

Australian Energy Market Commission

**AEMC Reliability Panel**

**Package Two**

**NEM Reliability Settings:  
VoLL, CPT and Future Reliability Review**

**Rule Change Proposal**

**December 2008**

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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. 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.

## **About the AEMC Reliability Panel**

The Panel is a specialist body within the AEMC and comprises industry and consumer representatives. It is responsible for monitoring, reviewing and reporting on the safety, security and reliability of the national electricity system and advising the AEMC in respect of such matters. The Panel's responsibilities are specified in section 38 of the NEL.

## **Disclaimer**

The views and recommendations set out in this document are those of the Reliability Panel and are not necessarily those of the Australian Energy Market Commission.

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## Abbreviations and Glossary

AEMC	Australian Energy Market Commission
CPRS	Carbon Pollution Reduction Scheme
CRR	Comprehensive Reliability Review
DSR	Demand Side Response
EAAP	Energy Adequacy Assessment Projection
Final Report	The Final Report of the Reliability Panel's Comprehensive Reliability Review, published in December 2007.
Interim Report	The First Interim Report of the Reliability Panel's Comprehensive Reliability Review, published in April 2007.
MCE	Ministerial Council on Energy
MPL	Market Price Limit, proposed to replace the term Value of Lost Load (VoLL)
MRL	Minimum reserve level
MW	Megawatt
MWh	Megawatt hour
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
OCGT	Open-cycle gas turbine
Panel	The Reliability Panel
PASA	Projected Assessment of System Adequacy
Regulations	National Electricity Regulations
RERT	Reliability and Emergency Reserve Trader
Rules	National Electricity Rules
Second Interim Report	The Second Interim Report of the Reliability Panel's Comprehensive Reliability Review, published in September 2007.
SOO	Statement Of Opportunities

USE	Unserviced Energy
VoLL	Value of Lost Load

## Executive Summary

In December 2007, the Reliability Panel (Panel) published the Final Report of its Comprehensive Reliability Review (CRR). In the CRR the Panel made recommendations related to the reliability settings in the National Electricity Market (NEM) including:

- the NEM reliability standard;
- the Value of Lost Load (VoLL), market floor price and cumulative price threshold (CPT);
- whether the reliability safety net (“reserve trader”) should be allowed to expire (the subject of a recent Rule change assessment by the AEMC) or alternative arrangements put in place; and
- improvements in market information related to reliability.

Amongst the CRR recommendations, the Panel foreshadowed a number of Rule change packages that it would submit in the form of Rule change proposals to the AEMC in 2008. An Exposure Draft consolidated the second and third Rule change packages foreshadowed in the CRR into a single Rule change package for reasons of efficiency and to streamline the process. The purpose of the Exposure Draft was to develop a Rule change proposal that implemented the policies outlined in Rule change packages 2 and 3 as defined in the CRR Final Report. The Panel sought stakeholder submissions to the Exposure Draft and Proposed Rule, which was published on 16 September 2008. Submissions to the Exposure Draft closed on 31 October 2008. While stakeholders raised a number of issues of detail on the Exposure Draft (which have been addressed in this Proposal), there was overall support (with the exception of the AER on some issues) for proceeding with these initiatives.

This Rule change proposal intends to implement the following recommendations relating to proposed Rule changes:

- an increase in the level of VoLL from the existing level of \$10,000/MWh to \$12,500/MWh to be effective from 1 July 2010;
- the CPT be defined in the Rules as 15 times VoLL;
- the term “Value of Lost Load (VoLL)” be changed to the “Market Price Limit (MPL)”;
- the current annual review of VoLL be replaced with a reliability standards and settings review (i.e. the reliability standard, VoLL, CPT, and the market floor price) which is to take place every two years with two years’ notice of any change.

Since the publication of the CRR, the Federal Government has announced plans for a Carbon Pollution Reduction Scheme (CPRS), and an expansion of the existing Mandatory Renewable Energy Target. There is also a review by the AEMC at the

request of the Ministerial Council on Energy (MCE) relating to the implications of the introduction of the CPRS and expanded renewable energy target on the energy market frameworks and Rules.

The Panel notes the current announcements for the intention to introduce the CPRS on 1 July 2010. With regard to the proposals the Panel is covering in this Rule change proposal, the Panel sought views from stakeholders on the appropriateness of also raising VoLL and the CPT on the same date or whether it should be a different date in its Rule change proposal to the AEMC depending upon responses from stakeholders and its further analysis. The Panel also notes the ERAA's support for the commencement of the proposed Rule change at the same time as the proposed CPRS commencement date and the AER's objection to this commencement date due to its concerns with respect to the uncertainty of the CPRS, the potential impacts of raising VoLL and maintaining the CPT level relative to VoLL on the same date and whether the CPT is effective as a financial risk safety net. The Panel considers that unless action is taken, leaving VoLL and the CPT at its current level could result in a breach of the reliability standard sometime between 2010 and 2014 irrespective of the CPRS. The Panel also considers that NEMMCO has factored the commencement on 1 July 2010 of the Panel's proposed levels for VoLL and the CPT for the market in its 2008 Statement of Opportunities (SOO). On that basis, the Panel has decided that it would be appropriate to propose in this Rule change proposal to raise VoLL and maintain the CPT level relative to VoLL on the same date to the proposed introduction of the CPRS on 1 July 2010. The Panel also considers that a future review of the reliability standards and settings would be an appropriate time to revisit the effectiveness of the CPT.

Within the existing energy market design framework, the mechanisms that can be adjusted to provide investment signals are limited to VoLL, the CPT and the market floor price. Other potential mechanisms were considered and consulted on as part of the CRR, but were deemed inappropriate by the Panel. The Panel notes that new mechanisms may be considered during the AEMC's review of the CPRS implications, or as a result of some other MCE initiative. The Panel recognises that if new mechanisms arise, the levels of VoLL, the CPT and the market floor price may need to be re-examined at an appropriate stage. However, in light of the extensive analysis of the CRR, the Panel believes that the proposed changes to the levels of the existing reliability and market mechanisms which are covered by this Rule change proposal remain appropriate changes at this time.

The Panel has included a statement of the issues being addressed by this Rule change proposal in chapter 1 of this proposal and a description of the Proposed Rule in chapter 3.

The AEMC Reliability Panel is the proponent of this Rule change proposal and is requesting that the AEMC make this Proposed Rule in accordance with section 91 of the NEL. The Panel considers that it is able to make this request as section 91(4) allows the Panel to make requests in relation to its functions under the NEL and the Rules. In particular, the Panel can make recommendations on market changes or changes to the Rules on overall power system reliability matters. The proponents address is:

AEMC Reliability Panel, PO Box A2449, South Sydney, NSW 1235

The Panel also considers that the Proposed Rule is in regard to the subject matters that the AEMC may make Rules, as set out in section 34 of the NEL and, more specifically, in Schedule 1 of the NEL.

The Panel requests that the AEMC review this Rule change proposal, resulting from the CRR and the Exposure Draft, under section 96A of the NEL. Under this section, the proposal may be fast tracked if the entity making the request is an electricity market regulating body (which includes the Reliability Panel) that has undertaken a public consultation when developing the proposal, or if the proposal was contained in a MCE review.

The Panel considers that the Proposed Rule is likely to advance the National Electricity Objective (NEO) as the Panel anticipates that:

- increasing the level of VoLL would decrease the incidence of breaching the reliability standard thereby improving the reliability of electricity supply to consumers, and would promote efficient investment in electricity services by compensating investors who adopt a higher discount rate when assessing investments;
- maintaining the ratio of 15:1 between CPT and VoLL would promote the efficient operation of electricity services with respect to reliability as a financial safety net, and would promote efficient investment as the CPT is designed not to hinder investment or the remuneration of occasionally utilised capacity by being set at a level that is unlikely to be triggered except in very extreme circumstances;
- renaming the term “VoLL” would promote the efficient use of electricity services through clarification of the term as a market price limit and avoid any misunderstanding as to the true meaning of VoLL; and
- reviewing all the reliability settings (i.e. the reliability standard, VoLL, the CPT, and the market floor price) together would promote the long term interest of consumers and electricity as it ensures the reliability standard is met and becomes more effective.

In addition to the Panel’s assessment of the proposal against the NEO, the Panel has provided an explanation of the expected benefits and costs of the proposed change and the potential impacts of the change on those likely to be affected.

## 1 Statement of Issues and how the proposed Rule would address these issues

This Rule change proposal combines two Rule change packages which were identified in the CRR Report and the Exposure Draft. These two Rule change packages address the following matters:

1. the levels of VoLL and the CPT; and
2. the name of VoLL (to be changed to the Maximum Price Limit (MPL)), and the timing and process of future review of the reliability settings (the cycle of which would commence from 2010).

With respect to VoLL and the CPT, the Panel considered a range of issues in the CRR Report, including:

- options for changing, amending or augmenting the reliability mechanisms to address the risks on the horizon that may impact the NEM achieving the reliability standard in the future; and
- whether the current level of the CPT is appropriate.

The Panel also considered administrative issues relating to the reliability settings, including the recommendation to rename VoLL to the Market Price Limit, and issues relating to the future reliability reviews and reporting, such as:

- Should there be longer-term certainty about the level of VoLL?
- Should all the reliability settings be reviewed on a regular and integrated basis?
- Should the changes to VoLL and CPT commence at the same time as the proposed commencement date of the CPRS?

Further information on the CRR is available on the AEMC website<sup>1</sup>.

### 1.1 Current Reliability Settings

The level of VoLL, the market floor price and the CPT are the key price envelopes within which the wholesale spot market seeks to balance supply and demand, and deliver capacity to meet the NEM reliability standard with the aim of avoiding unmanageable risks for market participants. VoLL is the maximum market price level and is currently set at \$10,000/MWh. The market price floor is currently set at -\$1,000/MWh. These parameters are crucial because they provide key signals for supply and demand-side investment and usage. For example, if the value of VoLL is set too high, Market Customers (retailers or consumers who trade directly in the market themselves) and generators can be exposed to very large financial risks.

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<sup>1</sup> Information on the Panel's CRR is available on the AEMC website at <http://www.aemc.gov.au/electricity.php?r=20051215.142656>.

However, if it is set too low, there may be insufficient incentives to invest in new generation capacity to meet future reliability.

The CPT is designed to limit participants' exposure to protracted stress in the wholesale spot market and is currently set at \$150,000/MWh. This is an explicit risk management mechanism. If the sum of the half-hourly wholesale market spot prices over a rolling seven-day period exceeds this threshold, then NEMMCO must impose an administered price cap such that spot market prices do not exceed \$300/MWh until the sustained high prices fall away<sup>2</sup>. Some market participants have, however, complained that the CPT does not actually assist in the management of risks. In particular the level of potential administered prices, combined with an open ended compensation regime for generators, means that prudently hedged retailers may suffer increased losses if the CPT is exceeded.<sup>3</sup> This level of concern was heightened when such an event almost occurred in June 2007 in NSW due to a combination of higher winter demand and reduced supply due to the impact of the drought.

In March 2008, the CPT was breached in South Australia for the first time and an administered price cap was declared such that spot market prices could not exceed \$100/MWh during peak times and \$50/MWh at all other times.<sup>4</sup> NEMMCO reported on its website that "[t]his was driven by temperatures in Adelaide of up to 40.1 degrees and in Melbourne of 37.8 degrees".<sup>5</sup>

Within the existing energy market design framework, the mechanisms that can be adjusted to provide investment signals are limited to VoLL, the CPT and the market floor price. Other potential mechanisms were considered and consulted on as part of the CRR, but were deemed inappropriate by the Panel. The Panel notes that new mechanisms may be considered during the AEMC's review of the CPRS implications, or as a result of some other MCE initiative. The Panel recognises that if new mechanisms arise, the levels of VoLL, the CPT and the market floor price may need to be re-examined at an appropriate stage. However, in light of the extensive analysis of the CRR, the Panel believes that the proposed changes to the levels of the existing reliability and market mechanisms which are covered by this Rule change proposal remain appropriate changes at this time.

VoLL, the market floor price and the CPT are further discussed below.

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<sup>2</sup> The AEMC has recently published the final determination for the Schedule for the APC which can be found on <http://www.aemc.gov.au/electricity.php?r=20071105.151356>.

<sup>3</sup> Energy Retailers Association of Australia submission to the CRR Issues Paper.

<sup>4</sup> This event occurred before the AEMC final determination for the Schedule for the APC, when the APC was raised from \$100/MWh during peak times and \$50/MWh at all other times to \$300/MWh at all times.

<sup>5</sup> Further information on this can be found on [http://www.nemmco.com.au/opereports/pricing\\_mar.html](http://www.nemmco.com.au/opereports/pricing_mar.html).

## 1.2 Value of Lost Load (VoLL)

### 1.2.1 Should the level of VoLL be changed?

In the CRR Final Report, one option considered for changing, amending or augmenting the reliability mechanisms to increase the reliability was altering the level of VoLL. It is anticipated that increasing VoLL would encourage participants to enter into longer-term contracts to underwrite new investments as well as to provide a wholesale price envelope for the medium-term that reflects the costs of achieving NEM reliability at 0.002% unserved energy (USE).

The Panel considered retaining the existing arrangements and raising VoLL in response to rising construction costs of new generating plant and increased uncertainty about prices. It would also compensate investors who are adopting a higher discount rate when assessing investments. Raising VoLL is consistent with the basic design of the NEM and would be least disruptive to existing systems and to participants' understanding of the market. However, to be successful, it will require that investors, retailers and consumers enter into contracts of sufficient length so as to encourage new and timely investment, as well as manage the consequent increase in the overall level of financial risk. Future movements in the level of VoLL should be contemplated in an incremental manner and against clear evidence that the existing price signal is insufficient. In addition, an incremental approach to movements in the level of VoLL on realistic time cycles, as opposed to more substantial yet less frequent movements, would assist in addressing consumer concerns about increasing the potential volatility of the wholesale market prices.

The Panel's analysis in the CRR Report suggested that raising VoLL will increase the average revenue that generators can expect over the long-term for a given level of reliability. However, the Panel noted that raising VoLL would need to be accompanied by a market response that increases the scope of long-term contracts.

### 1.2.2 Submissions during consultation on the CRR

There were a number of submissions that called for a substantial increase in VoLL. For example TRUenergy, in its submission to the First CRR Interim Report, suggested \$30,000/MWh and, in its submission to the Second CRR Interim Report, "continued to support a large increase in the market price cap".<sup>6</sup>

A number of submissions called for VoLL to be increased by indexation, either annually or at less frequent intervals in order that VoLL increase as costs increase.<sup>7</sup> A number of submissions, such as Origin Energy's submission to the Second CRR Interim Report, recommended the status quo and VoLL to remain at \$10,000/MWh.<sup>8</sup>

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<sup>6</sup> TRUenergy submission to the Second CRR Interim Report.

<sup>7</sup> For example, the Electricity Supply Industry Planning Council submission to the Second CRR Interim Report.

<sup>8</sup> Origin Energy submission to the Second CRR Interim Report.

Submissions to the Panel were divided on whether an increase in VoLL would result in more or less contracting activity. In theory, an increase in VoLL would expose retailers to additional risk and create incentives for greater levels of contracting and demand side response. However, a number of participants suggested that raising the level of VoLL would also increase the risk of exposure faced by generators as a result of forced outages and, as such, may prompt generators to contract less and apply a higher discount factor to compensate for the increased risk.<sup>9</sup> These comments need to be considered in the context of the size and timing of any potential change to the level of VoLL.

### **1.2.3 Submissions during consultation on the Exposure Draft**

On balance, the ERAA supported an increase in VoLL to \$12, 500 MWh to meet the reliability standards while the level of risk for retailers would increase.<sup>10</sup>

The AER indicated that it “has no strong objection to an increase in the MPL [VoLL]”.<sup>11</sup>

### **1.2.4 The Panel’s Analysis**

The Panel undertook further and more detailed analysis in relation to VoLL in Appendix E of the CRR Report. The analysis examined the impact that raising VoLL would have on USE. The scenarios examined included nominal VoLL levels of the current \$10,000/MWh with alternate values of \$5,000/MWh, \$12,500/MWh, \$15,000/MWh, \$17,500/MWh, \$20,000/MWh and \$30,000/MWh.

Plots of USE under different levels of VoLL (i.e. \$10,000/MWh (i.e. the status quo), \$12,500/MWh and \$15,000/MWh) are shown below.<sup>12</sup>

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<sup>9</sup> EnergyAustralia submission to the First CRR Interim Report.

<sup>10</sup> ERAA submission, 31 October 2008, Pp.1-2.

<sup>11</sup> AER submission, 30 October 2008, p.3.

<sup>12</sup> These plots have been extracted from figures 9, 10 and 11 in Appendix E of the CRR Report.

Figure 9: Annual USE by Region (VoLL \$10,000/MWh nominal)

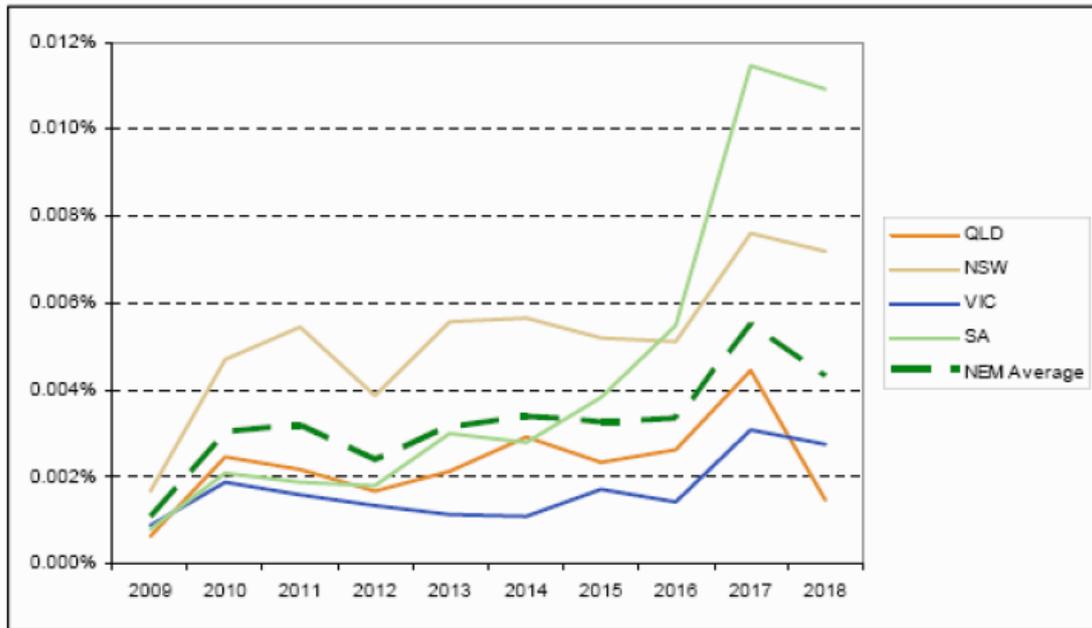


Figure 10: Annual USE by Region (VoLL \$12,500/MWh nominal)

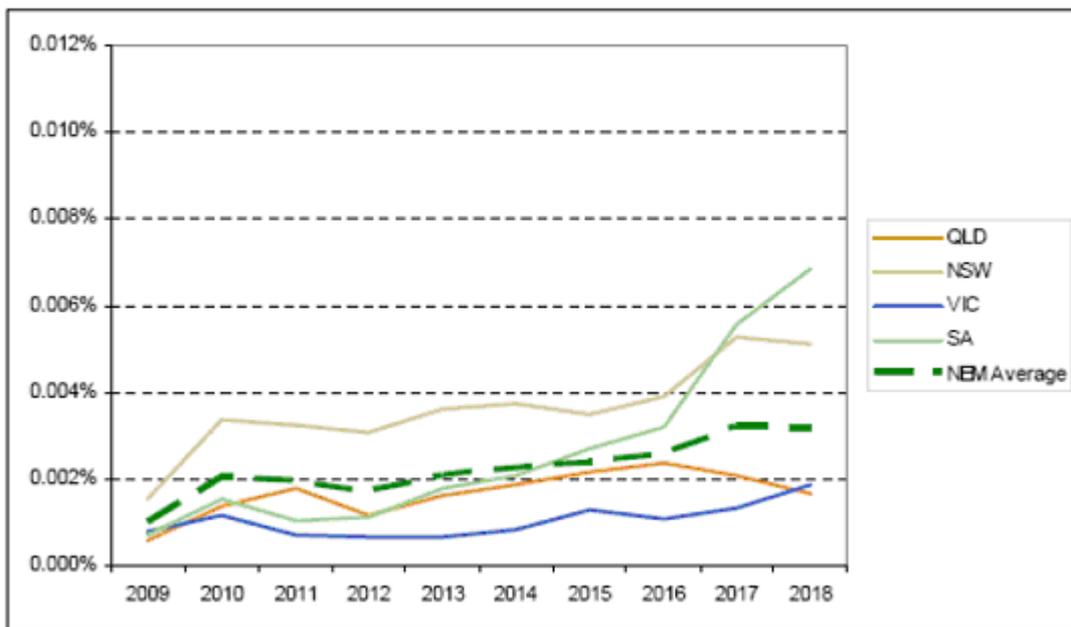
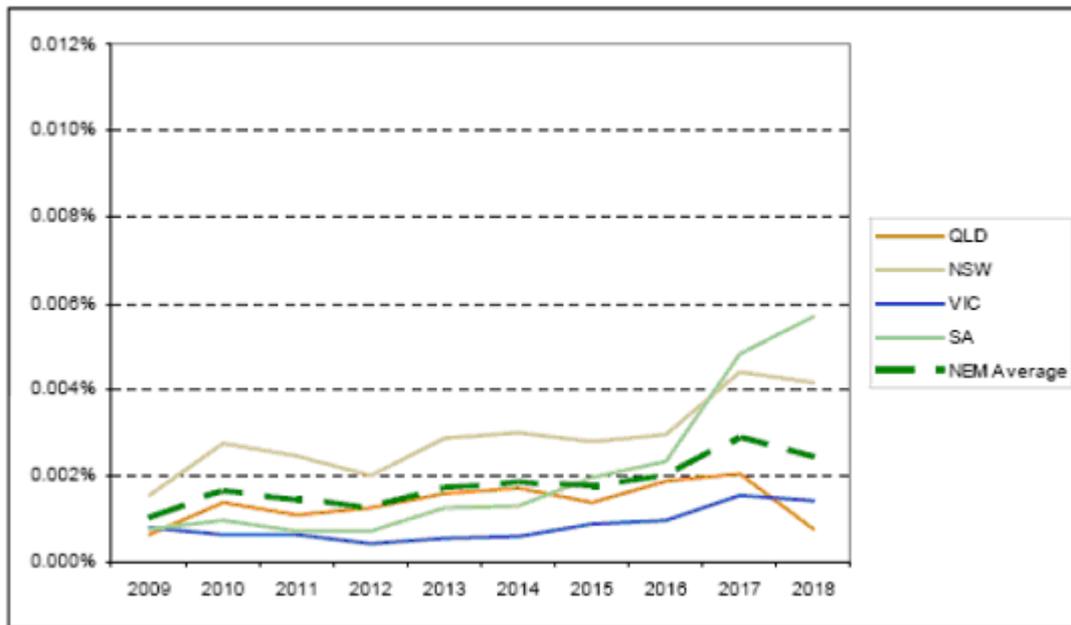


Figure 11: Annual USE by Region (VoLL \$15,000/MWh nominal)



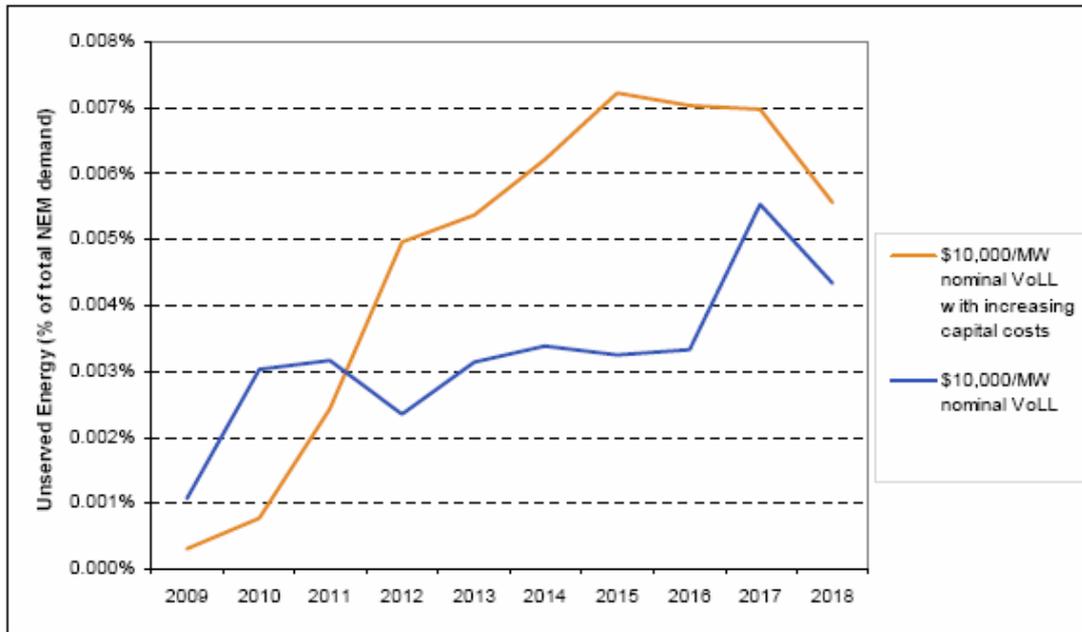
The extensive modelling in the CRR Report indicated that raising VoLL would decrease the incidence of USE. It also indicated that leaving VoLL at its current level would result in a breach of the reliability standard sometime between 2010 and 2014, particularly when considering the conservative nature of the modelling which assumes a near ideal market setting and does not allow for material increases in the costs of constructing new generating plant.

The plot below indicates that USE increases when VoLL is kept stable but capital costs increase.<sup>13</sup> On this basis, the Panel notes that an increase in capital costs of new generating plant has been a feature of the NEM in recent years, and is a feature which could continue in future years.

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<sup>13</sup> This plot has been extracted from Figure 21 of Appendix E in the CRR Report.

Figure 21: NEM Annual USE comparison of Original and Increasing Capital Cost Scenarios



In the CRR Report, the Panel also took into account whether the current situation reflected the fact that the market is still in transition as surplus capacity in different regions and transitional pricing arrangements are wound back. It also considered whether an increase in VoLL to adjust for changing costs and risks might likely result in increased contracts and investment, in line with the market design assumptions, and also whether it may accelerate the emergence of greater level of Demand Side Response (DSR).

In addition to the detailed analysis in Appendix E of the CRR Report, Concept Economics undertook a risk assessment of raising VoLL and the CPT on behalf of the Reliability Panel. As the VoLL and the CPT were considered together in that particular analysis, the conclusions from that report is discussed in section 1.4.2 of this Rule change proposal.

Furthermore, the Panel has recently had the modelling from the CRR updated with assumptions that take into account recent policy developments, in particular the Federal Government’s proposed CPRS and expanded Mandatory Renewable Energy Target. This modelling was requested of the Panel by the AEMC as an input into the AEMC’s climate change review.<sup>14</sup>

The Panel believes that this modelling strengthens its own policy position regarding the raising of VoLL. The modelling clearly shows the risk to the market of the reliability standard being breached if VoLL is not raised to \$12,500 / MWh on 1 July 2010. Furthermore, the modelling scenarios where the reliability standard is not breached across the whole of the NEM assume a further increase in VoLL in real terms into the future. Should this package be accepted by the AEMC, the Panel

<sup>14</sup> The AEMC’s Climate change review is at: <http://www.aemc.gov.au/electricity.php?r=20080822.183804>

intends to undertake appropriate modelling analysis as part of future reviews. However at this time the Panel thinks it prudent to foreshadow the potential for an increase in VoLL every two years in order that the standard is met.

### **1.2.5 Proposed increase in VoLL**

The Panel concludes that the prudent option is to adjust the existing price mechanism as a medium-term signal for investment and demand. It proposes an increase in VoLL from the existing level of \$10,000/MWh to \$12,500/MWh to be effective from 1 July 2010. This is justified in light of the Panel's analysis which was undertaken against a conservative case of the construction costs of new generating plant and minimal market distortions which clearly indicates that there would be a very likely breach of the reliability standard after 2011 NEM-wide and in a number of regions.

Furthermore, the Panel believes that as there is a real risk on the horizon of breaching the reliability standard, an incremental adjustment to the level of VoLL is warranted. The Panel notes that risks relating to the future cost of generation construction and development, as well as the implementation of other energy related public policy initiatives, suggest that the time frame for the Panel's recommendation is appropriate. A higher level of VoLL should encourage investment in new generation and provide greater incentives for customers to participate in demand side responses.

## **1.3 The Market Floor Price**

The Panel's modelling in the CRR Report stated that "the level at which it [the market floor price] is set is unrelated to investment signals". This implies that the setting of the market floor price will have little or no effect on USE. As there were no stakeholder calls for a change in the level of the market floor price and, following modelling analysis in the CRR Report which showed no affect on reliability, the Panel proposes to leave the market floor price unchanged at -\$1,000/MWh.

## **1.4 Cumulative Price Threshold (CPT)**

### **1.4.1 Is the current level of the CPT appropriate?**

The CPT was established as part of the changes to the level of VoLL in the NEM. The CPT is an explicit risk management mechanism designed to limit participants' financial exposure to the wholesale spot market during prolonged periods of high prices. It is also designed not to hinder investment or the remuneration of occasionally utilised capacity in that the CPT is set at a level that is unlikely to be triggered except in very extreme circumstances.

Currently, the CPT is set at \$150,000. This means that if, over a rolling seven-day period (336 half-hour trading intervals), the cumulative sum of the wholesale market spot prices equals or exceeds this threshold, then NEMMCO is required to impose an

administered price cap such that spot market prices do not exceed \$300/MWh. This price cap remains in place until the sustained high prices falls away.<sup>15</sup>

The CPT was established in December 2000 and set at \$150,000 by the ACCC, following a recommendation by the Reliability Panel.<sup>16</sup> Prior to the establishment of the CPT, the APC would be triggered by the occurrence of “force majeure events”. The National Electricity Code Administrator (NECA) defined force majeure events as the occurrence of a trading interval price in any region equal to VoLL due to involuntary load shedding or the occurrence of a network failure or derating that constrained one or more scheduled generators in the dispatch process.<sup>17</sup> In defining force majeure events, NECA indicated that there was a need to balance the “conflicting objectives of overall market risk management and allowing the market to operate normally as long as possible”.<sup>18</sup>

The CPT was introduced to provide greater certainty to Market Participants in relation to when risk would be capped as it was based on price alone, rather than the occurrence of event such as load shedding or network failure.<sup>19</sup> It should be noted that, on the recommendation of the Reliability Panel, NECA initially sought to set the CPT at \$300,000, when it applied for Code change authorisation by the ACCC in 1999. A level of \$300,000 was chosen by the Panel as the Panel believed that the high price periods before each CPT breach would provide incentives for the supply of cost effective peak generation investment, by allowing a new entrant open cycle gas turbine plant to recover three years worth of its annual fixed costs.<sup>20</sup> However, the ACCC indicated in its final determination in 2000 that a lower CPT level was required to reduce the risk of Market Participants being exposed to extreme prices over prolonged periods of time before the APC was imposed.<sup>21</sup>

The CPT was breached in March 2008 in SA when the rolling seven-day price exceeded \$150,000. Prior to this, the closest the CPT has been to being breached was in June 2007 in NSW when the rolling seven-day price reached ~\$135,000. The Panel notes that the events of June 2007 caused considerable financial stress to some market participants, with one retailer exiting the market in these circumstances, as NEMMCO’s prudential requirements increased as a direct result of those high prices. A major increase in the CPT may exacerbate this position.

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<sup>15</sup> Due to the nature of the CPT, this may take up to seven days, or even longer if the cause of the high prices persists.

<sup>16</sup> ACCC, 2000, ‘Determination- Application for Authorisation- VoLL, Capacity Mechanism and Price Floor’, 20 December. Available at:  
<http://www.accc.gov.au/content/trimFile.phtml?trimFileName=D03+38328.pdf&trimFileTitle=D03+38328.pdf&trimFileFromVersionId=756473>

<sup>17</sup> NECA, 1998, ‘Administered price arrangements and force majeure’, April, p.10.

<sup>18</sup> Ibid., p.12.

<sup>19</sup> ACCC, 2000, ‘Determination- Application for Authorisation- VoLL, Capacity Mechanism and Price Floor’, 20 December, p. 6.

<sup>20</sup> Reliability Panel, 1999, ‘Review of VoLL in the National Electricity Market: Report and Recommendations’, Final Report, NECA, Adelaide, July, p.20.

<sup>21</sup> ACCC, 2000, ‘Determination- Application for Authorisation- VoLL, Capacity Mechanism and Price Floor’, 20 December, p. 44-45.

#### **1.4.1.1 Submissions during consultation on the CRR**

A number of criticisms of the CPT mechanism were raised with the Panel during the CRR including:<sup>22</sup>

- the CPT mechanism protects participants who do not appropriately manage their hedge positions; and
- the CPT mechanism would expose retailers to an unhedgeable risk during an administered price period because they are required to pay their share of the compensation to generators whose costs exceed the administered price.<sup>23</sup>

#### **1.4.1.2 Submissions during consultation on the Exposure Draft**

The ERAA supported the Panel's proposal for the CPT to be defined as 15 times VoLL. It argued that "not increasing the CPT could lead to the CPT being triggered too frequently, and thus interfering with normal market clearing mechanisms".<sup>24</sup>

The AER considered that it was unclear how an increase in the CPT would be effective in promoting investment and whether it would be beneficial. It stated that it was also unclear why the CPT should be set at 15 times VoLL. It also considered that the Panel should consider the effectiveness of the CPT as a financial risk safety net. It suggested that the Panel should delay its decision on whether to increase the CPT until there has been a review of the appropriateness of the design and level of the CPT based on recent market events.<sup>25</sup>

#### **1.4.2 The Panel's Analysis**

The modelling undertaken by the Panel in the CRR Report indicated that any lowering of the CPT would result in an increase in the number incidences where the reliability standard may be exceeded, while an increase would not result in any reduction in USE.

Concept Economics also undertook a risk assessment of raising VoLL and the CPT on behalf of the Reliability Panel in November 2008. Concept Economics concluded in its report to the Panel that:

"Increasing VoLL and the CPT provides generators with greater latitude to bid more aggressively without the risk of breaching the (higher) CPT. Market simulations of two recent high price events reveal that, if both VoLL and CPT are increased, (cumulative) prices may rise as much as 20 per cent on an already high level for the selected weeks. Under extreme system conditions that prevailed in

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<sup>22</sup> Supplementary comments from AGL subsequent to their submission to the CRR Issues Paper.

<sup>23</sup> The AEMC is currently preparing the draft Rule determination on EnergyAustralia's Rule change proposal relating to compensation arrangements under administered pricing.

<sup>24</sup> ERAA submission, 31 October 2008, p.2.

<sup>25</sup> AER submission, 30 October 2008, Pp.4-5.

recent months, an increase in VoLL and CPT will add significantly to the energy purchase cost risk faced by a retailer. Prices in general over a longer period, e.g., annual average prices, will not be affected as much because such extreme events are expected to occur infrequently. Assuming retailers pass on the added costs to final customers, a typical customer bill can be expected to increase by 3.5 per cent if an extreme price event occurs every year, or less if such events occur less frequently – for instance, less than 1 per cent if such extreme events occur once in every five years.

On the other hand, if VoLL alone is increased without a commensurate increase in the CPT, generators face the prospect of a lower revenue outcome. Although generators are able to recover most of its annualised fixed costs, the net revenue falls well short of the 150 per cent of annual capital requirement that was intended to be one of the criteria in determining the CPT. If the CPT is retained at \$150,000 and VoLL is raised, this also materially increases the risk of breaching the CPT.

The final selection of CPT and VoLL needs to strike a balance:

- If both CPT and VoLL are raised, there is the potential for an increase of up to 20 per cent in spot prices if an extreme price event such as those in March 2008 or June 2007 were to occur. This translates into a 3.5 per cent increase in an average customer's annual bill if one of these [extreme and low probability] events occurs in a year, and less than 1 per cent if it occurs once every five years.<sup>[26]</sup> A commensurate increase in CPT with VoLL maintains the risk of a CPT breach at approximately the same level as the current level.
- If CPT is retained at \$150,000, but VoLL is raised, a typical peaking generator recovers the bulk of its annual fixed costs, but falls well short of the 150 per cent of annual capital requirement criterion that was set out by the Reliability Panel/ACCC in 1999-2000. Retaining the CPT at \$150,000 also substantially increases the risk of breaching the CPT once VoLL is raised."

The Panel notes the AER's comments against redefining the CPT. Nevertheless, based on the findings in the Concept Economics report, the Panel believes that VoLL should be raised and the CPT level relative to VoLL should be maintained.

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<sup>26</sup> The Concept Economics Report stated that the findings of its market modelling should be interpreted only in the context of extreme events. For instance, if a price increase of (say) 20 per cent was reported for a VoLL/CPT scenario, it reflected how an increase in VoLL/CPT would impact on prices under such stressed conditions. This provided an objective assessment useful to understand the risk implications for a real-life event. However, such an outcome was not intended to be generalised to NEM price outcomes under normal conditions (i.e. average demand condition without major outages, etc). NEM prices in general would not in all likelihood increase by anywhere near 20 per cent for the vast majority of hours. In closing, Concept Economics indicated in its report that the study was not intended to provide an average price forecast but assess the efficacy of risk instruments under extreme, low probability, events.

The Panel also notes the AER's comments in relation to the effectiveness of the CPT as a financial risk safety net. The Panel considers that unless action is taken, leaving the CPT (as well as VoLL) at its current level could result in a breach of the reliability standard sometime between 2010 and 2014. However, it suggests that a future reliability review of the reliability standards and settings (see section 1.6) would be an appropriate time to revisit the effectiveness of the CPT.

### **1.4.3 Proposed unchanged CPT**

The Panel believes that the current relative level of the CPT (i.e. 15 times VoLL) is consistent with the philosophy that underpinned its creation, namely to act as a financial safety net without hindering investment. Raising VoLL without raising the CPT would result in increased incidence of application of the APC. Given that the CPT should only be exceeded in extreme conditions, the Panel's conclusion is that the level of the CPT, relative to VoLL, should remain unchanged.

Thus, given the Panel's recommendation to incrementally increase the level of VoLL to \$12,500/MWh from 1 July 2010, the Panel recommends that the CPT be defined in the Rules as 15 times VoLL. If these recommendations were accepted, and the level of VoLL were to move to \$12,500/MWh, then the CPT would be reset to \$187,500 at 1 July 2010.

## **1.5 Renaming VoLL to Market Price Limit**

The Panel believes that the use of the term "Value of Lost Load (VoLL)" to describe what is clearly an upper limit on the market price is misleading. This is because a true value for VoLL would be based on a theoretical price at which customers would rather have interrupted supply than pay the market price for electricity, as opposed to a level of VoLL in reference to projections of meeting a USE reliability standard. For this reason, the Panel recommends changing the name from "Value of Lost Load (VoLL)" to the "Market Price Limit (MPL)". This would also bring the titles of the two terms "Market Price Limit" and "Market Floor Price", which define the wholesale price ranges in the NEM, into alignment.

In its submission on the Panel's Exposure Draft, the ERAA supported the Panel's proposal to replace the term "Value of Lost Load (VoLL)" with "Market Price Limit (MPL)".<sup>27</sup>

## **1.6 Future Reliability Reviews and Reporting**

Currently, the only arrangement in place for regularly reviewing any of the reliability settings is the Panel's annual review of VoLL. This is in accordance with clauses 3.9.4(c) and 3.9.6(c) of the Rules, where the Panel is required to review VoLL and market floor price by 30 April each year. Any change to VoLL takes effect from

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<sup>27</sup> ERAA submission, 31 October 2008, p.2.

July two years after the Panel makes the determination and any change to the market floor price takes effect from July one year after the determination.

At the time the Panel undertook the 2008 VoLL review, it was also required under clause 3.12.1(b) to recommend whether the reliability safety net can be replaced. In effect, this gives market participants 26 months' advance notice of changes to VoLL, except in unusual circumstances where there may be 14 months' notice. The AEMC published its final determination relating to the replacement of the reliability safety net on 26 June 2008.

### **1.6.1 Should there be longer-term certainty about the level of VoLL?**

The NEO relates to the long-term interests of consumers. Consumers have a direct interest in the future reliability settings which influence the price and the level of investment.

Investors seek as much certainty as possible about potential returns on their investments. Certainty is affected by the frequency of VoLL changes and the length of the notification period for such changes.

Advance notice of any change to VoLL is necessary so that market participants can adjust their risk management arrangements accordingly and make any other necessary adjustments to trading conditions such as the level of contracting that might be appropriate for a material change. The volatility of revenue for investors in peak plants will be more affected by changes in the level of VoLL than revenue for investors in base load plants.

Suggestions have been made that, for example, the level of VoLL should be adjusted only on request from a market participant to the Panel (followed by the necessary Rule change proposal to the AEMC if the Panel agrees with the market participant), or that it should be fixed for a longer period of, say, two years.<sup>28</sup>

The central issue here, for consumers and investors, is the trade-off between certainty and opportunity. Fixing the level of VoLL for too long risks inefficiencies if the level is higher than needed, and risks greater use of the market safety net if the level is too low.

The ERAA noted that the CPRS and the Renewable Energy Target would likely have a major impact that would "lead to a significant increase in the volume of intermittent generation entering the NEM" and suggested that "a further future increase in the level of VoLL is likely to be required to sustain investment signals for this type of generation".<sup>29</sup>

The ERAA supported the Panel's proposal to review the reliability settings on a two-yearly basis. It considered that this cycle would provide investors with enough certainty and scope to adjust and provide the Panel with sufficient opportunity to

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<sup>28</sup> The CRR Report, p.89.

<sup>29</sup> ERAA submission, 31 October 2008, Pp.2.

make appropriate changes. It also noted that this does not preclude one-off adjustments to the reliability settings where necessary. Further, it stated that the review cycle would give it the opportunity to assess the effectiveness of the level in VoLL.<sup>30</sup>

### **1.6.2 Should all the reliability settings be reviewed on a regular basis?**

The second issue concerns whether or not there should be a regular review of all the reliability settings (i.e. the reliability standard, VoLL, the CPT, and the market floor price). The Panel's view is that all the reliability settings (i.e. the reliability standard, VoLL, the CPT, and the market floor price) have an effect (though not necessarily an equal one) on USE and so should all be reviewed together. This will also mean that any adjustments to the reliability settings, to ensure the reliability standard is met, will be more effective.

The Panel's conclusion covered in the CRR interim reports was that VoLL should be reviewed less frequently than every year, and that it was more appropriate to review the level of VoLL in conjunction with a regular and integrated review of all the reliability settings.

### **1.6.3 Should the changes to VoLL and CPT commence at the same time as the proposed commencement date of the CPRS?**

Since the publication of the CRR, the Federal Government has announced plans for a CPRS, and an expansion of the existing Mandatory Renewable Energy Target. There is also a review by the AEMC at the request of the Ministerial Council on Energy (MCE) relating to the implications of the proposed introduction of the CPRS and expanded renewable energy target on the energy market frameworks and Rules.

The Panel notes the current announcements for the intention to introduce the CPRS on 1 July 2010. With regard to the proposals the Panel is covering in this Rule change proposal, the Panel sought views from stakeholders on the appropriateness of also raising VoLL and the CPT on the same date or whether it should be a different date in its Rule change proposal to the AEMC depending upon responses from stakeholders and its further analysis.

The ERAA stated that it was "unconcerned with the AEMC's proposal to implement the changes to reliability settings on the same day as the scheduled commencement of the Carbon Pollution Reduction Scheme"<sup>31</sup> and that it supported the proposed increase in VoLL and the CPT at the same time as the proposed CPRS implementation date<sup>32</sup>. It considered that an increase in VoLL should help address the general "market uncertainty surrounding the impacts of CPRS and RET ... by increasing potential revenues for generation while at the same time strengthening incentives for participants to enter into contracts" and support market

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<sup>30</sup> Ibid., Pp.2-3.

<sup>31</sup> ERAA submission, 31 October 2008, p.1.

<sup>32</sup> Ibid., p.3.

sustainability.<sup>33</sup> It suggested that “further review of VoLL may be required if investment in new generation stagnates”.<sup>34</sup> Further, the ERAA considered that “delaying the current increase because of CPRS implementation would appear counter-intuitive”.

In contrast, the AER considered that the “introduction of the CPRS is a major change” and that introducing “an increased MPL [VoLL] and CPT on the same day may amplify the impact of any market shocks created by the introduction of the CPRS”.<sup>35</sup> On that basis, the AER proposed that “it may be prudent to delay the increase in the MPL [VoLL] and the CPT until the market is more comfortable with the CPRS”.<sup>36</sup> It also stated that the AEMC Review of Energy Market Frameworks in light of Climate Change Policies should be considered before proceeding with this Rule change proposal.<sup>37</sup>

The Panel notes the AER’s concern with respect to the uncertainty of the CPRS and the potential impacts of raising VoLL and maintaining the CPT level relative to VoLL on the same day as the proposed commencement date of the CPRS. However, the Panel considers that unless action is taken now, leaving VoLL and the CPT at its current level could result in a breach of the reliability standard sometime between 2010 and 2014 irrespective of the CPRS. The Panel further notes that NEMMCO has factored the commencement on 1 July 2010 of the Panel’s proposed levels for VoLL and the CPT for the market in its 2008 Statement of Opportunities.

The Panel also notes the AER’s comments in relation to the effectiveness of the CPT as a financial risk safety net which was discussed in section 1.4. It suggests that a future reliability review of the reliability standards and settings could revisit the effectiveness of the CPT.

#### **1.6.4 Proposed change for a biennial review of all reliability settings and commencement of Rule change**

The Panel recommends that the current annual review of VoLL be replaced with a reliability standards and settings review (i.e. the reliability standard, VoLL, CPT, and the market floor price) which is to take place every two years. Any change to the reliability settings would occur two years later, at which time the two yearly review cycle would reset. The Panel raised these matters in its CRR interim reports. It acknowledges the overwhelming response from stakeholders in support of an integrated reliability review process not undertaken annually.

Based upon feedback from stakeholders and further analysis, the Panel concludes the “two plus two” concept, i.e. a review every two years with two years’ notice of any change, represents an appropriate balance between:

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<sup>33</sup> Ibid., p.2.

<sup>34</sup> Ibid., p.3.

<sup>35</sup> AER submission, 31 October 2008, p.6.

<sup>36</sup> Ibid.

<sup>37</sup> Ibid., p.3.

- certainty for consumers and investors on one hand; and
- the need to maintain appropriate and timely vigilance in relation to overall NEM reliability performance.

The CRR was the first comprehensive and broad ranging review covering all the reliability settings since the inception of the NEM. The review was extensive in time and scope. The Panel believes that the proposed future biennial reviews of the reliability standard and settings would be completed in a very much shorter period of time against defined criteria in the Rules. In addition, the Panel will manage its work program against the two-yearly cycle to enable ongoing information collection that would facilitate a shorter period to undertake the review.

The Panel also recommends that VoLL be raised and the CPT level relative to VoLL be maintained on the same date to the proposed commencement date of the CPRS on 1 July 2010.

## 2 Development of the Proposal

This chapter outlines the process that the Panel undertook in developing this Rule change proposal.

### 2.1 Reliability Panel

The Panel is a specialist body within the Australian Energy Market Commission (the AEMC) and comprises industry and consumer representatives. It is responsible for monitoring, reviewing and reporting on the safety, security and reliability of the national electricity system and advising the AEMC in respect of such matters. The Panel's responsibilities are specified in section 38 of the National Electricity Law (NEL) and Rule 8.8 of the National Electricity Rules (Rules).

### 2.2 The Comprehensive Reliability Review

In December 2005 the AEMC directed the Panel to undertake a comprehensive and integrated review of the key mechanisms, standards and parameters (collectively, the 'reliability settings') for achieving reliability of supply in the National Electricity Market (NEM).

The Panel's Comprehensive Reliability Review (CRR) began with the publication of an Issues Paper in May 2006. Stakeholders responded with written submissions, as well as in-person presentations to the Panel at a forum held in July 2006. The Panel then analysed the issues identified in the Issues Paper and by stakeholders. The Panel published the first Interim Report in March 2007 which presented the results of that work with a view to further stakeholder consultation before aiming to complete the Final Report and recommendations in July 2007.

However, in June 2007 the Ministerial Council on Energy (MCE) wrote to the AEMC requesting the Panel "review and provide advice on the effectiveness of current market arrangements in managing generation input constraints" in the context of energy shortfalls being forecast by NEMMCO if the prevailing drought conditions remained. The letter also noted "that the current terms of reference [of the CRR] may need to be broadened from its current focus on reliability to consider what, if any, improvements can be made to arrangements, including Reserve Trader, to strengthen the market's ability to manage input constraints."

The AEMC then amended the Panel's Terms of Reference to require the Panel to:

- provide advice to the AEMC for the MCE by mid-July 2007 on what, if any, improvements can be made to arrangements, including Reserve Trader, to strengthen the market's ability to manage generator input constraints; and
- extend the timetable of the CRR to include the Second Interim Report which will seek feedback from stakeholders on the matters raised in that advice before its final report is issued later in 2007.

The Panel provided the requested advice to the MCE and published the Second Interim Report on 3 September 2007 to seek feedback from stakeholders on issues arising from that advice as well as on a number of matters from the broader CRR.

Stakeholders responded with written submissions, as well as in-person presentations to the Panel at a forum held in September 2007. The Panel published its Final Report for the CRR (“CRR Report”) in December 2007.

The key dates for the Panel’s CRR consultation process where:

- Panel published Issues Paper 11 May 2006
- Submissions on Issues Paper closed 30 June 2006
- First Stakeholder Forum (Gold Coast) 27 July 2006
- Panel published Interim Report 2 April 2007
- Submissions on Interim Report closed 17 May 2007
- Terms of reference modified in response to MCE request 21 June 2007
- Panel published Second Interim Report 30 August 2007
- Second Stakeholder Forum (Melbourne) 13 September 2007
- Submissions on Second Interim Report closed 28 September 2007
- Panel published Final Report 21 December 2007

Appendix A contains a list of submissions, supplementary submissions and presentations made to the Panel as stakeholder feedback after the release of the Issues Paper, the Interim Report and the Second Interim Report.

In the CRR Report, the Panel made recommendations relating to the reliability settings in the National Electricity Market (NEM) including:

- the NEM reliability standard;
- the Value of Lost Load (VoLL), market floor price and cumulative price threshold (CPT);
- whether the reliability safety net (“reserve trader”) should be allowed to expire (the subject of a recent Rule change assessment by the Australian Energy Market Commission (AEMC)) or alternative arrangements put in place; and
- improvements in market information related to reliability.

The Panel made the following conclusions and recommendations in the CRR Report:

- that the current safety net or ‘Reserve Trader’ should be redesigned to become a Reliability and Emergency Reserve Trader (RERT);<sup>38</sup>
- that a new Energy Adequacy Assessment Projection (EAAP, an information gathering and dissemination mechanism) should be introduced to enable the market to forecast and respond to projected times where there may be energy constraints that would affect reliability;<sup>39</sup>
- that there should be a confirmation of NEMMCO’s ongoing power to issue Reliability Directions with no sunset date for this power;<sup>40</sup>
- that the current annual review of VoLL should be replaced by a reliability standards and mechanisms review of all the reliability settings (i.e. the reliability standard, VoLL, the CPT, and the market floor price) which should take place every two years. With respect to any recommendations from the biennial Review which may suggest changes to VoLL, the market floor price and the CPT, there should be a two year notification period. In essence, this process would mean an average four-year cycle of potential changes which the Panel believes to be a balanced and appropriate time scale;
- that the Panel would request NEMMCO to conduct a review of the level of short term reserves that should be used in the short term PASA;
- that the Panel would request that NEMMCO report to the Panel each November on the accuracy of the most recent Statement of Opportunities (SOO) demand forecasts and on improvements in the forecasting process that will be used to prepare the subsequent SOO;
- the Panel noted the significant progress being made by jurisdictions and NEMMCO in further improving the demand forecasts for the market. The Panel believed that continuous improvements in the accuracy of demand forecasting would be beneficial for the market and for reliability responses;
- that the Panel should undertake a formal consultation under the Rules for the ‘Guidelines for management of electricity supply shortfall events’ which was issued by the Panel in 1998;
- that the Panel should establish a taskforce to look specifically at the methodology and process for calculating Minimum Reserve Levels (MRLs), especially where the MRLs are applied across more than one jurisdiction. This taskforce will comprise of NEMMCO, industry and jurisdictional representation and would be chaired by a member of the Panel;

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<sup>38</sup> This is included in the National Electricity Amendment (NEM Reliability Settings: Information, Safety Net and Directions) Rule 2008 No 6.

<sup>39</sup> Ibid.

<sup>40</sup> Ibid.

- the Panel endorsed the action of the AEMC in undertaking a review of the Administered Price Cap (APC). The Panel also noted that a related Rule change proposal regarding the compensation arrangements for administered prices had been proposed by a market participant which would allow consideration of this matter by the AEMC;
- the Panel noted that there appeared to be potential benefits to medium-term reliability from the development of demand-side and standing reserve arrangements. The Panel noted that the AEMC is currently undertaking a review of demand-side issues relating to the Rules. The Panel intended to provide inputs to that review based upon the submission and analysis work undertaken for the CRR Report. Furthermore, the Panel intended to establish a work program in 2008 relating to “medium-term reserves and reliability” to provide additional analytical material that would be relevant to deliberations by the MCE and AEMC on policy and market development issues respectively; and
- that the Panel continue to release its Annual Market Performance Review relating to reliability and security.

### **2.3 Exposure Draft**

Amongst the recommendations in the CRR Report, the Panel foreshadowed three Rule change packages that it would submit in the form of Rule change proposals to the AEMC in 2008:

- the first Rule change package addressed the re-designed reserve trader (RERT), the new EAAP information mechanism and NEMMCO’s power to issue reliability directions. This is the first such rule change package and was submitted to the AEMC. On 26 June 2008, the AEMC published its final Determination and Rule as made;
- the second Rule change package was to be largely administrative by addressing the name of VoLL (to be changed to the Maximum Price Limit (MPL)) and future reviews of the reliability settings (the cycle of which would commence from 2010); and
- the third Rule change package was to address the levels of VoLL and the CPT.

Subsequently, the Panel decided to consolidate the second and third Rule change packages into a single Rule change package for reasons of efficiency and to streamline the process.

The purpose of the Exposure Draft was to develop a Rule change proposal that implemented the policies outlined in Rule change packages 2 and 3 as defined in the CRR Final Report. The Exposure Draft intended to implement the following recommendations relating to proposed Rule changes:

- an increase in the level of VoLL from the existing level of \$10,000/MWh to \$12,500/MWh to be effective from 1 July 2010;
- the CPT be defined in the Rules as 15 times VoLL;
- the term “Value of Lost Load (VoLL)” be changed to the “Market Price Limit (MPL)”; and
- the current annual review of VoLL be replaced with a reliability standards and settings review (i.e. the reliability standard, VoLL, CPT, and the market floor price) which is to take place every two years with two years’ notice of any change.

The Panel sought stakeholder submissions to the Exposure Draft and Proposed Rule, which was published on 16 September 2008. Submissions to the Exposure Draft closed on 31 October 2008. While stakeholders raised a number of issues of detail on the Exposure Draft (which have been addressed in this Proposal), there was overall support (with the exception of the AER on some issues) for proceeding with these initiatives.

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### 3 Proposed Rule

This chapter provides a description of the Proposed Rule developed by the Panel, the power for the Panel to submit this Rule change proposal, resulting from the CRR and the Exposure Draft, to the AEMC, and the power that the Panel considers that the AEMC has to consider the Rule change proposal.

The Panel has attached a copy of the Proposed Rule to this Rule change proposal.

#### 3.1 Description of the Proposed Rule

The Panel's Rule change proposal relates to improving the overall power system reliability through:

- minimising the possibility of a real risk on the horizon of breaching the reliability standard through increasing VoLL from the existing level of \$10,000/MWh to \$12,500/MWh to be effective from 1 July 2010;
- remaining consistent with the philosophy that underpinned the creation of the CPT by defining the current relative level of the CPT as 15 times VoLL in the Rules e.g. if the level of VoLL were to move to \$12,500/MWh, then the CPT would be reset to \$187,500 at 1 July 2010;
- clarifying the current definition of the term "VoLL" to be a market price limit by changing the term from "Value of Lost Load (VoLL)" to "Market Price Limit (MPL)"; and
- replacing the current annual review of VoLL with a reliability standards and settings review (i.e. the reliability standard, VoLL, CPT, and the market floor price) which is to take place every two years.

#### 3.2 Differences between the Exposure Draft Rule and the Proposed Rule

The Panel's Proposed Rule has not substantially changed from its Exposure Draft Rule. There was only one change made in the Proposed Rule which was in response to NEMMCO's submission<sup>41</sup> proposing that reference to "reliability standard" be more clearly defined. For clarity, the Proposed Rule includes a definition for "reliability standard" in the Glossary where it is defined as "A standard as set out in the power system security and reliability standards, determined by the Reliability Panel under clause 8.8.3(a)(1)".

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<sup>41</sup> NEMMCO submission, 30 October 2008, p.1.

### 3.3 Power of the Panel to Submit this Proposal

The Panel is a specialist body within the AEMC and comprises industry and consumer representatives. It is responsible for monitoring, reviewing and reporting on the safety, security and reliability of the national electricity system and advising the AEMC in respect of such matters. The Panel's responsibilities are specified in section 38 of the NEL and rule 8.8 of the Rules.

The Panel intends to request that the AEMC make this Proposed Rule in accordance with section 91 of the NEL.

Section 91(1) of the NEL specifies that the AEMC may make a Rule at the request of any person, the MCE or the Reliability Panel. However, section 91(4) restricts the Panel to requesting the AEMC to make a Rule that relates to its functions. Section 38(2)(c) of the NEL states that the functions of the Panel include any functions and powers conferred on it under this Law and the Rules.

Clause 8.8.1(a) of the Rules lists the functions of the Panel under the Rules and subparagraph (5) states that one of these functions includes:

*“report to the AEMC and participating jurisdictions on overall power system reliability matters concerning the power system and on the matters referred to in clauses 8.8.1(a)(2) and (3), and make recommendations on market changes or changes to the Rules and any other matters which the Reliability Panel considers necessary”.*

The Panel considers that each aspect of this proposal relates to the overall reliability of the power system and, therefore, within the power of the Panel to recommend changes to the Rules.

### 3.4 Power of the AEMC to make the Proposed 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 Panel considers that the Rule change proposal, resulting from the CRR and the Exposure Draft, falls within the subject matters that the AEMC may make Rules about, as it relates to:

- the operation of the national electricity market (as it involves the rules for VoLL and the CPT); and
- the operation of the national electricity system for the purposes of the safety, security, and reliability of that system (as this matter involves the ability to maintain reliability in changing the level of VoLL and retaining the level of the CPT).

The Panel views that this Rule change proposal, resulting from the CRR and the Exposure Draft, is a matter that the AEMC may make a Rule.

Specifically, this Rule change proposal, resulting from the CRR and the Exposure Draft, is also within matters set out in Schedule 1 to the NEL as it relates to:

- the setting of prices for electricity and services purchased through the wholesale exchange operated and administered by NEMMCO, including maximum and minimum prices (Item 7 of Schedule 1 to the NEL); and
- reviews by or on behalf of the Panel (Item 33(b) of Schedule 1 to the NEL).

### **3.5 Power of the AEMC to “fast track” this Proposal**

The Panel also requests that the AEMC “fast track” this Rule change proposal, resulting from the CRR and the Exposure Draft, in accordance with section 96A of the NEL.

Section 96A of the NEL specifies that the AEMC may “fast track” a Rule change proposal on receipt of such a request if the AEMC is of the opinion that the consultation conducted by the Panel was adequate having regard to the:

- nature and content of the request; and
- kind of consultation conducted by the Panel.

In addition, clause 8(f) of the Regulations requires that, where the Panel requests that a Rule change proposal be “fast tracked”, the proposal must contain a summary of:

- the consultation conducted by the electricity market regulatory body; and
- include information about the extent of the consultation and about the issues raised during the consultation and the Panel’s response to those issues.

The Panel believes that this Rule change proposal, resulting from the CRR and the Exposure Draft, meets these two requirements in that:

- chapter 1 contains a description of the issues raised by stakeholders and the Panel’s response to these issues; and
- chapter 2 contains a description of the consultation process that the Panel conducted; and

In summary, the Panel considers that it has adequately consulted the public in relation to this Rule change proposal. This consultation with stakeholders on the Exposure Draft, which lead to this Rule change proposal, is the consultation required in accordance with section 96A of the NEL.

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## 4 How the Proposed Rule will or is likely to contribute to the achievement of the National Electricity Objective

In accordance with clause 8(d) of the Regulations<sup>42</sup>, this chapter presents the Panel's explanation of how the Proposed Rule will or is likely to contribute to the achievement of the NEO.

### 4.1 The National Electricity Objective

The NEO is the basis of assessment under the Rule making test and is set out in section 7 of the NEL<sup>43</sup>:

"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."

### 4.2 Advancement of the National Electricity Objective

#### 4.2.1 General

In the CRR Final Report the Panel stated that any assessment of the current reliability settings, as well as any actual improvements to them, should be undertaken on a basis consistent with the NEO. At the time of the CRR, the NEO was known as the National Electricity Market objective and was amended as part of the amendments to the NEL that took effect on 1 January 2008. However, there were no substantive changes to the definition. In this context, the Panel considers that an effective approach to reliability should achieve the following:

- delivery of a level of supply reliability that meets the broad expectations of consumers, and the value they place on it;
- maximising of efficiency in investment and use of electricity;
- clarity in respect of the reliability standard and settings and certainty in respect of how the relevant mechanisms operate; and
- in the event that changes to the reliability settings prove desirable, minimal disruption to the market.

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<sup>42</sup> National Electricity (South Australia) Regulations.

<sup>43</sup> National Electricity (South Australia) Act 1996.

#### **4.2.2 Increasing VoLL**

The Panel considers that an increase to VoLL decreases the incidence of breaching the reliability standard which improves the reliability of electricity supply to consumers. The Panel also views that retaining the existing arrangements and raising VoLL in response to rising costs and increased uncertainty about prices would promote efficient investment in electricity services by compensating investors who are adopting a higher discount rate when assessing investments.

#### **4.2.3 Retaining level of CPT**

The Panel considers that leaving the ratio of 15:1 between CPT and VoLL unchanged maintains its efficient operation of electricity services with respect to reliability as a financial safety net. The Panel also considers that not changing this ratio maintains efficient investment as the CPT is designed not to hinder investment by being set at a level that is unlikely to be triggered except in very extreme circumstances.

#### **4.2.4 Renaming “Value of Lost Load (VoLL)” to “Market Price Limit (MPL)”**

The Panel considers that renaming the term “VoLL” promotes the efficient use of electricity services through clarification of the term as a market price limit and avoids any misunderstanding as to the true meaning of VoLL.

#### **4.2.5 Future Reliability Review and Reporting**

The Panel considers that the change from the current annual review of VoLL to a review of all reliability settings (i.e. the reliability standard, VoLL, the CPT, and the market floor price) every two years represents an appropriate balance between certainty for consumers and investors on the one hand; and the need to maintain appropriate and timely vigilance in relation to overall NEM reliability performance. The Panel considers that this achieves the long-term interests of consumers in the future reliability settings which influence price, and the long-term interests of investors about potential returns on their investments. The Panel anticipates that the reliability settings being reviewed together promotes the long term interest of consumers and electricity as it ensures the reliability standard is met and becomes more effective.

## **5 The expected benefits and costs of the proposed change and the potential impacts of the change on those likely to be affected**

This chapter presents, in accordance with clause 8(e) of the Regulations<sup>44</sup>, the Panel's explanation of the expected benefits and costs of the Proposed Rule and the potential impacts of the Proposed Rule on those likely to be affected.

### **5.1 Increasing VoLL**

The expected benefits of increasing VoLL include:

- increasing confidence in reliability;
- compensating investors who are adopting a higher discount rate when assessing investments;
- consistency with the basic design of the NEM and would be least disruptive to existing systems and to participants' understanding of the market;
- addressing consumer concerns about increasing the potential volatility of the wholesale market prices;
- increasing the average revenue that generators can expect over the long-term;
- creating a medium-term signal for investment and demand;
- reducing possibility of real risk on the horizon of breaching the reliability standard;
- encouraging investment in new generation; and
- providing greater incentives for customers to participate in demand side responses.

The expected costs of increasing VoLL include:

- increased wholesale prices which will ultimately lead to higher prices for consumers;
- construction costs of new generating plant where raising VoLL encourages new investment;
- participants (especially those not vertically integrated) having greater incentive to enter into longer-term contracts;

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<sup>44</sup> National Electricity (South Australia) Regulations.

- implementation costs to NEMMCO (although expected to be insignificant); and
- participant transition cost and disruption is expected to be low.

The potential impacts of the change on those likely to be affected include:

- encouraging participants (especially those not vertically integrated) to enter into longer-term contracts to underwrite new investments as well as to provide a wholesale price envelope for the medium-term that is reflective of costs and targeted to achieving NEM reliability at 0.002% USE;
- encouraging investors, retailers and consumers to enter into contracts of sufficient length so as to encourage new and timely investment as well as manage the consequent increase in the overall level of financial risk;
- raising VoLL is likely to be accompanied by a market response that increases the scope of long-term contracts;
- exposing retailers to additional risk and creating incentives for greater levels of contracting and DSR;
- increasing the risk of exposure faced by generators as a result of forced outages and, as such, may prompt investors to contract less and apply a higher discount factor to compensate for the increased risk; and
- if VoLL is not increased, the reliability standard will more likely be breached after 2011 NEM-wide and in a number of regions.

## **5.2 Retaining level of CPT relative to VoLL**

The expected benefit of retaining the level of the CPT is to maintain consistency with the philosophy that underpinned its creation, namely to act as a financial safety net without hindering investment.

The expected costs of retaining the level of the CPT relative to VoLL would appear to be minimal.

As the level of the CPT is dependent on the value of VoLL (i.e. 15 times VoLL), the Panel anticipates that the impacts in retaining the level of the CPT relative to VoLL would be similar to that of the VoLL.

## **5.3 Renaming “Value of Lost Load (VoLL)” to “Market Price Limit (MPL)”**

The expected benefits of renaming “Value of Lost Load (VoLL)” to “Market Price Limit (MPL)” include:

- clarifying the correct meaning for VoLL, in the context of the NEM, as the market price limit; and

- bringing the titles of the two terms “Market Price Limit” and “Market Floor Price”, which define the wholesale price ranges in the NEM, into alignment.

The Panel does not anticipate that there will be any costs in renaming “Value of Lost Load (VoLL)” to “Market Price Limit (MPL)”.

The Panel does not envisage that renaming “Value of Lost Load (VoLL)” to “Market Price Limit (MPL)” would have any impact as it considers this to be a minor amendment.

#### **5.4 Future Reliability Review and Reporting**

The expected benefits of a reliability standards and settings review every two years include:

- any adjustments to the reliability settings, to ensure the reliability standard is met, will likely be more effective;
- balancing between certainty for consumers and investors on one hand; and the need to maintain appropriate and timely vigilance in relation to overall NEM reliability performance;
- giving investors more certainty about potential returns on their investments; and
- giving more advance notice of any change to VoLL for market participants to adjust their risk management arrangements accordingly and make any other necessary adjustments to trading conditions such as the level of contracting that might be appropriate for a material change.

In terms of the expected costs of a biennial reliability standards and settings review, the revenue for investors in peak plants who are affected by changes in the level of VoLL is anticipated to be less volatile than revenue for investors in base load plants.

The potential impacts of the change on those likely to be affected include:

- future regular biennial reviews of the reliability standard and settings would be expected to be completed in a very much shorter period of time against defined criteria in the Rules; and
- the Panel will manage its work program against the two-yearly cycle to enable ongoing information collection that would facilitate a shorter period to undertake the review.

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## Appendix A Submissions, supplementary submissions and presentations

The Panel's Rule change proposal and Proposed Rule was prepared as a result of the CRR and the Exposure Draft. The CRR process entailed the following:

- Panel published Issues Paper 11 May 2006
- Submissions on Issues Paper closed 30 June 2006
- First Stakeholder Forum (Gold Coast) 27 July 2006
- Panel published Interim Report 2 April 2007
- Submissions on Interim Report closed 17 May 2007
- Terms of reference modified in response to MCE request 21 June 2007
- Panel published Second Interim Report 30 August 2007
- Second Stakeholder Forum (Melbourne) 13 September 2007
- Submissions on Second Interim Report closed 28 September 2007
- Panel published Final Report 21 December 2007

Listed below are all submissions, supplementary submissions and presentations made to the Panel after the release of the Issues Paper, the Interim Report and the Second Interim Report for the CRR.<sup>45</sup>

### A.1 SUBMISSIONS AND SUPPLEMENTARY SUBMISSIONS IN RESPONSE TO THE CRR ISSUES PAPER

The CRR Issues Paper was published by the Panel in May 2006. The Panel received the following submissions:

- AGL
- Country Energy
- Electricity Supply Industry Planning Council
- Energy Response

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<sup>45</sup> All these documents are available from the AEMC's website at <http://www.aemc.gov.au/electricity.php?r=20051215.142656>.

- Energy Retailers Association Of Australia
- EnergyAustralia
- Enertrade
- Hydro Tasmania
- International Power Australia and Loy Yang Marketing
- Macquarie Generation
- National Generators Forum
- NEMMCO
- NewGenPower
- Queensland Government
- TransGrid
- TRUenergy
- VENCorp
- Energy Users Association of Australia
- Major Energy Users
- Total Environment Centre
- Electricity Supply Industry Planning Council Supplementary Submission
- Energy Response Supplementary Submission
- Paul Simshauser Supplementary Submission
- Powerlink Supplementary Submission
- Major Energy Users Supplementary Submission
- Ian Macfarlane
- Joseph Tripodi
- SA Department of Transport Energy and Infrastructure
- TRUenergy Supplementary Submission
- Electricity Supply Industry Planning Council Second Supplementary Submission

- SA Department of Transport Energy and Infrastructure Supplementary Submission

## **A.2 STAKEHOLDER FORUM PRESENTATIONS (JULY 2006)**

The Panel held a stakeholder forum on 27 July 2006 as part of the consultation on its CRR Issues Paper. The Panel received presentations from the following:

- ESIPC
- EUAA and MMA
- NGF
- NewGenPower
- Energy Response
- Enertrade
- MEU
- LYMMCO

## **A.3 SUBMISSIONS IN RESPONSE TO THE CRR INTERIM REPORT**

The CRR Interim Report was published by the Panel in April 2007. The Panel received the following submissions:

- EnergyAustralia
- Institute of Public Affairs
- Australian Energy Regulator
- NEMMCO
- Energy Retailers Association of Australia
- Enertrade
- National Generators Forum
- Energy Users Association of Australia
- Energy Response
- IPA And Loy Yang
- Macquarie Generation

- Major Energy Users
- TRUenergy
- EEE Limited
- Government of South Australia

#### **A.4 STAKEHOLDER FORUM PRESENTATIONS (SEPTEMBER 2007) IN RESPONSE TO THE SECOND CRR INTERIM REPORT**

The Panel held a second stakeholder forum on 13 September 2007 as part of the consultation on its Second CRR Interim Report. The Panel received presentations from the following:

- NEMMCO
- MEU
- Energy Action Group
- ESIPC
- ERAA
- NGF
- TRUenergy

#### **A.5 SUBMISSIONS IN RESPONSE TO THE SECOND CRR INTERIM REPORT**

The Second CRR Interim Report was published by the Panel in September 2007. The Panel received the following submissions:

- South Australian Jurisdiction
- Energy Response
- NEMMCO
- AER
- TRUenergy
- ERAA
- Origin
- ESIPC
- MEU

- International Power Australia and LYMMCo
- EnergyAustralia
- Macquarie Generation
- NGF
- Energy Response - Supplementary

## **A.6 SUBMISSIONS IN RESPONSE TO THE EXPOSURE DRAFT**

The Exposure Draft and Proposed Rule was published by the Panel in September 2008. The Panel received the following submissions:

- AER
- ERAA
- NEMMCO