



Australian Energy Market Commission

FINAL RULE DETERMINATION

National Electricity Amendment (Contingency Administered Price Cap Following a Physical Trigger Event) Rule 2009

Rule Proponent

Contingency Administered Price Cap Following a Physical Trigger Event

4 June 2009

JOHN TAMBLYN
Chairman
For and on behalf of the Australian Energy Market Commission

RULE
CHANGE

Inquiries

The Australian Energy Market Commission
PO Box A2449
Sydney South NSW 1235

E: aemc@aemc.gov.au
T: (02) 8296 7800
F: (02) 8296 7899

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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 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 as requested, or on AEMC initiative.

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Abbreviations

AEMC	Australian Energy Market Commission
AER	Australian Energy Regulator
APP	Administered Price Period
CAPP	Contingency Administered Price Period
Commission	see AEMC
CPT	Cumulative Price Threshold
DSP	Demand Side Participation
FM	Force Majeure
IRSR	Inter-Regional Settlement Residue
MCE	Ministerial Council on Energy
MPL	Market Price Limit
NECA	National Electricity Code Administrator
NEL	National Electricity Law
NEM	National Electricity Market
NEMMCO	National Electricity Market Management Company
NEO	National Electricity Objective
NGF	National Generators Forum
Rules	National Electricity Rules
SCO	Standing Committee of Officials
SECV	State Electricity Commission of Victoria

Summary

On 10 October 2008, the Australian Energy Market Commission (Commission) received a Rule change proposal from the National Generators Forum (NGF) to establish the concept of a Contingency Administered Price Period (CAPP) in the Rules.

Summary of the Rule change proposal

The NGF's Rule change proposal would establish the concept of a CAPP in the National Electricity Rules (Rules). A CAPP could be triggered by a non-credible contingency event that has a material impact on dispatch. For the duration of a CAPP, the spot price would be capped at the same level as applies for Administered Price Periods (currently \$300/MWh).

In its proposal, the NGF contended that non-credible contingency events create significant financial risk for generators. Following a contingency event a generator's dispatch can be constrained to the point that the generator can no longer cover its forward contract positions. This can lead to significant financial losses. Capping the spot price at \$300 would limit the magnitude of these losses. The NGF contended that financial risk from non-credible contingency events can be difficult to manage because such events are rare and unpredictable.

The Commission's decision

In accordance with section 102 of the National Electricity Law (NEL), the Commission has determined not to make the Rule proposed by the NGF.

The Commission's reasoning for its decision

The Commission considers that the Rule change proposal is unlikely to contribute to the achievement of the National Electricity Objective (NEO). The Commission considers that the Rule change proposal would be likely to:

- distort investment signals creating an inefficient bias towards investment in baseload generation. This would likely lead to a sub-optimal generation mix in the long term;
- reduce incentives for peaking generators and demand side participation to efficiently respond following a non-credible contingency event. This would reduce the efficiency of dispatch and pricing, and could threaten system security at times of supply scarcity;
- increase demand from participants for compensation in relation to CAPPs and NEMMCO directions. This would reduce the efficiency of both wholesale and retail prices; and
- place additional responsibilities on NEMMCO at a time when NEMMCO's control room should be focussed on managing power system security. This

would increase the probability of errors being made by NEMMCO's control room, thus reducing the efficiency of operations and risking system security.

The Rule change proposal would provide an additional form of risk mitigation for some generators, which would allow those generators to lower their prices. However the Commission considers this benefit to be small relative to the detrimental effects of the Rule change proposal as outlined above.

The Commission notes that measures are currently available for generators to mitigate forward contract volume risk. In addition, the Commission considers that if further risk mitigation is required, it would be less problematic to establish new arrangements outside of the NEM regulatory regime. This would avoid market intervention and therefore only impact those participants that are likely to benefit from the arrangement.

For these reasons, the Commission considers that the Rule making test under section 88 of the NEL has not been satisfied.

1 The National Generators Forum's Rule change proposal

On 10 October 2008, the National Generators Forum (NGF) submitted a Rule change proposal (the Rule proposal) to introduce into the National Electricity Rules (Rules) the concept of a Contingency Administered Price Period (CAPP).

1.1 The Issue

Following a contingency event, the National Electricity Market Management Company (NEMMCO) often invokes new constraints so that the power system remains secure and no load is lost. These constraints can limit the dispatch of a generator. This can create financial risk for a generator participating in the National Electricity Market (NEM) as its dispatch may now be insufficient to cover its forward electricity contracts resulting in potentially large difference payments to the contract counter party.

Credible contingency events¹ are those contingency events that are considered by NEMMCO to be “reasonably possible”. Credible contingency events are generally well defined enabling their impact to be analysed and their likelihood of occurrence to be assessed. As such, prudent market participants can efficiently implement measures to mitigate their exposure to the risks of credible contingency events (such as a generator offering less than its full capacity into forward contract markets).

Non-credible contingency events² are those contingency events that NEMMCO considers are “not reasonably possible”. For all practical purposes, there is an infinite number of non-credible contingency events. As such, they are rare and their nature is difficult to predict. This creates difficulties for participants to efficiently implement measures to mitigate their exposure to the risks of non-credible contingency events.

The materiality of the issue is compounded by the possibility of high spot prices accompanying contingency events due to supply scarcity conditions created by the event. High spot prices increase any difference payments under forward electricity contracts.

The NGF contended that the financial impact of non-credible contingency events can be high and largely unmanageable, due to the rare and unpredictable nature of such events combined with the potential for high spot prices.

1.2 The Rule Proposal

The Rule proposal would cap the spot price when a CAPP is triggered by certain types of power system events.

¹ Defined under clause 4.2.3(b) of the Rules.

² Defined under clause 4.2.3(e) of the Rules.

A CAPP would be triggered by a power system disruption that satisfies the following three criteria:

1. the incident must be genuinely unexpected and unusual (i.e. a non-credible contingency event);
2. the consequential power system disruption must physically affect generators or other market participants that did not cause it; and
3. the incident must have a material impact on dispatch (this would be determined as when the aggregate generation capacity tripped or the aggregate reduction in flows across a constrained part of the network exceeds the higher of 300 MW or 4% of average-weather summer peak demand for a region).

Spot prices would be set during a CAPP using the same logic (including the cap and floor price levels of +/- \$300/MWh) as for Administered Price Periods (APP). Compensation provisions for parties adversely affected by a CAPP would also be identical to compensation provisions for parties adversely affected by an APP.

A CAPP would have a minimum length of two hours. A CAPP would end when either:

- 24 hours has passed since the time of the trigger event;
- NEMMCO determines the trigger event no longer has a material impact on dispatch; or
- sufficient disconnected generation is restored and all but one of the transmission outages have been restored.

Capping the spot price would limit the financial losses that a generator affected by a non-credible contingency event would be exposed to.

2 The Commission's Final Rule Determination

In accordance with section 102 of the National Electricity Law (NEL), the Commission has determined not to make the Rule proposed by the NGF.

This Final Rule determination sets out the Commission's reasons for not making the Rule proposal. The Commission has taken into account:

- the Commission's powers under the NEL to make a Rule;
- any relevant Ministerial Council on Energy (MCE) statements of policy principles;
- stakeholder submissions; and
- the Commission's analysis as to the ways in which the 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 NEL and more specifically in Schedule 1 to the NEL.

The Rule proposal falls within the subject matters that the AEMC may make Rules about as it relates to regulating:

- (i) the operation of the NEM (as it relates to the setting of spot prices);
- (ii) the operation of the national electricity system for the purposes of the safety, security and reliability of that system (as it relates to the investment incentives in the NEM and incentives on Registered Participants to respond to power system events); and
- (iii) the activities of persons participating in the NEM (as it relates to the methodology for setting spot prices which affects the spot market earning potential of Registered Participants).

The Commission is satisfied that the Rule proposal is a subject 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 relevant MCE statement of policy principles in applying the Rule making test. The Commission notes that currently there is no relevant MCE statement of policy principles that relates to the issues contained in the Rule 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”.³

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 Rule proposal, the more preferable Rule will or is likely to better contribute to the achievement of the NEO.

2.4 Consultation

2.4.1 1st Round Consultation

On 6 November 2008, the Commission published a notice under section 95 of the NEL advising of its intention to commence the Rule change process and first round consultation on the NGF’s Rule proposal.

The Commission invited interested parties to provide submissions on the Rule proposal by 23 January 2009.

Six first round submissions were received from the following organisations:

- Snowy Hydro
- Origin Energy
- Hydro Tasmania
- State Electricity Commission of Victoria (SECV)

³ Section 88 of the NEL.

- NEMMCO
- Energy Response

No submission supported the Rule proposal. Following is a summary of the main reasons stakeholders considered the Rule proposal should not be adopted.

- Measures to manage financial risk are already available to Market Participants, such as force majeure (FM) provisions in forward contracts, and as such the Rule proposal is unnecessary.
- The Rule proposal would reduce incentives for some peaking generators and demand side participants (DSP) to respond to a power system event because their costs could be greater than the \$300/MWh level of the spot price cap.
- The Rule proposal would reduce incentives to invest in new peaking generation and DSP which typically rely on a short duration of high spot prices to be economically viable. This would distort the appropriate mix of generation plant in the long term.
- The Rule proposal would place additional responsibilities on NEMMCO to make decisions at a time when NEMMCO control room staff would likely be under pressure managing power system security. This additional pressure would increase the probability of errors being made by control room staff.

Snowy Hydro proposed the establishment of a Spot Market Insurance Fund, as an alternative to the Rule proposal. Under Snowy Hydro's proposal, Market Participants would be able to voluntarily contribute to an insurance fund. When such a participant is impacted by certain power system events, that participant may apply for compensation from the fund. Origin Energy and NEMMCO also considered that the establishment of an insurance fund to manage the financial risk of NEM participation was preferable to the NGF Rule proposal because it would not require market intervention.

The Commission's responses to views presented in submissions are contained in Appendix A.

2.4.2 Supplementary Submissions

A supplementary submission was received from the NGF (this submission was not supported by NGF members Hydro Tasmania, Origin Energy, or Snowy Hydro). The NGF's main points were that:

- the NGF was holding discussions with NEMMCO to find changes to the Rule proposal that would make NEMMCO comfortable that the proposal could be implemented without adverse consequences to other NEMMCO responsibilities;
- insurance products such as that proposed by Snowy Hydro do not mitigate the financial risk of non-credible contingency events but rather the costs of that risk are spread over time and between insured parties; and

- that the Rule proposal would typically impact market prices on one occasion a year.

2.4.3 2nd Round Submissions

On 12 March 2009, the Commission gave notice under section 99 of the NEL advising of the making of the draft Rule determination on the NGF's Rule change proposal.

The Commission invited interested parties to provide submissions on the draft Rule Determination by 24 April 2009.

Two second round submissions were received from the following organisations:

- Snowy Hydro
- NGF (this submission was not supported by NGF members Hydro Tasmania, Origin Energy, or Snowy Hydro)

Snowy Hydro supported the Commission's draft Rule determination.

The NGF did not support the Commission's draft decision, and stated that its primary contention remained that:

“the current risk exposure created by the potential impact of non-credible contingency events is not appropriate as:

- the financial risks associated with non-credible contingency events can be significant;
- there is a fundamental absence of evidence to support the view that these unpredictable events provide investment signals; and
- the risk cannot be readily managed by generators and there is an absence of viable risk management mechanisms for this risk.”⁴

The Commission's responses to views presented in submissions are contained in Appendix A.

2.5 The Commission's assessment of the Rule proposal against the NEO

This section of the final Rule determination sets out the Commission's assessment of the Rule proposal against the NEO. The impact of the Rule proposal is relevant to several aspects of the NEO, including efficient investment in the NEM, efficient operation of the NEM, price, and power system reliability and security.

⁴ NGF, *Submission to Draft Rule Determination*, 24 April 2009, p. 1

The Commission considers that there are two particular aspects of the Rule proposal that would make a significantly negative contribution to the achievement of the NEO. These are:

1. The Rule proposal would intervene in the operation of the NEM preventing any opportunity for an efficient market response to a power system event. This would likely result in a less efficient dispatch outcome and could reduce the response of some peaking generators and DSP to a power system event thus reducing NEMMCO's ability to restore power system security.
2. The Rule proposal is manually intensive to implement, placing additional responsibilities on NEMMCO's control room staff at a time when the focus of the control room should be on power system security. This has the potential to increase NEMMCO operational errors.

For the reasons outlined below, the Commission considers that the Rule proposal is unlikely to contribute to the achievement of the NEO, and as such does not satisfy the Rule making test under section 88 of the NEL.

Detailed analysis of the Rule proposal is contained in Appendix A.

2.5.1 Investment

Peaking generators and DSP typically rely on a short duration of high spot prices to be economically viable. The Rule proposal would reduce the frequency of high priced events which would reduce the economic viability of peaking generators and DSP.

The key benefit of the Rule proposal, that is reduced forward contract volume risk, is likely to be most beneficial for baseload generators due to the nature of their operations. This would improve the economic viability of baseload generation relative to peaking generation.

Considering these two factors, the Commission believes that the Rule proposal would distort investment signals in favour of baseload generation. This would likely result in a sub-optimal generation mix in the long term.

However the Commission considers the impact of the Rule proposal on investment is likely to be small. This is because the CAPP is likely to be triggered infrequently, and investors would place a lower weighting on forecast earnings from unpredictable events such as non-credible contingency events.

The Commission therefore considers that overall the Rule proposal is likely to decrease investment efficiency in the NEM, however the impact is likely to be small.

2.5.2 Operation

The Rule proposal would reduce incentives on peaking generators and DSP to respond to a contingency event as the cost of operation for peaking generators (particularly non-scheduled peaking generators) and DSP can be greater than the

level of the price cap. In addition, delays in NEMMCO assessing conditions for triggering a CAPP would create uncertainty, and some peaking generators and DSP may delay responding to an event until it is clear that a CAPP will not be invoked. This would reduce the efficiency of dispatch as less efficient equipment may need to be dispatched or directed in place of the peaking generation and DSP.

The Rule proposal would place additional responsibilities on NEMMCO at a time when NEMMCO's control room should be focussed on managing the contingency event. This would increase the likelihood of operational errors being made by NEMMCO's control room staff.

The Commission therefore considers that overall the Rule proposal is likely to decrease the operational efficiency in the NEM.

2.5.3 Prices

Reduced forward contract volume risk would allow some generators to lower their prices. However reduced availability of peaking generators and DSP would result in a less optimal dispatch where higher cost plant may need to be dispatched. This would increase compensation payable due to the CAPP, and could also result in increased use of directions to manage power system security (directed parties are also eligible to claim compensation).

Compensation in relation to a CAPP would be recovered from market customers. It is very difficult for market customers to hedge this cost. Prudent market customers would increase the risk capital they hold to cover the increased cost of funding unpredictable compensation. This would increase the cost of a market customer's operations. As such, the Rule proposal would to some extent transfer risk from generators to market customers. Where possible, market customers would pass compensation and risk capital costs to end-use customers.

The Commission considers that the above price effects are inefficient because they are influenced by market intervention and compensation payments, and not efficient market forces.

The Commission therefore considers that the Rule proposal is likely to decrease the efficiency of price setting in the NEM.

2.5.4 Security and Reliability

Reduced availability of peaking generators and DSP could threaten system security and reliability when a CAPP is triggered at a time of supply scarcity (including localised sub-regional supply scarcity). There could be insufficient capacity available for dispatch to satisfy demand. NEMMCO could direct those generators that have bid themselves unavailable to generate, however there are time delays with issuing and responding to directions. In addition, NEMMCO does not have the power to direct many embedded generators and DSP.

Increased responsibility for NEMMCO's control room staff following a contingency event could increase the probability of operational errors in relation to power system restoration.

The Commission therefore considers that the Rule proposal is likely to decrease the security and reliability of the NEM.

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A Analysis

A.1 Frequency of Conditions for a CAPP

1st Round Submissions and Rule Proposal

NEMMCO ⁵ identified six events since 2006 that may have required application of the proposed CAPP.

Supplementary Submissions

The NGF ⁶ believed that only 4 of the 6 potential events identified by NEMMCO in its 1st round submission would now trigger a CAPP. The NGF contended that this reduction is a result of changes made to NEMMCO's process for reclassifying contingency events.⁷ The NGF also noted that for each of these events, the uncapped prices were below the level of the Administered Price Cap, and as such the CAPP would not have effected market outcomes. The NGF concluded that it would be reasonable to expect that their Rule proposal would impact market prices for a limited period only, typically just one occasion a year.

2nd Round Submissions

No second round submissions addressed this issue.

The Commission's Analysis for Final Rule Determination

The Commission notes that the information provided in submissions suggests that historically conditions for invoking a CAPP occurred infrequently. This information was not disputed in any submissions, and the Commission considers this observation to be reasonable.

The Commission has not forecast the frequency of conditions for a CAPP for future years because the Commission considers that a finding that the frequency increases would not provide greater support to the Rule proposal, and hence would not effect the Commission's decision. The Commission considers that a greater frequency of CAPP conditions would exacerbate the problems discussed in this final Rule determination.

The Commission's Final Position

As discussed above, the Commission notes that conditions for a CAPP have historically occurred infrequently.

⁵ NEMMCO, *Submission to Rule Proposal*, 29 January 2008, p. 3

⁶ NGF, *Supplementary Submission*, 10 March 2008, p. 3

⁷ The Commission understands that the NGF is referring to changes as a result of the National Electricity Amendment (Reclassification of Contingency Events) Rule 2008 No. 8. Available at: www.aemc.gov.au/electricity.php?r=20080407.133712

A.2 Need for the Rule proposal

1st Round Submissions and Rule Proposal

The NGF⁸ outlined the financial risk faced by generators due to some non-credible contingency events where the dispatch of a generating unit is constrained to a level at which the generator can no longer cover its contract position in forward markets.

The NGF contended that such risk is largely unmanageable because non-credible contingency events occur infrequently.

Snowy Hydro⁹, SECV¹⁰, and Hydro Tasmania¹¹ considered that the financial risk created by non-credible contingency events can currently be managed through measures such as FM provisions in contracts.

The NGF¹² raised a number of practical concerns with the use of FM provisions to mitigate risk including:

- FM provisions would just pass the risk of non-credible contingency events to retailers who would have difficulty passing the risk to customers (particularly to small customers whose standard contracts prevent the pass-through of such risks);
- FM events would be difficult to identify since only NEMMCO has this information in real time;
- historically, it has been impossible for generators to gain market acceptance for introducing FM provisions in forward contracts; and
- the trend in forward markets is towards simple “vanilla” contracts, and as such introducing new FM provisions would run counter to this trend.

In addition, Hydro Tasmania¹³ listed the following additional ways that prudent market participants, including generators, can manage risks in the market including:

- location of generation in the system;
- reliability and availability of plant;
- diversification of generation mix in the system;
- demand side management;

⁸ NGF, *Rule Proposal*, October 2008, p. 3

⁹ Snowy Hydro, *Supplementary Submission to Rule Proposal*, 20 January 2009, p. 5

¹⁰ SECV, *Submission to Rule Proposal*, 29 January 2009, p. 2

¹¹ Hydro Tasmania, *Submission to Rule Proposal*, 23 January 2009, p. 1

¹² NGF, *Rule Proposal*, October 2008, p. 8

¹³ Hydro Tasmania, *Submission to Rule Proposal*, 23 January 2009, p. 1

- contracting portfolio (composition and level);
- inter-regional settlement residues;
- weather derivatives;
- risk sharing arrangements (co-insurance); and
- Administered Price Period (APP) arrangements.

Origin Energy¹⁴ considered that spot price capping (market intervention) is only justifiable in the context of market failure. Origin was not convinced that the occurrence of a trigger event, as defined in the Rule proposal, constituted a market failure because the market would not necessarily fail to clear under such events.

The Commission's Analysis for Draft Rule Determination

The Commission acknowledged the financial risk created by non-credible contingency events, and understands that generators can suffer substantial financial losses when this risk is not appropriately managed.

The Commission recognised the complexity of managing financial risks created by non-credible contingency events. Non-credible contingency events are infrequent, and their nature is difficult to predict.

However the Commission did not agree with the NGF's contention that these risks are "unmanageable". As outlined by Hydro Tasmania, there are a range of possible options available for generators to manage financial risk created by non-credible contingency events. Each of these options would be available at a cost, and would offer various degrees of risk mitigation. FM provisions, for example would provide a high level of risk mitigation to generators, but as the risk is passed to the contract counter-party such provisions would likely be offered at high cost.

The Commission's Draft Position

The Commission acknowledged that non-credible contingency events can create financial risk for generators.

2nd Round Submissions

Snowy Hydro¹⁵ contended that there is no evidence of market failure that warrants the adoption of the Rule proposal as the market has satisfactorily cleared when non-credible contingency events have occurred. Snowy Hydro contended that the Rule proposal is an attempt to obtain "free" market insurance for baseload generation.

The NGF¹⁶ contended that there is general agreement that the occurrence of non-credible contingency events represents a significant risk to market participants. In

¹⁴ Origin Energy, *Submission to Rule Proposal*, 23 January 2009, p. 1

¹⁵ Snowy Hydro, *Submission to Draft Rule Determination*, 20 April 2009, p. 1

¹⁶ NGF, *Submission to Draft Rule Determination*, 24 April 2009, p. 2

the NGF's view, their Rule proposal, by reducing risk, would benefit the NEM by encouraging prudent and stable investment and reduced risk for generators generally.

The Commission's Analysis for Final Rule Determination

The Commission's position has not changed from the draft Rule determination. The Commission acknowledges that non-credible contingency events can create financial risk for generators. The Commission also acknowledges that reducing this risk would benefit those generators exposed to it (mainly baseload generators). The Commission recognised in the draft Rule determination that there are a number of options currently available to generators to mitigate the financial risks, but that these options would generally be available at a cost to the generator.

However a Rule proposal is not considered in isolation. As discussed in Chapter 2, the Commission may only make a Rule if it is satisfied that the Rule will or is likely to contribute to the achievement of the NEO. As such, the Commission considers all likely impacts of a proposed Rule. For this particular Rule, as discussed further in this Appendix, the Commission has identified impacts on investment and operational efficiency, security and reliability, and costs and risks to other market participants.

The Commission's Final Position

As discussed above, the Commission acknowledges that non-credible contingency events can create financial risk for generators, and that there are currently options available at a cost for generators to mitigate those risks.

A.3 Operational Incentives

1st Round Submissions and Rule Proposal

Snowy Hydro ¹⁷, Origin Energy ¹⁸, Hydro Tasmania ¹⁹, SECV ²⁰, and NEMMCO ²¹ contended that the proposed Rule would distort generator and demand side incentives to respond to a contingency event in the most efficient manner. At a capped spot price of \$300/MWh, it would not be economic for many peaking generators and DSP to operate. This could result in the need for NEMMCO to issue directions that would subsequently require compensation.

Origin Energy ²² and Hydro Tasmania ²³ also noted that the price cap could be extended to other regions to prevent the accrual of negative inter-regional settlement

¹⁷ Snowy Hydro, *Supplementary Submission to Rule Proposal*, 20 January 2009, p. 2

¹⁸ Origin Energy, *Submission to Rule Proposal*, 23 January 2009, p. 2

¹⁹ Hydro Tasmania, *Submission to Rule Proposal*, 23 January 2009, p. 2

²⁰ SECV, *Submission to Rule Proposal*, 29 January 2009, p. 1

²¹ NEMMCO, *Submission to Rule Proposal*, 29 January 2009, p. 9

²² Origin Energy, *Submission to Rule Proposal*, 23 January 2009, p. 2

²³ Hydro Tasmania, *Submission to Rule Proposal*, 23 January 2009, p. 2

residues.²⁴ This would increase the distortionary effects and could potentially lead to market suspension.

The NGF²⁵ considered this concern is largely addressed by the provision of compensation to generation and DSP that is dispatched below its offer price, in the same way as it is addressed for price capping during an APP. For non-scheduled generation and load that is not eligible for compensation, the NGF contended that these parties would not be expected to respond quickly to sudden, unexpected price changes and so the NGF considered that price capping would probably not materially effect their behaviour.

The SECV²⁶ disagreed with the NGF's view on the ability for non-scheduled generation and load to respond quickly to a sudden price change. The SECV noted that there are already some large, non-scheduled loads (e.g. aluminium smelters) that have demonstrated the capability to rapidly respond to high-price triggers, and as such price-capping would materially affect their behaviour.

NEMMCO²⁷ contended that the Commission should consider whether the benefits of applying a CAPP to limit generators' forward contract volume risk outweighs the benefit of allowing the interaction of supply and demand to send price signals which promote appropriate market responses during periods of supply scarcity.

The Commission's Analysis for Draft Rule Determination

The Commission considered that for some peaking generators and DSP, it would not be economic to operate at a spot price capped at \$300/MWh. This would reduce the pool of generation and load curtailment available to NEMMCO to restore power system security following a contingency event where a CAPP is invoked. This would result in a less optimal dispatch outcome as less efficient plant may be dispatched in place of the peaking generators and DSP. It would also increase the likelihood of NEMMCO needing to issue directions, potentially leading to costly compensation claims.

The Commission considered that some participants would be eligible to make compensation claims²⁸ to recover some of the spot market revenue lost due to the CAPP. However compensation payments would only cover a participant for direct costs and opportunity costs, and as such would not provide the same degree of incentive as a high spot price. In addition, generators and load that are non-scheduled (including almost all DSP and many peaking generators) are not eligible to apply for compensation. Those parties that are not eligible for compensation and whose short run marginal costs are greater than \$300/MWh could potentially lose money by operating during a CAPP.

²⁴ Following the same approach as for APPs.

²⁵ NGF, *Rule Proposal*, October 2008, p. 32

²⁶ SECV, *Submission to Rule Proposal*, 29 January 2009, pp. 2,3

²⁷ NEMMCO, *Submission to Rule Proposal*, 29 January 2009, p. 9

²⁸ Following the same approach as for APPs.

The Commission did not agree with the NGF's statement that non-scheduled generators and loads would not be expected to respond quickly to sudden and unexpected price changes. The Commission considered that customers, in particular, have the ability to curtail load quite rapidly. As the NEM evolves, the Commission considered that rapid load curtailment will play an increasingly important role in efficiently balancing supply and demand.

The Commission's Draft Position

The Commission considered that the Rule proposal would distort price signals reducing the incentive for peaking generators and DSP to efficiently respond to a power system event.

2nd Round Submissions

Snowy Hydro ²⁹ supported the Commission's draft assessment that price signals would be distorted when a CAPP is triggered.

The Commission's Analysis for Final Rule Determination

As the only comment received in second round submissions in relation to this issue supported the Commission's draft position, the Commission has not changed its position in relation to the this issue from the draft Rule determination.

The Commission's Final Position

For the reasons discussed above, the Commission considers that the Rule proposal would distort price signals reducing the incentive for peaking generators and DSP to efficiently respond to a power system event.

A.4 Investment Signals

1st Round Submissions and Rule Proposal

Snowy Hydro ³⁰, Origin Energy ³¹, and Hydro Tasmania ³² contended that blunting the spot price would significantly reduce incentives on peak plant entry and DSP which typically rely on a short duration of high spot prices to be economically viable. This would distort the appropriate mix of generation plant in the long term. For new generation investment and DSP, what matters is the price irrespective of whether it was brought about from a non-credible contingency event or as a result of supply scarcity.

²⁹ Snowy Hydro, *Submission to Draft Rule Determination*, p. 1

³⁰ Snowy Hydro, *Supplementary Submission to Rule Proposal*, 20 January 2009, pp. 2,3

³¹ Origin Energy, *Submission to Rule Proposal*, 23 January 2009, p. 2

³² Hydro Tasmania, *Submission to Rule Proposal*, 23 January 2009, p. 4

The NGF³³ noted that potential investors in generating capacity consider the risks of participating in the NEM when assessing the economic viability of a new project. The NGF contended that its proposed Rule, by reducing the risks that generators are exposed to, would improve investment efficiency, increase the level of investment, and therefore lead to lower wholesale and retail prices.

The NGF contended that the impact of the proposed Rule on the decisions of investors in new generation and DSP is unlikely to be material because the CAPP would be rarely triggered.

The Commission's Analysis for Draft Rule Determination

The Commission considered that the proposed Rule would impact investment in two ways.

1. Capping the spot price would reduce the economic viability of investment in peaking generation and DSP.

Peaking generators and DSP generally have low upfront investment costs, but high operating costs. For the majority of dispatch intervals in a year it is uneconomic for them to operate, and they therefore rely on just a few high priced events a year to recover their investment cost. Reducing the number of high priced events by even a small amount could have a significant impact on the ability for a peaking generator or DSP to recover its investment cost, and would hence impact the economic viability of such an investment. As compensation that is available during a CAPP does not specifically allow for the recovery of investment costs³⁴, even those peaking generators eligible for compensation would be impacted by the Rule proposal.

2. Reducing the risk of participating in the NEM would increase the economic viability of some projects.

Investors take the risk of NEM participation into account when considering the economic viability of a project. The Rule proposal, by reducing the risk of NEM participation, would increase the viability of some projects. The significance of this benefit would depend on the capability of the investor (potentially already a NEM participant) to manage NEM participation risk without the Rule proposal.

The Rule proposal has the potential to reduce forward contract volume risk for many generators, however this would depend on each generator's forward contracting strategies. The Commission considered the generators with the potential to benefit most would be large baseload generators. Baseload generators are likely to have several large units located at the one location, and would be more likely to be located in a less heavily meshed location on the network (compared to peaking generators which can be embedded within distribution networks). This makes them more

³³ NGF, *Rule Proposal*, October 2008, p. 32

³⁴ Note that the Commission is currently developing guidelines for determining compensation payments. The Commission's proposed compensation guidelines are available at: <http://www.aemc.gov.au/electricity.php?r=20090305.161730>

susceptible to being materially impacted by dispatch constraints caused by non-credible contingency events.

Considering the two factors influencing investment as outlined above, the Commission considered that it is likely that the proposed Rule would result in more favourable investment conditions for baseload generators, and less favourable investment conditions for peaking generators and DSP. This would likely result in baseload generation making up a greater proportion of the generation mix in the future.

The Commission considered that peaking generation and DSP play an important role in efficiently satisfying NEM demand. Some peaking generation or DSP may only be required for small number of dispatch intervals a year. As the capital cost of peaking generation or DSP is low compared to baseload generation, it is most efficient for peaking generation or DSP to meet annual demand peaks. The need for peaking generation is efficiently signalled through high spot prices thus allowing capital costs to be recovered from a short duration of operating hours.

The Commission considered that increased investment in baseload generation, in place of peaking generation, would result in equipment with high capital costs operating for only short durations to meet demand peaks. This is not efficient for the plant, as baseload generation generally operates most efficiently at a relatively stable loading, and it is also not efficient from a pricing perspective as these generators would need to offer their capacity at a higher price to recover investment cost over fewer operating hours.

The NGF argued that high prices due to non-credible contingency events are inefficient because they do not signal regional supply scarcity. The Commission considered that high prices due to non-credible contingency events can be important as they signal local supply scarcity, and incentivise those generators that can respond to address an event to generate.

The Commission's Draft Position

The Commission considered that efficient investment signals would be distorted by the Rule resulting in increased investment in baseload generation relative to peaking generation and DSP.

2nd Round Submissions

The NGF³⁵ contended that it is not appropriate to consider non-credible contingency events as drivers of investment. Non-credible contingency events are by their definition events that are not reasonably expected, and are outside of the technical envelope that NEMMCO is expected to operate the NEM within. The NGF questioned whether an investor would choose to invest on the basis of events that are not reasonably possible and actively avoided.

The Commission's Analysis for Final Rule Determination

³⁵ NGF, Submission to Draft Rule Determination, 24 April 2009, pp. 2,3

As discussed in the analysis for the draft Rule determination, the Commission considers that the Rule proposal would reduce forward contract volume risk for generators, with baseload generators benefiting most. The Commission also considers that the proposed Rule could disadvantage peaking generators and DSP because of reduced earning potential. As such, the Commission considers that the proposed Rule would distort investment incentives in favour of baseload generation.

However the Commission considers that the NGF's arguments are valid in assessing the materiality of the investment incentive distortion. Historically, conditions for invoking a CAPP only occurred a couple of times a year, and of those occurrences perhaps just one or two CAPP applications a year would have materially effected market outcomes because the uncapped prices remained below the level of the Administered Price Cap.³⁶ The Commission considers that infrequent application of the CAPP would reduce the materiality of any investment incentive distortion. The Commission also agrees with the NGF's argument that the unpredictable nature of non-credible contingency events would reduce the weighting an investor may place on potential earnings from high spot prices caused by non-credible contingency events. However non-credible contingency event derived price spikes may contribute to statistical analysis of potential spot market earnings.

The Commission therefore considers that the proposed Rule would distort investment incentives, but the effect is likely to be minor relative to some other impacts of the proposed Rule.

The Commission's Final Position

For the reasons discussed above, the Commission considers that efficient investment signals would be distorted by the proposed Rule resulting in increased investment in baseload generation relative to peaking generation and DSP. However the Commission considers that the impact on investment would be minor relative to some other impacts of the Rule proposal.

A.5 Power System Security and Reliability

1st Round Submissions and Rule Proposal

The NGF³⁷ contended that following a major power system event, the resulting instability may create a disorderly market where rebidding cannot respond quickly enough to changing conditions. The NGF contended that the proposed Rule would moderate this disorder, and as a result hasten power system restoration and improve the reliability and efficiency of electricity supply.

The Commission's Analysis for Draft Rule Determination

The Commission did not agree with the NGF's argument that the proposed Rule would mitigate disorderly market conditions following a power system event.

³⁶ The frequency of conditions for triggering a CAPP are discussed further in Section A.1.

³⁷ NGF, *Rule Proposal*, October 2008, p. 29

During the period between when a non-credible contingency event occurs and when NEMMCO invokes (or does not invoke) a CAPP, market participants would be uncertain as to whether criteria for a CAPP have been met. As such, rebidding in response to the changing conditions is likely to continue on the basis that the spot price is not capped. Then if a CAPP is invoked, more rebidding is likely to take place in response to yet another set of market conditions. The Commission therefore considered that the Rule proposal has the potential to create more market disorder, and thus further complicate power system restoration.

The Commission considered that reduced incentives for peaking generation and DSP to respond to a contingency event would reduce the pool of generation and DSP available to respond to that event. This would increase the probability that insufficient capacity or ramping capability is available to maintain power system security following a contingency event. Even if a CAPP is not invoked, some generators and DSP may not respond because they incorrectly believe that a CAPP will be invoked.

The Commission considered that the proposed Rule would place additional responsibilities on NEMMCO's control room staff for the period following a contingency event. In its submission, NEMMCO stated that:

"NEMMCO's experience is that control room staff are fully occupied during the first 30 minutes following a major system event. Given this, NEMMCO's main concern is that the proposed Rule would require system operators to make a number of determinations regarding the setting of a CAPP following a trigger event when their attention should be focussed on maintaining the security of the power system."³⁸

Whilst the Commission considered that the primary focus of the control room following a contingency event would be on restoring power system security, the additional distraction of managing a CAPP would increase the probability of errors being made by control room staff. Such errors could be in relation to power system security (in addition to application of the CAPP).

The Commission made a number of Rules in 2008 aimed at simplifying the decision making requirements on NEMMCO's control room at times when the control room is under pressure managing power system security.³⁹ This Rule proposal would work against these efforts to improve decision making by NEMMCO's control room.

The Commission's Draft Position

The Commission considered that the proposed Rule could have a detrimental effect on power system security and reliability.

2nd Round Submissions

³⁸ NEMMCO, *Submission to Rule Proposal*, 29 January 2009, p. 6

³⁹ In particular, National Electricity Amendment (Reclassification of Contingency Events) Rule 2008 No. 8 and National Electricity Amendment (Setting VoLL Following the Shedding of Interruptible Load) Rule 2008 No. 12.

The NGF⁴⁰ contended that the Commission failed to acknowledge the implications for system security and reliability should a non-credible contingency event result in financial failure of a major generator.

The Commission's Analysis for Final Rule Determination

NEM participation involves many risks that must be considered before making a decision to invest. NEM participants must then choose how and to what extent they mitigate those risks. The Commission has acknowledged the financial risks for generators created by non-credible contingency events.

The Commission considers that the risk faced by generators can be mitigated through the measures discussed in Section A.2, and as a result of the Cumulative Price Threshold (CPT). But the Commission acknowledges that risk mitigation comes at a cost to the market participant, and it is not efficient to mitigate all risk. As such, any market participant could fail as a result of losses accumulated from NEM participation over a relatively short time period (potentially less than one day), and the Commission acknowledges that a non-credible contingency event could be a cause of such losses.

Like the risk management cost benefit trade-off for a market participant, the benefits of introducing a new risk management mechanism into the NEM must be balanced against the costs of that mechanism (this appendix outlines some of the potential costs of NGF's Rule proposal). No market or investment is totally risk free. It would be inefficient to mitigate all risk of NEM participation.

As discussed in the draft Rule determination, the Commission considers that the Rule proposal could negatively impact system security due to increased responsibilities placed on NEMMCO control room staff following a power system event, and due to reduced incentives for peaking generators and DSP to respond to a power system event. Whilst the Commission acknowledges the potential for a non-credible contingency event to lead to the failure of a generator, the Commission is not convinced that the Rule proposal would have an overall positive impact on system security.

The Commission's Final Position

For the reasons discussed above, the Commission considers that the proposed Rule could have a detrimental impact on power system security and reliability.

A.6 Impact on Prices

1st Round Submissions and Rule Proposal

The NGF⁴¹ contended that due to the unmanageable financial risk caused by some power system disruptions, generators are required to hold higher levels of "risk

⁴⁰ NGF, Submission to Draft Rule Determination, 24 April 2009, p. 4

⁴¹ NGF, *Rule Proposal*, October 2008, pp. 29,30

capital” (that is, capital that can be liquidated at short notice to ensure it continues solvency following such incidents). The NGF contended that its proposed Rule would allow generators to reduce the level of risk capital held, thus materially reducing generation costs, wholesale prices and retail prices.

The Commission’s Analysis for Draft Rule Determination

The Commission considered that the proposed Rule would reduce the forward contract volume risk faced by some generators. This could enable them to offer a greater volume of their capacity for sale in forward contract markets at potentially lower prices. A reduced requirement for holding risk capital may also allow these generators to offer capacity into the spot market at a lower price. As discussed in Section A. 3, the Commission considered that the generators most likely to benefit would be baseload generators.

Offsetting this, the Commission considered that non-scheduled peaking generators and DSP (i.e. those not eligible for compensation) would be available less during a CAPP. To satisfy demand during a CAPP, scheduled generators from higher up the bid stack would be further dispatched, resulting in higher compensation payments. There could also be an increased use of directions by NEMMCO, which again would result in increased compensation payments.

Under clause 3.15.10 of the Rules, compensation paid to generators under clause 3.14.6 is recovered from market customers. The Commission understood that it is difficult for market customers to hedge such payments, and as such prudent market customers would hold risk capital to cover this exposure. The proposed Rule would increase the requirement on market customers to fund compensation payments to generators, and would therefore likely increase the level of risk capital that market customers hold. This would place upward pressure on retail electricity prices.

The Commission considered that the proposed Rule would to an extent pass a difficult to hedge risk faced by generators, to market customers who would then have similar (if not greater) difficulties hedging that risk.

Considering these opposing price pressures, the Commission did not agree with the NGF position that the proposed Rule would reduce wholesale and retail prices.

In considering the Rule proposal against the NEO, the Commission did not consider the impact of the proposal on price levels, but rather the impact of the proposal on the efficiency of price. The Commission considered that intervention and compensation detrimentally affect the efficiency of electricity prices.

The Commission’s Draft Position

The Commission considers that the proposed Rule would have a detrimental impact on the efficiency of both wholesale and retail electricity prices.

2nd Round Submissions

No second round submissions addressed this issue.

The Commission's Analysis for Final Rule Determination

As no second round submissions addressed this issue, the Commission has not altered its position as outlined in the draft Rule determination.

The Commission's Final Position

For the reasons discussed above, the Commission considers that the proposed Rule would have a detrimental impact on the efficiency of both wholesale and retail electricity prices.

A.7 Wealth Transfers

1st Round Submissions and Rule Proposal

Origin Energy⁴² contended that excessive intervention in normal price setting would lead to wealth transfers between generators rather than net public benefits.

The Commission's Analysis for Draft Rule Determination

The Commission considered that baseload generators located at a point on the grid that is susceptible to constraints following power system events are likely to benefit from the proposed Rule through reduced risk management costs and reduced financial losses from financial contract positions that are unable to be covered. The Commission considered that participants that rely on high price events to be economically viable, such as peaking generators and DSP, are likely to be disadvantaged by the proposed Rule due to reduced pool earnings. Finally, the Commission considered that market customers are likely to be disadvantaged by the Rule change due to increased payments to fund compensation for generators.

Wealth transfers themselves do not necessarily impact economic efficiency and hence the NEO, but wealth transfers can impact the behaviour of investors and market participants. In the case of the Rule proposal, the Commission considers that wealth transfers would impact the operational incentives on market participants and hence the behaviour of market participants in response to a power system or market event (discussed further in Section A.3). The Commission also considers that wealth transfers (due to the Rule proposal) would affect investment incentives (discussed further in Section A.4).

The Commission's Draft Position

The Commission considers that the Rule proposal would result in a wealth transfer from market customers, DSP, peaking generators, and other generators that currently manage financial risks associated with non-credible contingency events, to baseload generators that currently do not manage financial risks associated with non-credible contingency events.

2nd Round Submissions

⁴² Origin Energy, Submission to Rule Proposal, 23 January 2009, pp. 2

No second round submissions addressed this issue.

The Commission's Analysis for Final Rule Determination

As no second round submissions addressed this issue, the Commission has not altered its position as outlined in the draft Rule determination.

The Commission's Final Position

For the reasons discussed above, the Commission considers that the Rule proposal would result in a wealth transfer from market customers, DSP, peaking generators, and other generators that currently manage financial risks associated with non-credible contingency events, to baseload generators that currently do not manage financial risks associated with non-credible contingency events.

A.8 Implementation

1st Round Submissions and Rule Proposal

Origin Energy ⁴³, Snowy Hydro ⁴⁴ and Hydro Tasmania ⁴⁵ contended that because NEMMCO would have to make decisions in relation to the CAPP at a time when they are likely to already be under pressure, then this could result in the improper implementation of a CAPP.

NEMMCO ⁴⁶ stated that the Rule proposal could not be fully automated, and would thus be manually intensive to implement and would require NEMMCO discretion in making decisions which would be open to dispute. NEMMCO stated that in the event of a major system event, the additional network constraints required to manage the power system may take up to 30 minutes after the event to invoke, particularly if new constraints must be developed for the trigger event. Hence, from a practical view and taking into consideration the likely pressures on control room operators, NEMMCO considered that it would be impractical to implement a CAPP in real time.

The NGF ⁴⁷ acknowledged that additional resource costs would be imposed on NEMMCO to implement the proposed Rule, at a time when NEMMCO staff would already be busy managing the power system. However, the NGF believed that the proposed Rule had been drafted to give NEMMCO flexibility to design an effective and practical procedure for determining whether and when to commence and end a CAPP. The NGF expected that this would allow some aspects of the Rule proposal to be automated, which should reduce post-incident operating costs.

⁴³ Origin Energy, *Submission to Rule Proposal*, 23 January 2009, p. 2

⁴⁴ Snowy Hydro, *Supplementary Submission to Rule Proposal*, 20 January 2009, p. 3

⁴⁵ Hydro Tasmania, *Submission to Rule Proposal*, 23 January 2009, pp. 3,4

⁴⁶ NEMMCO, *Submission to Rule Proposal*, 29 January 2009, pp. 5,6

⁴⁷ NGF, *Rule Proposal*, October 2008, p. 34

The Commission's Analysis for Draft Rule Determination

The Commission understood that NEMMCO is unable to efficiently automate the process of determining a CAPP. The Rule proposal would therefore impose further requirements on NEMMCO's control room at a time when NEMMCO would be busy managing the power system. The Commission considered that this would place control room staff under greater pressure, which would increase the probability of control room errors.

The Commission considered that such errors could be open to dispute and compensation claims, thus further distorting the efficiency of pricing in the NEM.

The Commission made two Rule changes in 2008 that reduce real time decision making by NEMMCO's control room at times when system operators must be focused on restoring and/or managing power system security. In particular, National Electricity Amendment (Reclassification of Contingency Events) Rule 2008 No. 8 and National Electricity Amendment (Setting VoLL Following the Shedding of Interruptible Load) Rule 2008 No. 12. The Rule proposal would work against the recent efforts to improve decision making by NEMMCO's control room.

The Commission's Draft Position

The Commission considered that the proposed Rule, by imposing further requirements on NEMMCO's control room at times when control room staff would already be fully occupied, would increase the probability of errors being made by control room staff.

Supplementary Submissions

The NGF⁴⁸ indicated that they were holding discussions with NEMMCO with a focus on making clarifications and changes to their Rule proposal to simplify implementation. The NGF indicated that these discussions were not complete, but that the NGF held the belief that they were likely to agree to changes that would make NEMMCO comfortable that the Rule proposal could be implemented without adverse consequences to other NEMMCO responsibilities.

2nd Round Submissions

Snowy Hydro⁴⁹ agreed with the AEMC's assessment that the additional requirements placed on NEMMCO by the proposed Rule are unwarranted at a time of system stress and that the additional requirements would increase the likelihood of NEMMCO operational errors. Snowy Hydro contended that there would be strong grounds for market participants to make claims for compensation for NEMMCO's incorrect interpretation of the CAPP trigger procedures.

⁴⁸ NGF, *Supplementary Submission*, 10 March 2009, pp. 1,2

⁴⁹ Snowy Hydro, *Submission to Draft Rule Determination*, 20 April 2009, p. 2

The NGF⁵⁰ expressed concern that the Commission cited the workload of NEMMCO staff as a key reason behind rejecting the Rule proposal. The NGF contended that NEMMCO should not be asked “can you implement this change to the NEM”, but rather “what would it take to implement this change to the NEM”.

The Commission’s Analysis for Final Rule Determination

The Commission disagrees with the NGF’s position in relation to the implementation question posed to NEMMCO. The Commissions considers that NEMMCO answered the implementation question in its 1st round submission where it advised that the Rule proposal could not be fully automated, and thus a CAPP would need to be manually invoked by NEMMCO control room staff. This is of concern to the Commission for a number of reasons:

- The procedure proposed by the NGF for invoking a CAPP is complex and requires NEMMCO’s control room operators to make judgements in assessing criteria for a CAPP. As conditions for a CAPP are rare, operator experience and hence familiarity with the procedures would be low. Operators would also be required to make decisions in relation to invoking a CAPP at a time when their primary focus needs to be on managing power system security. These factors combined create a heightened probability of control room errors in following the CAPP procedures.
- Errors in following procedures for invoking a CAPP would reduce market confidence in the CAPP arrangements, and would hence lessen the benefits of the arrangements as participants would not be able to rely on them. This could also expose NEMMCO (and hence market participants) to compensation claims from parties disadvantaged by the error.
- NEMMCO’s focus following a power system event must be on restoring and managing power system security. NEMMCO advised in its 1st round submission that control room staff are generally fully occupied for the first 30 minutes following a major system event. As such it could be 30 minutes before NEMMCO control room staff are able to consider conditions for invoking a CAPP. This delay creates significant uncertainty for market participants. Market participants are likely to rebid to adjust their positions to reflect a higher spot price following a power system event, before rebidding again 30 minutes later if NEMMCO deems conditions have been met to invoke a CAPP. The impact of the uncertainty would be greater for peaking generators and DSP. Peaking generators and DSP often require a high spot for a period greater than 30 minutes for it to be economic to start their generator or to shut down manufacturing processes to curtail load. The uncertainty created by CAPP arrangements could delay peaking generators and DSP responding to a system event.

⁵⁰ NGF, *Submission to Draft Rule Determination*, 24 April 2009, p. 6

- The Commission recently made a number of Rules which amongst other things aimed to reduce NEMMCO's discretion following a power system event.⁵¹ These Rule proposals were submitted by the Australian Energy Regulator (AER) in response to their investigation into the events of 16 January 2007,⁵² in which the AER identified a number of errors made by NEMMCO's control room. In its Rule determinations, the Commission agreed with the AER (and NEMMCO) that reducing NEMMCO discretion following a power system event would reduce the likelihood and impact of operational errors by NEMMCO's control room. The NGF's Rule proposal is inconsistent with the direction of NEM reform adopted in these Rule changes, and is inconsistent with the recommendations made by the AER in its report into the events of 16 January 2007.

The Commission considers that if the procedures for invoking a CAPP could be fully automated, then the implementation issues would be largely resolved. Implementation would then be a much simpler consideration of the costs of modifying market systems. The NGF advised the Commission in a supplementary submission of on-going discussions with NEMMCO to simplify implementation of the proposed Rule. The Commission has not been advised of any amendments to the proposed Rule.

The Commission's Final Position

For the reasons discussed above, the Commission considers that the proposed Rule, by imposing further requirements on NEMMCO's control room at times when control room staff would already be fully occupied, would increase the probability of errors being made by control room staff, which would impact on system security and market efficiency.

A.9 “Moral Hazard”

1st Round Submissions and Rule Proposal

Snowy Hydro⁵³ contended that by smearing NEM financial exposure to all market participants, the Rule proposal in effect socialises the risk management cost of participation in the NEM. As a result this may reduce the incentive to address the root cause of the problem which triggered the CAPP in the first instance since the pain is not incurred by one or a group of participants. This creates moral hazard whereby generators rely on the market to provide “free” insurance instead of ensuring their risks are managed prudently. Similarly, any future incentive to appropriately assess location within the network may be lost with the advent of the Rule proposal. A participant would discount locating in an area where there may be a higher risk of being impacted by a non-credible contingency event.

⁵¹ In particular, National Electricity Amendment (Reclassification of Contingency Events) Rule 2008 No.8 and National Electricity Amendment (Setting VoLL Following the Shedding of Interruptible Load) Rule 2008 No. 12.

⁵² AER, The Events of 16 January 2007 - Investigation Report, September 2007. Available at: <http://www.aer.gov.au/content/index.phtml/itemId/714828>

⁵³ Snowy Hydro, *Supplementary Submission to Rule Proposal*, 20 January 2009, p. 4

The NGF⁵⁴ considered that several factors would limit the extent of moral hazard including:

- power system incidents are often caused by network failures, and as Transmission Network Service Providers (TNSP) do not face market consequences they are unaffected by this Rule proposal;
- generators must comply with technical standards set out in the Rules;
- generators are incentivised to avoid damage to their equipment;
- many power system incidents are not foreseeable and so no precautionary action could have been taken; and
- the proposed Rule prevents a CAPP being triggered where the cause of an incident is the only party affected.

The Commission's Analysis for Draft Rule Determination

The Commission considered the proposed Rule would to some extent create "moral hazard" by smearing the cost of risk mitigation for a small group of participants across the NEM. This would reduce the incentive for that group of participants to make their own arrangements to manage risk. The Commission agreed with Snowy Hydro that by masking the symptoms, the Rule proposal may reduce the incentive to address the root cause of the problem which triggered the CAPP.

The Commission considered the issue of moral hazard to be minor. The Rule proposal only reduces the financial risks of dispatch constraints, and hence generators would still have to consider such risks in their business decisions.

The Commission's Draft Position

The Commission considers that the proposed Rule would create "moral hazard" to a small extent.

2nd Round Submissions

No second round submissions addressed this issue.

The Commission's Analysis for Final Rule Determination

As no second round submissions addressed this issue, the Commission has not altered its position as outlined in the draft Rule determination.

The Commission's Final Position

For the reasons discussed above, the Commission considers that the Rule proposal would create "moral hazard" to a small extent only, and as such the impact of moral hazard on the NEO would not be material.

⁵⁴ NGF, *Rule Proposal*, October 2008, pp. 31,32

A.10 Secondary Markets

1st Round Submissions and Rule Proposal

Snowy Hydro ⁵⁵ contended that the proposed Rule would adversely impact the secondary market and its regular participants such as brokers and financial intermediaries. The proposed Rule would decrease price volatility in the market and hence impact hedge contract markets. It could be reasoned that a decrease in volatility would have an adverse impact on liquidity. This class of participant relies on market volatility and their services are tied to managing the risk of market volatility and providing liquidity.

The NGF ⁵⁶ contended that its proposed Rule would promote inter-regional trading by reducing the associated risks. Inter-regional trading risk (caused by price separation between regions) can currently be managed using Inter-Regional Settlement Residue (IRSR) units. But IRSR units are a non-firm hedging instrument, and can be worthless when an interconnector trips from service, which can often also be accompanied by high prices. The NGF argued that in some cases, an interconnector trip could trigger a CAPP, which would limit price separation and thus financial exposure to any entities holding a related inter-regional contract position.

The Commission's Analysis for Draft Rule Determination

The Commission considered that the proposed Rule would reduce spot price volatility, and as contended by Snowy Hydro could reduce demand for products offered by financial intermediaries. However the Commission considered this impact would be immaterial considering the likely low frequency of CAPPs.

Snowy Hydro argued that reduced volatility could have an adverse impact on liquidity. The Commission was not convinced of this argument, and in any case any decrease in liquidity due to reduced volatility would be outweighed by increased liquidity as baseload generators are able to increase forward contract volumes.

The Commission was not convinced that the Rule proposal would promote inter-regional trading. The NGF argued that in some cases, the Rule proposal would limit price separation and thus financial exposure to any entities holding a related inter-regional contract position. The Commission considered that the Rule proposal could just as easily create inter-regional price separation when prices are high, and a CAPP limits price to \$300/MWh in one region (and the CAPP does not extend to the adjacent region).

The Commission's Draft Position

The Commission considers that the impact of the proposed Rule on secondary markets would be immaterial.

⁵⁵ Snowy Hydro, *Supplementary Submission to Rule Proposal*, 20 January 2009, p. 4

⁵⁶ NGF, *Rule Proposal*, October 2008, p. 30

2nd Round Submissions

No second round submissions addressed this issue.

The Commission's Analysis for Final Rule Determination

As no second round submissions addressed this issue, the Commission has not altered its position as outlined in the draft Rule determination.

The Commission's Final Position

For the reasons discussed above, the Commission considers that the impact of the proposed Rule on secondary markets would be immaterial.

A.11 Gaming Opportunities

1st Round Submissions and Rule Proposal

Snowy Hydro⁵⁷ and Hydro Tasmania⁵⁸ contended that participants could utilise the Rule proposal to their commercial advantage in a manner that is not intended. The Rule proposal could create gaming opportunities for portfolio generators with generation in different locations to trigger market suspension when the spot price does not suit their current exposure.

The NGF⁵⁹ addressed the issue of generators deliberately extending the CAPP, such as when it may suit their contractual position. The NGF stated that this is not possible because under the proposed Rule, the CAPP would end when the generator is able to re-synchronise, with no requirement for NEMMCO to wait until it actually does re-synchronise. Furthermore, a CAPP cannot be prolonged by a generator rebidding to reduce its dispatch compared to its pre-incident levels.

The Commission's Analysis for Draft Determination

The Commission considered that the Rule could create opportunities for some generators to trigger a CAPP when it suits their commercial situation. The Commission however considered that opportunities for gaming would be quite limited. Taking physical action to trigger a CAPP could risk damage to a generator's equipment, could risk detection by the AER, and could result in increased financial losses if a CAPP was not triggered.

The Commission's Draft Position

The Commission considers that the proposed Rule could create opportunities for gaming, but considers such opportunities would be limited.

2nd Round Submissions

⁵⁷ Snowy Hydro, *Supplementary Submission to Rule Proposal*, 20 January 2009, pp. 4,5

⁵⁸ Hydro Tasmania, *Submission to Rule Proposal*, 23 January 2009, pp. 4,5

⁵⁹ NGF, *Rule Proposal*, October 2009, p. 33

No second round submissions addressed this issue.

The Commission's Analysis for Final Rule Determination

As no second round submissions addressed this issue, the Commission has not altered its position as outlined in the draft Rule determination.

The Commission's Final Position

For the reasons discussed above, the Commission considers that the proposed Rule could create opportunities for gaming, but considers such opportunities would be limited. As opportunities for gaming would be limited, the Commission does not believe this issue would have a material impact on the NEO.

A.12 Alternate Proposals

1st Round Submissions and Rule Proposal

Snowy Hydro ⁶⁰ proposed an alternative to the proposed Rule. Under Snowy Hydro's proposal, a Spot Market Insurance Fund would be established whereby participating market participants would be eligible to claim compensation for contingency events that have a low probability of occurring but when it occurs result in high financial impact. Participation in the Spot Market Insurance Fund would be voluntary.

The major advantage of the Snowy Hydro proposal compared to the NGF's proposal is that the spot market is not suspended during the spot market contingency event.

Origin Energy ⁶¹ considered that the general concept of the Snowy Hydro proposal is a more efficient and administratively simple means of managing the risks associated with the occurrence of random disruptive power system events. It does not interfere with the smooth running of the market and provides for those likely to be affected by these events to also bear the cost of mitigation. Additionally, the Snowy Hydro proposal puts less pressure on the market operator, as a decision to classify a trigger event does not have to be made in real time, and any compensation can be sorted out after the event has occurred.

Origin Energy suggested a further alternative involving co-insurance, where two or more generators agree to cover a proportion of each other's capacity in certain circumstances, either physically or through cap contracts⁶².

NEMMCO ⁶³ also suggested that generators could set up an insurance fund to pool the risks faced in the NEM.

⁶⁰ Snowy Hydro, *Supplementary Submission to Rule Proposal*, 20 January 2009, p. 5

⁶¹ Origin Energy, *Submission to Rule Proposal*, 23 January 2009, p. 3

⁶² Origin Energy did not specify that this should be specified in the Rules.

⁶³ NEMMCO, *Submission to Rule Proposal*, 29 January 2009, p. 10

The Commission's Analysis for Draft Determination

The Commission considered that an insurance fund to share the risks of NEM participation between contributors to the fund would have less problems than the NGF's Rule proposal for the following reasons. It:

- would not involve intervention in the efficient operation of the NEM;
- is funded directly by those participants likely to benefit from the fund; and
- would not place additional operational pressure on NEMMCO's control room.

The Commission did not consider such an arrangement needs to be established within the NEM regulatory regime. Establishing such a fund within the NEM regulatory regime would risk imposing costs on participants that would not benefit from the fund. This would especially be the case if the fund was established and no participants elected to participate in it.

The Commission's Draft Position

The Commission considered that an insurance fund to manage NEM financial risk such as that proposed by Snowy Hydro has less problems than the NGF's Rule proposal. The Commission also considered that such a fund, if demanded, would not need to be established within the NEM regulatory regime. As such the Commission has not considered the establishment of a Spot Market Insurance Fund against the NEO.

Supplementary Submissions

The NGF⁶⁴ contended that its Rule proposal is designed to reduce the cost of financial risks imposed on some NEM participants, whereas alternatives such as insurance products would not necessarily reduce the cost but would spread the cost out over a longer term.

The NGF considered that an insurance product has the effect of converting financial risk created by non-credible contingency events into a stream of premium payments payable by the generator. Over the long-term premium payments must cover the costs of all claims including, a prudential margin, administrative costs, and in the case of a commercial provider a profit. The NGF contended that while insurance would transfer the impact of costs, both over time and between participants, it would not reduce the existence of the financial risk.

The Commission's Analysis for Final Determination

The Commission acknowledges the views presented by the NGF in its supplementary submission in relation to the cost of insurance products.

The Commission has not considered the use of insurance products for managing financial risk in any detail. However, as stated in the draft Rule determination the

⁶⁴ NGF, *Supplementary Submission*, 10 March 2009, pp. 2,3

Commission agrees that risk management instruments such as insurance products would only be available at a cost to the product holder. But this cost would be incurred by the party that directly benefits from the risk mitigation, whereas the NGF Rule proposal imposes costs on parties that receive no benefit from the proposed Rule whilst providing some generators with free risk mitigation.

The Commission's Final Position

For the reasons discussed above, the Commission considers that an insurance fund to manage NEM financial risk such as that proposed by Snowy Hydro has less problems than the NGF's Rule proposal. The Commission also considers that such a fund, if demanded, would not need to be established within the NEM regulatory regime. As such the Commission has not considered the establishment of a Spot Market Insurance Fund against the NEO.

A.13 Who is best placed to manage and respond to risks created by non-credible contingency events?

1st Round Submissions

No first round submission addressed this issue.

2nd Round Submissions

The NGF⁶⁵ contended that it is generally accepted that generators rarely have direct control over the occurrence of non-credible contingency events as these events generally arise within the transmission network.

The NGF also contended that it is generally accepted that the financial costs of those events are borne solely by affected generators even though generators are not able to take steps to further reduce the possible occurrence of non-credible contingency events. In stating this, the NGF requested that the Commissions take particular notice of the fact that TNSPs, as the market participants responsible for transmission impacts in the NEM, bear no responsibility or liability in the event that their network fails to deliver the required transmission outcomes.

The NGF stated:

"Consistent with risk management fundamentals, a risk should lie with the party best placed to manage that risk. In this instance the NGF contends that this is clearly not generators.

The market should not reward participants where they perform poorly, however, in this instance the current arrangements penalise generators where transmission performance is poor and is outside the generators control or

⁶⁵ NGF, *Submission to Draft Rule Determination*, 24 April 2009, p. 5

responsibility. This disbenefit should be addressed with mechanisms established that appropriately incentivise responsible parties.”⁶⁶

The NGF further stated that:

“ … allocation of network risk to generators was not a consequence of a conscious decision by the AEMC but rather an outcome of a position inherited at the commencement of the NEM. In this regard, it is not appropriate to assume this allocation is appropriate or sustainable in the longer term.”⁶⁷

The Commission’s Analysis for Final Determination

The Commission agrees with most of the NGF’s comments above.

A Rule proposal that acted to reduce the occurrence of non-credible contingency events would provide additional benefits in the areas of market efficiency and system security relative to the NGF’s Rule proposal. The Commission considers that the NGF’s Rule proposal creates no incentives for market participants to act to reduce the occurrence of non-credible contingency events.

The NGF Rule proposal therefore does not address the root cause of the issue that the NGF has identified. This in itself does not prevent a Rule proposal from making a positive contribution to the achievement of the NEO, but if the root cause of a problem is not addressed, the proposal can create more costs than benefits.

The NGF contended that a risk should lie with the party that is best placed to manage that risk. The NGF contended that this is not the generators. The Rule proposal shifts some of that risk to other NEM participants such as market customers (through the risk of funding increased compensation payments), NEMMCO (through increased risk of compensation claims for control room errors as a result of increased pressures), and peaking generators and DSP (through increased uncertainty of spot market earnings). The Commission considers that none of these parties are any better placed to manage this risk than generators.

The Commission acknowledges that the generators inherited the risk of non-credible contingency events at market start. In making the decision in this final Rule determination, the Commission does not necessarily hold the view that this risk allocation is efficient. But the alternative as proposed by the NGF is in the Commission’s opinion less efficient when assessed against the NEO.

The Commission’s Final Position

As discussed above, in assessing this Rule proposal, the Commission has not made a judgement on which category of Registered Participant the financial risk created by non-credible contingency event should most appropriately be allocated to.

⁶⁶ NGF, *Submission to Draft Rule Determination*, 24 April 2009, p. 5

⁶⁷ NGF, *Submission to Draft Rule Determination*, 24 April 2009, p. 4

A.14 Draft Determination undermines Cumulative Price Threshold

1st Round Submissions

No first round submission addressed this issue.

2nd Round Submissions

The NGF⁶⁸ contended that the Commission's logic that non-credible contingency events provide benefit to peaking plant and steps to reduce the negative impacts of these events would undermine investment signals would be more appropriately applied to the Market Price Limit (MPL) and CPT than to the NGF's CAPP proposal. The NGF contended that it is widely accepted that the MPL and CPT are necessary interventions in the NEM to manage risk and volatility.

The NGF considered:

"... it is widely acknowledged that management of normal events which arise within the normal operation of the market is necessary to ensure appropriate reliability and stability in the NEM consistent with the National Electricity Objective. Therefore, the NGF is not convinced by the argument that extraordinary risks outside the normal operation of the market should be left unmanaged."⁶⁹

The Commission's Analysis for Final Determination

The Commission considers that there are two significant differences between the CAPP and the CPT. Firstly the CPT is a last resort intervention mechanism and allows time for an efficient market response to a system or market event before intervening. The level of CPT is designed to give the market an opportunity to respond efficiently whilst reducing the risk of market participant failure from accumulated trading losses. Secondly, the CPT does not have the same implementation issues as the CAPP as there is a lead time that allows NEMMCO to prepare to invoke the APP.

Similarly, the Commission considers that the level of VoLL is such that efficient market responses can be appropriately priced without imposing unlimited spot market risk as is the case in markets with no price ceiling.

The Commission disagrees with the NGF's contention that extraordinary risks are currently left unmanaged. Extraordinary events such as non-credible contingency events are captured by the CPT in exactly the same way as normal events are.

The Commission's Final Position

As discussed above, the Commission supports the CPT and VoLL as efficient NEM risk management mechanisms.

⁶⁸ NGF, *Submission to Draft Rule Determination*, 24 April 2009, p. 4

⁶⁹ NGF, *Submission to Draft Rule Determination*, 24 April 2009, p. 4

A.15 Market Design Principles

The first five of the Market Design Principles (contained in clause 3.1.4 of the Rules) relate to the market for energy. The Commission assessed the Rule proposal against these principles as follows.

Principle 1 - minimisation of NEMMCO decision-making to allow *Market Participants* the greatest amount of commercial freedom to decide how they will operate in the *market*.

The proposed Rule is not consistent with this principle because it increases NEMMCO decision making, at a time when NEMMCO control room staff would be under pressure managing power system security following a power system event. This could result in incorrect decisions being made.

Principle 2 - maximum level of market transparency in the interests of achieving a very high degree of market efficiency.

The proposed Rule is not consistent with this principle because competitive market dispatch and pricing would be suspended when the spot price is capped.

Principle 3 - avoidance of any special treatment in respect of different technologies used by *Market Participants*.

The proposed Rule is not consistent with this principle because peaking generators and DSP with short run marginal costs often above \$300/MWh are disadvantaged compared to base load generation.

Principle 4 - consistency between central dispatch and pricing.

The proposed Rule is not consistent with this principle because central dispatch is completely dislocated from pricing when a CAPP applies.

Principle 5 - equal access to the market for existing and prospective *Market Participants*.

The proposed Rule is not consistent with this principle because existing market participants that have implemented prudent risk management strategies at a cost to those businesses (such as location on the network) would be disadvantaged compared to new market participants that could enter the NEM at a lower cost by avoiding some risk management costs.

B List of Submissions

Submissions are located on the AEMC website, available at:
<http://www.aemc.gov.au/Electricity/Rule-changes/Open/Contingency-Administered-Price-Cap-Following-a-Physical-Trigger-Event.html>

First Round Submissions

- Hydro Tasmania
- Origin Energy
- Snowy Hydro (including submission to the Rule proposal and an alternative proposal)
- Energy Response
- NEMMCO
- State Electricity Commission of Victoria

Supplementary Submissions

- National Generators Forum (Origin Energy, Snowy Hydro and Hydro Tasmania did not support the NGF submission)

Second Round Submissions

- National Generators Forum (Origin Energy, Snowy Hydro and Hydro Tasmania did not support the NGF submission)
- Snowy Hydro