary

### The Commission's determination

The Australian Energy Market Commission (Commission) makes this final Rule determination and attached Rule on the Australian Energy Regulator's (AER's) proposal relating to the setting of the Value of Lost Load (VoLL) following the shedding of interruptible load. The Rule determination and Rule is made in accordance with sections 102 and 103 of the National Electricity Law (NEL) and adopts the position of the Rule change proposal. This final Rule determination also adopts the position of the Commission's draft Rule determination.

### The Commission's reasoning for its determination

The Commission is satisfied that the Rule is likely to promote the National Electricity Objective (NEO). The Rule would ensure that when automatic load shedding occurs National Electricity Market Management Company's (NEMMCO) efforts can be focused exclusively on the tasks of returning the power system to a secure operating state and to restoring load. The Rule will also improve transparency and predictability in respect of how the market is priced, by reducing the scope for (potentially inconsistent) discretionary intervention.

### Summary of the Rule change proposal

On 17 March 2008 the Commission received a Rule change proposal from the AER relating to how the wholesale market is priced when load has been shed automatically as a result of a contingency event (also known as automatic load shedding). The current Rules oblige NEMMCO, in these circumstances, to set the dispatch price equal to its permitted maximum. The permitted maximum price is termed the VoLL and is currently set at \$10,000 per MWh.

The AER Rule change proposes to remove this obligation on NEMMCO. It also proposes to remove a related requirement that, following automatic load shedding, the power system must be returned to a secure state for three dispatch intervals before the dispatch prices can be set to VoLL by NEMMCO. The AER does not propose to alter the obligation on NEMMCO to set the price to VoLL following manual load shedding, as a result of generation scarcity.

The Rule change proposal arose from the AER's investigation into the events that occurred on 16 January 2007. On 16 January, bushfires caused two 330kV transmission lines linking Victoria to New South Wales to trip causing other transmission lines between South Australia and Victoria to trip. The result was a major imbalance between supply and demand, which caused the power system frequency to fall and led to the activation of the Victorian under-frequency load shedding scheme.

## **Consultation**

The Commission published the Rule change proposal in accordance with section 95 of the NEL and submissions closed on 22 May 2008. Four first round submissions were received. Submissions broadly supported the proposals. A small number of issues were raised, which are discussed further in this determination.

The Commission published its draft Rule determination in accordance with section 99 of the NEL on 31 July 2008. Consultation on the draft Rule determination closed on 15 September 2008. One submission to the draft Rule determination was received from the National Generators Forum that re-iterated its alternative solution to this issue made in its first round submission.

On 22 October 2008 the Commission undertook consultation on an alternative to the draft Rule. The specific issue was whether it would be appropriate for the final Rule to provide that the dispatch price be set to VoLL when the load restoration process, following automatic load shedding, is halted due to a lack of available generation capacity. Consultation closed on 6 November 2008. The Commission received two submissions to the specific issue. The AER did not support adopting the alternative while NEMMCO outlined some problems and risks associated with adopting the alternative.

# 1 AER's Rule Proposal

## 1.1 Summary of the Rule change proposal

On 17 March 2008 the Commission received a Rule change proposal from the Australian Energy Regulator (AER). The Rule change proposal sought to remove the obligation on NEMMCO to set the dispatch price to VoLL following the shedding of interruptible load as a result of a contingency event. The Rule change proposal also sought to remove the related requirement that following automatic load shedding, the power system must be allowed to return to a secure state (with amongst other things, the frequency within the normal band), for three dispatch intervals before the dispatch price can be set to VoLL by NEMMCO.

The proposal was submitted following an investigation undertaken by the AER into a load shedding event of 16 January 2007 when bushfires caused transmission lines between Victoria and New South Wales to fail, resulting in separation of the National Electricity Market (NEM) into three electrical islands and the loss of load in Victoria. The investigation also resulted in the AER submitting a Rule change proposal in relation to NEMMCO's processes for classifying contingency events as credible and non-credible.

The AER investigation established that the current Rules have proven difficult for NEMMCO to apply consistently and predictably. The key reasoning cited by the AER in support of its proposal can be summarised as follows:

- In the event of automatic load shedding NEMMCO would be able to focus solely on returning the power system to a secure operating state and to restoring load;
- The risk that market participants are exposed to VoLL incorrectly as a result of NEMMCO intervention would be removed;
- The number of instances in which market prices are not set with reference to bids and offers in the market (which might, in any event, imply prices are at or approaching VoLL) would be reduced, which in turn is more likely to promote efficiency; and
- The proposal does not impose any costs, and indeed frees up NEMMCO resources that would otherwise be used in determining whether or not VoLL should be invoked.

The AER consulted with NEMMCO and the NGF on the Rule change proposal prior to submitting it to the Commission. The AER stated that NEMMCO supported the Rule change proposal but the NGF, while supporting the intent of the Rule change proposal, considered that there were circumstances where the dispatch price should be set to VoLL where there is automatic load shedding.

## 1.2 Background

This Rule change proposal emanated from the AER's "The Events of 16 January 2007 Investigation Report September 2007."<sup>1</sup> The investigation was into the events that occurred on 16 January 2007, when bushfires in the north east of Victoria caused fully loaded 330kV transmission lines between Victoria and New South Wales to trip. This resulted in the separation of the power system into three electrical islands and the activation of the Victorian automatic under-frequency load shedding scheme. Consequently, around 2200 MW of load was lost in Victoria due to the loss of supply from South Australia and New South Wales.

The AER investigated this event and found several short-comings in NEMMCO's management of the power system on this day including:

1. An inconsistent and non-transparent approach to reclassifying contingency events;
2. Poor load restoration processes;
3. Setting the dispatch price to VoLL before being required to under the Rules; and
4. Failing to apply intervention pricing following the direction of generators.

This Rule change proposal relates to the current requirement under the Rules for NEMMCO to set the dispatch price to VoLL when load shedding that has been triggered by a contingency event has occurred, provided that the power system has first been allowed to return to a secure state and that there is ongoing supply shortfall.

The investigation report states:

On 16 January, NEMMCO set the dispatch price to VoLL during load restoration process following automatic load shedding. At the time, the conditions governing the application of VoLL in clause 3.9.2 had not been satisfied. On the basis of the conditions contained in clause 3.9.2, NEMMCO may have been at least half an hour premature in setting the dispatch price to VoLL. Therefore, at the time VoLL was imposed, NEMMCO failed to comply with clause 3.9.2.

NEMMCO's failure to comply with clause 3.9.2 on 16 January and on previous occasions, emphasises the difficulty associated with the assessment required by the clause. The assessment is complex and subjective and is normally undertaken in the context of extreme market conditions. The AER

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<sup>1</sup> AER, The Events of 16 January 2007 Investigation Report, September 2007.



considers that clause 3.9.2 is an unnecessary distraction for NEMMCO when it has more urgent system security issues to deal with.<sup>2</sup>

The AER's Rule change proposal is to remove this requirement.

### **1.3 Links with other projects in the Commission's workstream**

The AER submitted another Rule change proposal relating to the re-classification of contingency events that also emanated from the investigation into the events of 16 January 2007<sup>3</sup>. The final Rule determination and Rule for that Rule change proposal was published by the Commission on 2 October 2008.

### **1.4 Consultation on the Rule proposal**

On 24 April 2008 the Commission commenced consultation on the Rule change proposal. First round consultation closed on 22 May 2008. The Commission received four submissions to the Rule change proposal from the following parties:

- EnergyAustralia (EA);
- National Generators Forum (NGF);
- National Electricity Market Management Company (NEMMCO); and
- Energy Retailers Association of Australia (ERAA).

Submissions broadly agreed with the AER's proposal. The NGF proposed an alternative which retained, in a more limited manner, NEMMCO discretion to set prices to VoLL in the event of automatic load shedding. EA expressed support for also removing NEMMCO's obligations to set the price to VoLL in the event of manual load shedding as a result of generation scarcity. Analysis arising from issues raised in submissions is contained in Appendix A of this Rule determination.

On 31 July 2008 the Commission commenced second round consultation on its draft Rule determination. Consultation closed on 15 September 2008. The Commission received one submission to the draft Rule determination from the NGF. The submission provided additional context and re-iterated its alternative.

On 22 October 2008 the Commission undertook consultation on an alternative to the draft Rule. The specific issue was whether it would be appropriate for the final Rule to provide that the dispatch price be set to VoLL when the load restoration process, following automatic load shedding, is halted due to a lack of available generation capacity. Consultation closed on 6 November 2008. The Commission received two submissions to the specific issue from the AER and NEMMCO. The AER did not

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<sup>2</sup> AER, The Events of 16 January 2007 Investigation Report, September 2007, pp 4 -5.

<sup>3</sup> AEMC, Re-classification of Contingency Events, Rule determination 2 October 2008.

support adopting the alternative while NEMMCO outlined some problems and risks associated with adopting the alternative.

## **2 The Commission's Rule determination**

The Commission has determined in accordance with sections 102 and 103 of the NEL to make, with minor amendments, the Rule. The Rule to be made, which is substantially similar to the proposed Rule put forward by the proponent, is attached to this determination.

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

1. the Commission's powers under the NEL to make the Rule;
2. The proponent's Rule change proposal and proposed Rule;
3. Submissions received;
4. Relevant Ministerial Council on Energy (MCE) statements of policy principles; and
5. The Commission's analysis as to the way(s) in which the Rule will or is likely to contribute to the achievement of the NEO so that it satisfies the statutory Rule making test.

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

The subject matters about which the AEMC may make Rules are set out in Section 34 of the NEL and more specifically in Schedule 1 of 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 the Rules for how prices in the spot market are established);
- The operation of the national electricity system for the purposes of the safety, security and reliability of that system (as it relates to obligations on NEMMCO in circumstances when it is also acting to maintain or establish a secure operating state and to restore load); and
- The activities of persons participating in the NEM or involved in the operation of the national electricity system (as it involves actions which influence how prices are established in the spot market).

The Commission is satisfied that the Rule falls within the subject matters for which the Commission may make Rules, as set out in section 34 of the NEL and in Schedule 1 to the NEL.

## **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 statements of policy principles that currently relate to the setting of VoLL following the shedding of interruptible load.

## **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”.

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.

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

This section of the final Rule determination sets out the Commission’s assessment of the Rule change proposal against the Rule making test. This assessment has been informed by, among other matters, the findings of the AER’s investigation, submissions received in response to consultation and to the Commission’s own analysis.

The Commission's reasoning in its draft Rule determination as to why the Rule proposal passed the Rule making test, can be summarised as follows:

- **Reliability and security:** The Commission accepted the proposition made by the AER, informed by its investigation, that removing an obligation which would otherwise require NEMMCO to commit resources to the task of establishing whether VoLL should be invoked is likely to detract, at the margin, from the ability of NEMMCO also to respond efficiently to the task of establishing a secure operating state and restoring load. This might be expected to have particular relevance in circumstances where decisions are required to be made quickly and in a pressurised environment. The Commission therefore considered that the draft Rule promoted the NEO.
- **Risk for market participants:** The Commission also accepted the proposition that if NEMMCO's obligation to invoke VoLL in the event of automatic load shedding cannot practically be applied robustly and consistently, then there is a risk for market participants. The risk might take the form of prices being set (a) too high, or (b) too low, relative to the price that would arise if the Rules were applied robustly. The task for market participants of hedging this risk (or accepting the consequences of exposure) might be reasonably expected to impose costs which would not be incurred in the absence of this risk.
- **Pricing the market based on bids and offers:** The Commission stated that the rationale for pricing the wholesale market on the basis of bids and offers is that it promotes productive and allocative efficiency. If bids and offers are reflective of underlying resource costs, then a dispatch based on such bids and offers will be efficient. An intervention to price the market at VoLL is likely to detract from the efficient operation of this process, in turn detracting from the efficiency of outcomes. To the extent that the draft Rule reduces the instances in which market prices are not set on the basis of bids and offers, it might be expected to promote the NEO.

The Commission upholds this reasoning in this final Rule determination.

- **NGF proposal:** The NGF in its first round submission put forward an alternative model which would reduce, but not remove entirely, the scope of NEMMCO's obligation in respect of setting VoLL in the context of an automatic load shedding event<sup>4</sup>. It would require NEMMCO to set the dispatch price to VoLL when the power system was in a secure state, but further load restoration would lead to a departure from that state.

While the NGF alternative could, procedurally, be made by the Commission as a 'preferred rule', the Commission was not persuaded in its draft Rule determination that it represented an improvement on the AER proposal. The NGF would still require NEMMCO to exercise judgement in circumstances where the AER investigation established that it is difficult to do so consistently and robustly – and where NEMMCO's efforts might be better focused on power

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<sup>4</sup> NGF Submission, 22 May 2008.

system issues. The NGF alternative would, relative to the AER proposal, reduce the benefits that would otherwise be derived in respect of reliability and security. NEMMCO would still be required to allocate resources to the task of determining whether VoLL should be invoked – and the market would therefore still be required to manage the risk of NEMMCO inconsistency in how the Rule is applied. The Commission therefore did not adopt this proposal in its draft Rule.

In its second round submission the NGF stated that:

- Its alternative is practicable for NEMMCO to implement consistently;
- Its alternative is incorporated in the load restoration process therefore it requires minimal if any additional NEMMCO resources; and
- Market prices other than VoLL are inappropriate in circumstances where the demand currently supplied is not the whole demand that should be supplied<sup>5</sup>.

NEMMCO's submission to the Commission's specific consultation on this issue considered that the NGF's drafting of its alternative created potential difficulties in the load restoration process as it may in some circumstances trigger an undesired demand side response<sup>6</sup>. NEMMCO also noted that the NGF's alternative affords NEMMCO a degree of discretion on when to invoke VoLL and that it has observed dis-orderly bidding behaviours when the price has been set to VoLL during the load restoration process<sup>7</sup>. NEMMCO further noted that the proposed Rule may not materially change price outcomes as prices tend to be high when there is insufficient generation.

The AER's submission to the Commission's specific consultation did not support the NGF's alternative and considered that the risks associated with the additional complexity that it imposed on NEMMCO outweighed the risks associated with an unduly low market determined price in those circumstances<sup>8</sup>.

The Commission considers that the AER's Rule proposal better promotes the NEO over the NGF's alternative. The Commission considers that the AER's Rule proposal is easier to apply in a consistent manner, and less problematic compared to the NGF's alternative and therefore that the AER's proposal provides greater security of supply of electricity for the benefit of consumers. The Commission has therefore not deviated from the decision of its draft Rule determination in this final Rule determination.

- **EA proposal:** EA in its first round submission put forward an extension to the scope of the Rule change proposal, to remove NEMMCO's obligation to set the dispatch price to VoLL following manual load shedding as a result of generation

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<sup>5</sup> NGF submission 15 September 2008

<sup>6</sup> NEMMCO submission 3 November 2008

<sup>7</sup> NEMMCO submission 3 November 2008

<sup>8</sup> AER submission 7 November 2008

scarcity<sup>9</sup>. It contended that this would further reduce the risk of unnecessarily distorting the market. As with the NGF alternative, the Commission could include the EA extension under its power to make a 'preferred Rule'. In its draft Rule determination however, the Commission did not consider that there was sufficient supporting evidence from the AER investigation of the events of 16 January 2007, or from EA, to establish that this issue materially affected the promotion of the NEO. An assessment of this question would, in the view of the Commission, more appropriately be progressed through a new Rule change proposal, if it was deemed to be having material adverse impacts in the market. The Commission did not therefore adopt this proposal in its draft Rule. The Commission has upheld this position in its final Rule determination.

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<sup>9</sup> EA submission, 22 May 2008, p1.

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## A Submission Summary

### First Round Consultation

- Energy Australia**
1. Supports the removal of the obligation for NEMMCO to set the dispatch price to VoLL following automatic load shedding
  2. Supports the removal of the obligation for NEMMCO to set the dispatch price to VoLL following manual load shedding
  3. Considers that allowing the market to set the dispatch price removes the risk of distorting the market by incorrectly setting the price
- NGF**
1. Supports the removal of the current requirements for NEMMCO to set the dispatch price to VoLL following automatic load shedding
  2. Supports replacing these with a requirement that NEMMCO set the price to VoLL where restoring load would lead to a departure from a secure operating state
  3. Considers that this alternate proposal to the AER's will avoid risk for generators and ensure scarcity pricing
- NEMMCO**
1. Supports the policy intent of the Rule change proposal
  2. has provided examples of how the proposal would work in practice
- ERAA**
1. Supports the Rule change proposal
  2. Considers that the Rule change proposal removes market distortions caused by incorrectly setting prices to VoLL

### Second Round Consultation

- NGF**
1. Responded to the draft determination not to accept its alternative
  2. Provided additional information supporting the adoption of its alternative over the AER proposal
  3. Provided additional information in relation to the load restoration process and the demand offset process

### Consultation on Specific Issue

- NEMMCO**
1. Stated that the NGF alternative could be problematic compared to the AER proposal in the load restoration process
  2. That the NGF alternative affords NEMMCO a degree of discretion on when to invoke VoLL
  3. The proposed Rule may not materially change price outcomes in practice as prices tend to be high if there is insufficient generation
  4. NEMMCO has observed dis-orderly bidding behaviours when it has set

VoLL in the past

**AER**

1. That the Commission should not adopt the NGF's proposed amendment as it adds little to the test set out in the Draft Rule
2. The demand offset facility should not form the basis of reversal of the Commission's draft decision, on grounds it does not confer any additional discretion on NEMMCO.