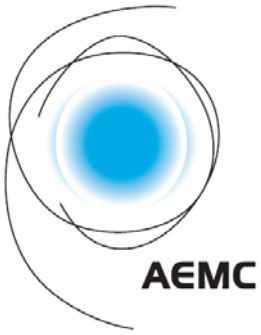


Australian Energy Market Commission

# Clarification of Schedule for the Administered Price Cap

Draft Report

22 February 2008

**Commissioners**
Tamblyn
Carver
Woodward

## 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

## Citation

AEMC 2008, *Clarification of Schedule for the Administered Price Cap*, Draft Report, 22 January 2008, Sydney

## About the AEMC

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

# Contents

# Abbreviations

| | |
|---|---|
| AEMC | Australian Energy Market Commission |
| APC | Administered Price Cap |
| APP | Administered Price Period |
| Commission | see AEMC |
| CPI | Consumer Price Index |
| CPT | Cumulative Price Threshold |
| CRR | Comprehensive Reliability Review |
| ERAA | Energy Retailers Association of Australia |
| NECA | National Electricity Code Administrator |
| NEL | National Electricity Law |
| NEM | National Electricity Market |
| NEMMCO | National Electricity Market Management Company |
| NEO | National Electricity Objective |
| Rules | National Electricity Rules |
| SCO | Standing Committee of Officials |
| SRMC | short run marginal cost |
| VoLL | Value of Lost Load |

# Summary

## Commission's determination

Following the first round consultation process, the Commission has determined a draft schedule for the Administered Price Cap (APC).

The draft APC schedule is $300/MWh for all regions in the National Electricity Market (NEM), for all time periods.

It is anticipated that the Commission will review the APC schedule periodically when it considers necessary, but at least every three years. The Commission considers such revision would appropriately negate the need for any indexation of the APC.

The revised APC schedule is to take effect immediately following its final determination. Feedback is sought from NEMMCO and market participants as to whether this implementation time is appropriate and implementable.

As part of the second round consultation process, the Commission seeks comments from interested parties on the draft determination outlined in this report. The Commission will determine the final APC schedule following this process.

The final APC determination will replace the Tasmanian derogation under clause 9.45.2 of the National Electricity Rules (Rules).

The Commission seeks comments on this report no later than 7 April 2008.

## APC determination process

The Commission makes this APC schedule in accordance with the requirements under clause 3.14.1(a) of the Rules:

> "In conjunction with each participating jurisdiction, and after consulting Market Participants in accordance with the Rules consultation procedures, the AEMC must develop, authorise and publish and may vary from time to time a schedule to specify an administered price cap for each region to apply to spot prices and market ancillary service prices and to be used as described in this clause 3.14."

In accordance with the requirements under this clause, and as a part of the APC determination process to consult with each participating jurisdiction, the Commission has sent letters to all members of the Standing Committee of Officials (SCO), to inform them of the Commission's intention to undertake consultation on the level of the APC and seek input from the SCO members regarding their views on this matter. To date, the Commission has not received any response from the SCO members.

The Commission is undertaking this consultation process, in accordance with the requirements under clause 8.9 of the Rules, to determine the APC schedule.

On 5 November 2007, in accordance with clauses 8.9(b), 8.9(c) and 8.9(d) of the Rules, the Commission published a notice on its website as part of the first round consultation process. This notice invited market participants to comment on:

- the criteria to be taken into account when determining the level of the APC; and
- the level of the APC given the above criteria and policy objectives.

In addition, the notice outlined the timetable for the remaining parts of the consultation process.

The timetable has been modified as follows:

- 7 January 2008 - end of the first round consultation;
- 22 February 2008 – the Commission to publish this draft report;
- 7 April 2008 – end of second round consultation (on this draft report);
- by 22 May 2008 – the Commission to publish the final report following the second round consultation.

As parts of the requirements under the Rules, this draft report is produced following the first round consultation process.

Clause 8.8.9(g) of the Rules requires the *consulting party*, in this case the Commission, to publish this draft report setting out:

> "(1) the conclusions and any determinations of the *consulting party* [outlined in Chapter 3 of this report];
>
> (2) its reasons for those conclusions [outlined in Chapter 4 of this report];
>
> (3) the procedure followed by the *consulting party* in considering the matter [outlined in Chapter 5 of this report];
>
> (4) summaries of each issue, that the *consulting party* reasonably considers to be material, contained in valid written submissions received from Consulted Persons or in meetings, and *the consulting party*'s response to each such issue [outlined in Chapter 6 of this report]; and
>
> (5) in a notice at the front of the draft report, an invitation to Consulted Persons to make written submissions to the *consulting party* on the draft report,

and, subject to the provisions of rule 8.6, the *consulting party* must make available to all Consulted Persons, on request, copies of any material submitted to the *consulting party*."

## Reasons for the APC determination

The APC level

In making the draft determination, the Commission has considered the following competing objectives of the APC:

- mitigating the risk of a systemic financial collapse of the electricity industry during an extreme market event;
- minimising compensation claims by market participants following an application of the APC; and
- minimising the incentives for market participants to not supply electricity during administered price events.

The Commission considers the APC level should be sufficiently low to mitigate the risk of a systemic financial collapse and sufficiently high not to distort the incentive for supplying electricity during an extreme market event when the APC is triggered. In addition, the Commission considers the APC level should be sufficiently high so that the expected frequency and magnitude of compensation claims are kept to the minimum.

The Commission considers an APC level of $300/MWh is adequate in achieving a balance between the competing objectives.

This APC level is significantly higher than the short run marginal costs (SRMCs) of most generators in the NEM and is therefore effective in minimising the distortion of the incentive for supply participation during an extreme market event when the APC is triggered.

An APC level of $300/MWh is likely to mitigate the frequency and magnitude of compensation because: (a) the APC level is not significantly lower than the highest SRMC in the NEM; and (b) the total generation capacity with SRMCs above the APC level is minor compared to the total generation capacity in the NEM.

The Commission is currently progressing on the work to clarify the administered pricing compensation arrangement under the Rules as part of a Rule change proposal submitted by EnergyAustralia.

Being only 3% of the VoLL price of $10,000/MWh, the APC level of $300/MWh is expected to reduce the price risk exposure of market participants significantly following an extreme market event when the APC is triggered. Thus, it is likely that the APC level would be effective in mitigating the risk of systemic failure of the electricity industry.

This APC level would align with the widely traded $300/MWh cap. This financial instrument is highly liquid and widely available. Thus, prudent market participants are expected to be able to manage their market risks up to this price level. Market intervention under this price level is therefore unlikely to be necessary.

APC level for off-peak periods

The Commission sets the APC level for the off-peak periods to be the same as that for the peak periods.

As electricity demand during the off-peak periods is likely to be low, it is unlikely that a peaking plant with a high SRMC would be required to generate to meet demand, but it is still possible.

This is especially the case during administered pricing. Under this circumstance, the power system is likely to be under stress, possibly due to base load and mid-merit generators experiencing outages. These outages may occur at any time, during both peak and off-peak periods. The dispatch of high cost peaking generators may therefore be required, at any time, to maintain the reliability and security of the power system and the SRMC cost of a peaking generation plant is the same regardless of the time of dispatch.

The APC, being a price cap, should have the ability to encompass any reasonable contingency. The APC should therefore not distort the incentive for the peaking generating plants to be available when they may be needed, peak and off-peak periods alike. This may be achieved by setting the APC level for the off-peak periods to be the same as that for the peak.

APC levels for all regions in the NEM

The Commission considers the APC level should be uniform across all regions in the NEM. This is because the NEM is an interconnected market where interregional trades often take place.

Differences in the levels of price caps between two interconnected regions could potentially lead to counter-price flows. This is likely to occur should a region with a higher APC level be exporting electricity to a region with a lower APC level.

## Submission to this draft report

Send submissions electronically to submissions@aemc.gov.au
Or mail to:
Australian Energy Market Commission
PO Box H166
AUSTRALIA SQUARE NSW 1215

# 1 Introduction

The purpose of this draft report is to provide the draft determination of the Administered Price Cap (APC) schedule.

The Commission is undertaking a consultation process, in accordance with the requirements under clause 8.9 of the National Electricity Rules (Rules), to determine the APC schedule.

This draft APC is determined following the first round consultation process undertaken by the Commission.

As part of the second round consultation process, the Commission seeks comments from interested parties on this draft APC determination. The final determination of the APC will be made following this process.

The APC schedule determined is $300/MWh for all regions for all time periods. The final APC schedule will replace the Tasmanian derogation pursuant to clause 9.45.2 of the Rules.

Chapter 2 of this report outlines the background information for the APC determination.

Chapter 3 outlines the conclusions of the draft determination.

Chapter 4 outlines the reasons for the draft determination.

Chapter 5 sets out the procedures the Commission is following to undertake the consultation process in order to reach the conclusions for the APC determination.

Chapter 6 summarises the issues raised in the submissions received from the first round consultation process, and the Commission's responses to the issues.

# 2 Background

## 2.1 The Administered Price schedule

In the wholesale electricity market the Cumulative Price Threshold (CPT) is the cap for the cumulative price over a rolling 7 day, i.e. 336 half-hour trading intervals. The CPT is currently set at $150,000/MWh. In its Comprehensive Reliability Report (CRR), the Reliability Panel has advised that it intends to recommend revising the CPT level to $187,500/MWh.

If the cumulative price exceeds this threshold, or if the cumulative ancillary services price exceed six times the CPT, then the APC is applied in accordance with clause 3.14.2(c) of the Rules. The time period in which the APC is applied is an Administered Price Period (APP).

Once a trading interval is an APP, dispatch prices for energy and ancillary service prices cannot exceed the APC, and energy prices cannot be less than the administered price floor, defined as the negative of the APC.

There are other provisions within clause 3.14.2 specifying the effect of an application of the APC on regions adjacent to an affected region, if there are energy flows on interconnectors between two regions.

Following an application of the APC, there is an entitlement for market participants to claim compensation in accordance with clause 3.14.6 of the Rules. The Commission is currently considering a proposal by EnergyAustralia regarding the compensation arrangement.

## 2.2 The Commission's role in determining the APC schedule

Prior to the formation of the Commission, the responsibility for setting the APC was with the National Electricity Code Administrator (NECA).

The Commission now has the responsibility for setting the APC. The Commission sets the APC in accordance with clause 3.14.1(a) of the Rules, which states:

> "In conjunction with each participating jurisdiction, and after consulting Market Participants in accordance with the Rules consultation procedures, the AEMC must develop, authorise and publish and may vary from time to time a schedule to specify an administered price cap for each region to apply to spot prices and market ancillary service prices and to be used as described in this clause 3.14."

In the Reliability Panel's second interim report of the Comprehensive Reliability Review (CRR), it was recommended that the Commission reviews the level of the APC as a matter of priority.[1]

The Commission is undertaking this consultation process, in accordance with the requirements under clause 8.9 of the Rules, to determine the APC schedule.

As parts of the requirements under the Rules, this draft report is produced following the first round consultation process.

Clause 8.8.9(g) of the Rules requires the *consulting party*, in this case the Commission, to publish this draft report setting out:

> "(1) the conclusions and any determinations of the *consulting party* [outlined in Chapter 3 of this report];
>
> (2) its reasons for those conclusions [outlined in Chapter 4 of this report];
>
> (3) the procedure followed by the *consulting party* in considering the matter [outlined in Chapter 5 of this report];
>
> (4) summaries of each issue, that the *consulting party* reasonably considers to be material, contained in valid written submissions received from Consulted Persons or in meetings, and *the consulting party*'s response to each such issue [outlined in Chapter 6 of this report]; and
>
> (5) in a notice at the front of the draft report, an invitation to Consulted Persons to make written submissions to the *consulting party* on the draft report [see Summary of this report],
>
> and, subject to the provisions of rule 8.6, the *consulting party* must make available to all Consulted Persons, on request, copies of any material submitted to the *consulting party*."

## 2.3 Current schedule of the APC

The current schedule of the APC was set by NECA. On its website, NECA published the following:

> "An administered price cap is imposed in the national market if the sum of prices reaches the cumulative price threshold (CPT) of $150,000 in any seven day period. The administered price cap is:

---

1 AEMC Reliability Panel 2007, *Comprehensive Reliability Review, Second Interim Report*, AEMC, Sydney, August 2007. (Available at http://www.aemc.gov.au/electricity.php?r=20051215.142656 )

- $100/MWh between 7.00am and 11.00pm on business days; and
- $50/MWh at other times."[2]

Under clause 8 of schedule 3 of the National Electricity Law (NEL), savings and transitional provisions deem a provision of the National Electricity Code (Code) referred to in a document to be a reference to the Rules. As the Commission has not published a schedule for APCs, NECA's schedule for the APC is currently applicable to the market except for the Tasmanian region, where a derogation applies.

In relation to the Tasmanian derogation clause 9.45.2 of the Rules provides as follows:

> "Until a different administered price cap is developed, authorised and published in accordance with clause 3.14.1(a) for the Tasmanian region, the administered price cap for the Tasmanian region is:
>
> (1) $100/MWh between 7.00 am and 11.00 pm on a business day; and
>
> (2) $50/MWh at all other times."

Therefore when the Commission publishes a schedule for the APC, the derogation applying to the Tasmanian region will expire.

## 2.4 Historical development of the APC

The current APC schedule was determined by NECA in April 1998. This determination was designed to strike a pragmatic balance between two competing objectives:

- mitigating the financial risk exposure of market customers; and
- minimising the frequency and magnitude of compensation claims as a result of an application of the APC.

The APC mechanism was designed to mitigate the financial risk exposure. When NECA set the APC in April 1998, a particular concern was the risk to generators that may be part of the cause of high prices due to breakdown but still liable to make contract payments. The financial risk exposure of these generators can be large and would potentially lead to their financial failure. If these generators failed financially, market customers who were counterparties to the contracts would then potentially face full spot price for an unexpectedly large block of their load.

Whilst the APC mitigates financial risk exposure, it would, if triggered, potentially reduce the amount of revenue some participants would otherwise receive and hence entitle the participants to claim compensation from NEMMCO, currently under

2 NECA, Administered price arrangement, http://www.neca.com.au/NEM214a.html?CategoryID=50&SubCategoryID=167.

clause 3.14.6 of the Rules. The compensation is paid for by market customers in the form of an uplift payment.

It was considered that the lower the level of the APC would lead to a higher frequency of compensation claims. The magnitude of a compensation claim was also likely to be higher.

A high frequency and magnitude of compensation was considered by NECA to be an undesirable outcome for the market because a compensation claim uplift payment exposure faced by a market customer is not hedgeable and therefore introduces risk that is not manageable by that participant.

NECA noted that minimising the probability of compensation during an administered price period was an important consideration in setting the APC. [3]

To achieve a balance between the two competing objectives, NECA set the APC to the lowest possible levels but sufficiently high to minimise the occurrence of compensation claims.

NECA conducted a public consultation prior to setting the APC levels in April 1998.[3]

It was understood by NECA that very few generators would have demonstrable costs in excess of the APC levels. Therefore, the levels set in April 1998 were considered to be sufficiently high to enable electricity market price to be set on the basis of bids and offers and without exceeding generation costs under most foreseeable scenarios. Thus, generators' grounds to claim compensation payments from NEMMCO following an application of the APC were expected to be limited.

Accordingly, any compensation was expected to be relatively small and only likely to be payable while extreme supply conditions continued and NEMMCO dispatched generation with high operating costs.

In July 1999, the Reliability Panel proposed increasing the APC to $300/MWh for peak periods. The Reliability Panel noted in its report: [4]

> "Too high a level of APC will prolong the potential risk to the market that the overall arrangement is intended to reduce. Subject to consultation input, the Panel considers there is scope to increase the APC to $300/MWh, to move it above the likely operating cost of virtually all generators and bring it into line with upper level proposed for Y2K conditions. This will significantly reduce the potential for compensation and provide greater opportunity for the market to operate freely as it 'recovers' from extreme conditions."

It was also considered that this APC level would align better with the widely traded $300/MWh cap contract.

---

3 NECA, *Administered Price Arrangements and Force Majeure*, NECA, Adelaide, April 1998, pp 16.

4 Reliability Panel (NECA), *Final Report – Review of VoLL in the National Electricity Market*, NECA, Adelaide, July 1999, pp 21.

However, NECA did not follow up the Reliability Panel's recommendation. Thus, the proposed APC level was not implemented. The APC has remained unchanged since it was first determined in April 1998.

# 3 Draft determination of the APC

The Commission determines that the APC level is to be revised to $300/MWh. This APC level is applicable for all regions in the National Electricity Market (NEM), for all time periods.

Following its final determination, the revised APC schedule will replace the derogation applying to the Tasmanian region under clause 9.45.2 of the Rules.

The Commission considers indexation of the APC is not required because it is anticipated that the Commission would review the APC schedule periodically as it sees necessary, but at least every three years.

The Commission considers the revised APC level should become effective immediately following its final determination.

Feedback is sought from NEMMCO and market participants whether this implementation time is appropriate and implementable.

# 4 Reasons for the APC determination

The Commission has made the draft determination on the following matters:

- the appropriate level of the APC;
- the level of the APC during off-peak periods;
- the level of APC for all regions in the NEM;
- indexation requirements of the APC schedule;
- lead time for the implementation of the APC schedule following its final determination.

In this determination, the Commission has taken the following factors into consideration:

- the national electricity objective (NEO);
- the criteria for the APC level determination; and
- short run marginal costs (SRMCs) of generators.

## 4.1 The national electricity objective (NEO)

The NEO, pursuant to section 7 of the NEL, is stated as follows:

> "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."

Section 32 of NEL states:

> "In performing or exercising any function or power under this Law, the Regulations or the Rules, the AEMC must have regard to the national electricity objective."

Therefore, the Commission must have regard to the NEO in making its APC determination.

## 4.2 The criteria for the APC level determination

Taking the NEO and the submissions received into account, the Commission considers an appropriate level of the APC should strikes a balance on the following competing objectives:

- mitigating the risk of a systemic financial collapse of the electricity industry during an extreme market event;
- minimising compensation claims by market participants following an application of the APC; and
- minimising the incentives for market participants to not supply electricity during administered price events.

The Commission considers the APC level should be sufficiently low to mitigate the risk of a systemic financial collapse but sufficiently high not to distort the incentive for supply participation during an extreme market event when the APC is triggered. The APC level should also be sufficiently high so that the expected frequency and magnitude of compensation claims, under clause 3.14.6 of the Rules, are kept to the minimum.

The Commission considers the criteria for the APC level determination meet the NEO.

The criteria endeavour to ensure that the electricity industry does not experience a systemic financial collapse following an extreme market event. This requires that market participants remain financially viable following an extreme market event, where the management of such risk is beyond the ability reasonably expected of a prudent market participant.

The financial viability of a prudent market participant enables it to continue to invest in the NEM. A market where prudent participants are financially viable also provides the environment in which new entrant participants are confident to invest. An adequate environment for investment is likely to enhance the quality, reliability and security of electricity supply in the electricity market.

The criteria also endeavour to ascertain that the incentive for supply participation, during an extreme market event, is not distorted. This enhances the efficient operation, and the reliability and security, of the electricity market which is expected to promote the long term interests of consumers in terms of price and reliability of electricity supply.

The criteria also endeavour to minimise the compensation potentially payable under clause 3.14.6 of the Rules, in terms of both the magnitude and frequency. The compensation payment is expected to result in financial risk exposure that is difficult to hedge by market customers. The Commission therefore considers that minimising compensation claims would mitigate uncertainty in the electricity market that can not be readily managed by a prudent participant. Minimising uncertainty is expected to enhance the market's operational efficiency and deliver an efficient market outcome. An efficient market outcome is expected to promote the long term

interest of consumers of electricity with respect to price, quality, reliability and security of power supply.

## 4.3 Short run marginal costs (SRMCs) of generators

In determining the appropriate APC level, the Commission has considered the SRMCs of generators in the NEM because the operating cost of generators was raised in submissions. The SRMCs of generators in the NEM have been computed by economic consultant ACIL Tasman, in its report entitled *Fuel Resource, New Entry and Generation Costs in the NEM, Report 2 – Data and Documentation, 6 June 2007*.

In this report, SRMC is defined as "the additional cost associated with a small increment (1 MWh) in output when the power station is operating in the region of its typical output and includes:

- the cost of the additional fuel required; plus
- any non-fuel variable operating and maintenance cost (O&M) such was water, chemicals, ash disposal, bringing forward of maintenance etc." [5]

Contrary to LRMC (long run marginal cost), SRMC does not include capital and periodic maintenance costs.

Existing generators in the NEM with SRMCs above $300/MWh (in 2008/09) are illustrated in Figure 1.

**Figure 1: Generators with SRMCs above $300/MWh[6]**

| Generator | Region | SRMC 2007/08[7] | SRMC 2008/09[7] | Size (MW)[8] |
|---|---|---|---|---|
| Hunter Valley Gas Turbine | NSW | $299.88/MWh | $307.37/MWh | 51 MW |
| McKay Gas Turbine | QLD | $320.14/MWh | $328.15/MWh | 34 MW |
| Port Lincoln Gas Turbine | SA | $326.88/MWh | $335.05/MWh | 50 MW |
| Snuggery Power Station | SA | $344.65/MWh | $353.26/MWh | 42 MW[9] |

5 ACIL Tasman, *Fuel Resource, New Entry and Generation Costs in the NEM, Report 2 – Data and Documentation*, ACIL Tasman, 6 June 2007, pp 12.

6 Nominal $/MWh generated before adjustment for Greenhouse abatement schemes. The adjustment slightly elevates the SRMCs in 2007/08 and 2008/09.

7 ACIL Tasman, *Fuel Resource, New Entry and Generation Costs in the NEM, Report 2 – Data and Documentation*, ACIL Tasman , 6 June 2007, pp 96 (NSW & QLD) and 98 (SA).

8 Winter rating. NEMMCO, *Statement of Opportunities*, NEMMCO, October 2007, pp 4-10 (NSW), 4-7 (QLD) and 4-17 (SA).

9 Reduce to 21 MW in year 2009. NEMMCO, *Statement of Opportunities*, NEMMCO, October 2007, pp 4-17.

Generators in the NEM with SRMCs between $100/MWh and $300/MWh (in 2008/09) are illustrated in Figure 2.

**Figure 2: Generators with SRMCs between $100/MWh and $300/MWh[6]**

| Generator | Region | SRMC 2007/08[10] | SRMC 2008/09[10] | Size (MW)[11] |
|---|---|---|---|---|
| Mt Stuart Gas Turbine | QLD | $265.12/MWh | $271.75MWh | 288 MW |
| Angaston | SA | $251.95/MWh | $258.25/MWh | 49 MW |

As seen in Figure 1, only a handful of existing generators have SRMCs above $300/MWh. In addition, these generators are typically small in size and the total capacity is 177 MW in 2008/09.[12]

As illustrated in Figure 2, in 2008/09, two existing generators have SRMCs between $100/MWh and $300/MWh. The total generation capacity with SRMCs between these price levels is 337 MW.

All new entrant plants have SRMCs well below the $100/MWh level up to year 2010/11.[13]

## 4.4 Determination of the APC level

The Commission determines the APC level at $300/MWh for all regions in the NEM, for all periods.

To assess an appropriate level of the APC, the Commission has considered the following three cases:

- High Case: the APC to be set to $500/MWh;
- Low Case: the APC to be set to $100/MWh; and
- Medium Case: the APC is to be set to $300/MWh.

These cases were considered against the criteria to strike a balance on the competing objectives discussed in 4.2 of this report.

10 ACIL Tasman, *Fuel Resource, New Entry and Generation Costs in the NEM, Report 2 – Data and Documentation*, ACIL Tasman, 6 June 2007, pp 96 (QLD) and 98 (SA).

11 Winter ratings. NEMMCO, *Statement of Opportunities*, October 2007, NEMMCO, pp 4-7 (QLD) and 4-17 (SA).

12 Does not include the proposed Eraring Black Start GT, which has an SRMC of $291.91/MWh in 2007/08.

13 ACIL Tasman, *Fuel Resource, New Entry and Generation Costs in the NEM, Report 2 – Data and Documentation*, ACIL Tasman, 6 June 2007, pp 100-105.

### 4.4.1 APC level – High Case ($500/MWh)

The Commission considers that an APC level of $500/MWh would be effective in encouraging participants to make offers into the NEM during an administered price event.

The Commission considers this APC level to be sufficiently high to encourage supply participation because the level is above the SRMCs of all market generators in the NEM as estimated by ACIL Tasman in June 2007 . Therefore, the probability of a market participant having a ground for compensation following an application of the APC is expected to be minimal, even after allowing for a potential upwards shift in the cost of liquid fuel due to the increase in world oil prices since the publication of the SRMCs by ACIL Tasman in June 2007.

Nevertheless, this APC level is well above the SRMCs of all scheduled generators in the NEM. The APC should balance mitigating financial risk to market customers with minimising the frequency and magnitude of compensation payments arising from the use of the APC. The Commission believes that the risk to market customers is better managed with a lower APC.

### 4.4.2 APC level – Low Case ($100/MWh)

In the low case, where the APC would be set to $100/MWh, the Commission considers the APC would be effective in protecting the electricity industry from a systemic financial collapse, but may discourage adequate incentive for supply participation during an extreme market event when the APC is applied. This is because the APC level of $100/MWh is significantly below the SRMCs of some of the peaking generation capacities in the NEM.

Under this scenario, following an extreme market event and hence application of the APC, it is possible that some peaking generators, whose SRMCs are above the APC level, would have little financial incentive to supply electricity to the market. If they generated electricity during an administered price event, it is anticipated that they would incur financial losses and hence have would reasonable grounds for compensation from NEMMCO under clause 3.14.6 of the Rules.

A compensation claim is an administrative burden to the NEM and would result in financial risk exposure that is difficult to hedge by market customers.

A low APC would also be expected to result in reduced incentive for participation by demand side response.

### 4.4.3 APC level – Medium Case ($300/MWh)

An APC level of $300/MWh is considered adequate in achieving a balance between the competing objectives.

This APC level is significantly higher than the SRMCs of most generators in the NEM and is therefore effective in minimising the distortion of the incentive for supply participation during an extreme market event when the APC is applied.

This APC level is below the SRMCs of a handful of small-size peaking generators (see Figure 1). Nevertheless, it is unlikely that this would diminish the supply participation incentive of the peaking generators (hence unlikely to threaten system security and reliability) because $300/MWh is not significantly lower then the SRMCs. In addition, the administered price compensation arrangement under clause 3.14.6 of the Rules is intended to provide adequate financial incentive for the peaking generators to make their plants available for electricity supply during an extreme market event when the APC is applied.

Moreover, in the event that the system reliability and security are under threat (for example, if a market participant were to declare plant unavailable in response to the level of the APC lower than the fuel cost), NEMMCO has powers of direction which it could use to guarantee the reliability and security of the NEM. In that circumstance, the market participant would be entitled to compensation under other compensation arrangements within the Rules, different from those in clause 3.14.6 which specifically relate to the APC.

An APC level of $300/MWh is likely to mitigate the frequency and magnitude of compensation because: (a) the APC level is not significantly lower than the highest SRMC in the NEM; and (b) the total generation capacity with SRMCs above the APC level is minor compared to the total generation capacity in the NEM.

For example, in 2008/09, only 177 MW of the existing generation capacity have SRMCs above the APC level of $300/MWh. This is in contrast with the case for the APC level of $100/MWh, where 514 MW of generation capacity are above this APC level.

The Commission is currently progressing on the work to clarify the administered pricing compensation arrangement under the Rules as part of a Rule change proposal submitted by EnergyAustralia.

Being only 3% of the Value of Lost Load (VoLL) price of $10,000/MWh, the APC level of $300/MWh is expected to reduce the price risk exposure of market participants significantly following an extreme market event when the APC is triggered. Thus, it is likely that the APC level would be effective in mitigating the risk of systemic failure of the electricity industry.

This APC level would also align with the widely traded $300/MWh cap. This financial instrument is highly liquid and widely available. Thus, prudent market participants are expected to be able to manage their market risks up to this price level. Market intervention under this price level is therefore unlikely to be necessary.

## 4.5 APC level for off –peak periods

The Commission sets the APC level for the off-peak periods to be the same as that for the peak periods.

As the electricity demand during the off-peak periods is likely to be low, it is unlikely that a peaking plant with a high SRMC would be required to generate to meet the demand, but it is still possible.

This is especially the case during administered pricing. Under this circumstance, the power system is likely to be under stress, possibly due to base load and mid-merit generators experiencing outages. These outages may occur at any time, during both peak and off-peak periods. The dispatch of high cost peaking generators may therefore be required, at any time, to maintain the reliability and security of the power system and the SRMC cost of a peaking generation plant is the same regardless of the time of dispatch.

The APC, being a price cap, should have the ability to encompass any reasonable contingency. The APC should therefore not distort the incentive for the peaking generating plants to be available when they may be needed, peak and off-peak periods alike. This may be achieved by setting the APC level for the off-peak periods to be the same as that for the peak.

## 4.6 APC levels for all regions in the NEM

The Commission considers the APC level should be uniform across all regions in the NEM. This is because the NEM is an interconnected market where interregional trades often take place.

Differences in the levels of price caps between two interconnected regions could potentially lead to counter-price flows. This is likely to occur should a region with a higher APC level be exporting electricity to a region with a lower APC level.

## 4.7 Indexation of the APC schedule

The Commission does not consider a general inflation indicator, for example the CPI, to be entirely relevant to determining the appropriate level of the APC. Rather, the Commission considers other factors may have greater impacts on the appropriate level of the APC. These include, inter alia, the cost of fuel and the Operation & Maintenance costs of power generation units in the electricity market.

To ensure that the APC reflects the requirement of the NEM on a timely basis, it is anticipated that the Commission would review the APC schedule periodically, when the Commission considers such review is necessary, but at least every three years. The Commission considers this would appropriately negates the requirement for inflation indexation of the APC schedule.

# 5 Consultation procedure

In accordance with the requirements under clause 3.14.1(a) of the Rules, and as a part of the APC determination process to consult with each participating jurisdiction, the Commission has sent letters to all members of the Standing Committee of Officials (SCO), to inform them of the Commission's intention to undertake consultation on the level of the APC and seek input from the SCO members regarding their views on this matter. To date, the Commission has not received any response from the SCO members.

The Commission is required to undertake the Rules consultation procedures, under clause 8.9 of the Rules, to amend the APC schedule.

On 5 November 2007, in accordance with clauses 8.9(b), 8.9(c) and 8.9(d) of the Rules, the Commission published a notice on its website as part of the first round consultation process. This notice invited market participants to comment on:

- the criteria to be taken into account when determining the level of the APC; and
- the level of the APC given the above criteria and policy objectives.

In addition, the notice outlined the timetable for the remaining parts of the consultation process.

The timetable has been modified as follows:

- 7 January 2008 - end of the first round consultation;
- 22 February 2008 – the Commission to publish this draft report;
- 7 April 2008 – end of second round consultation (on this draft report);
- by 22 May 2008 – the Commission to publish the final report following the second round consultation.

# 6 Submissions received - first round consultation

The Commission has received six submissions from the first round consultation process. These submissions were received from the following organisations:

- the National Generator Forum (NGF);
- Macquarie Generation;
- TRUenergy and AGL (joint submission);
- International Power, Loy Yang and Intergen (joint submission);
- EnergyAustralia; and
- Energy Retailers Association of Australia (ERAA).

Copies of the submissions are available on the Commission's website.

A range of views have been expressed by the submissions. Most of the submissions have proposed that the APC should mitigate the risk of significant adverse financial consequence following an extreme market event. Some market participants have also submitted that the APC should be designed to minimise compensation claims following an application of the APC. Some submissions have also proposed that the APC should not lead to perverse market behaviour.

Most submissions have, either explicitly or implicitly, requested the Commission to strike a balance between these competing objectives.

Macquarie Generation and TRUenergy and AGL support the view of increasing the APC to higher levels. International Power, Loy Yang and Intergen proposed that the current APC schedule should be maintained. EnergyAustralia proposed low APC level for the peak period, and set the off-peak APC to the same level as the peak. NGF and the ERAA did not express a view on the appropriate level of the APC.

### 6.1.1 NGF

NGF expressed the view that the primary objective of the CPT-APC mechanism is to avert a systematic financial collapse of the electricity industry following an extreme market event.

NGF submitted that APC levels should be low to limit risk exposure. However, it recognises the operational problems associated with a low APC level. These include the complexity associated with the compensation mechanism and perverse behaviour. The APC level should strike a balance between these competing objectives.

The Commission recognises that the APC level should strike a balance between competing objectives.

It was also proposed by NGF that the APC schedule should be indexed so that it is not eroded by the effect of inflation.

The Commission considers it is more appropriate to review the APC schedule periodically rather than indexing it. This is discussed in section 4.7 of this report.

NGF did not submit a concluded view on the appropriate level of the APC.

### 6.1.2 Macquarie Generation

Macquarie Generation considered the APC as part of the safety valve that contains the financial impact on participants following a breach of the CPT.

Macquarie Generation also recognised the complexity associated with the compensation mechanism following an application of the APC.

The Commission agrees with Macquarie Generation and considers that the APC should be sufficiently high to contain the financial impact on participants following a breach of the CPT, and sufficiently low to minimise the frequency and magnitude of compensation following an application of the APC.

Macquarie Generation submitted that the current level of the APC does not adequately reflect the likely costs incurred by marginal peaking plant operating during periods of sustained high demand and/or limited supply. Macquarie Generation proposed to increase the APC to $500/MWh for peak periods and $100/MWh for off peak periods.

The proposed value for the peaking periods was based on the avoidable costs of running gas turbines using liquid fuels. The off-peak value was based on the avoidable costs of running an open cycle gas plant.

The Commission's consideration of the proposed APC level of $500/MWh is discussed in section 4.4.1 of this report.

The Commission considers the APC level for the off-peak periods should be the same as that for the peak periods. This is discussed in section 4.5 of this report.

### 6.1.3 TRUenergy and AGL

TRUenergy and AGL submitted that the APC should only be a fraction of VoLL such that potential losses, during an extreme market event, are reduced to only a fraction of what they otherwise would be. At the same time, however, the APC must not inadvertently reduce system reliability, particularly since the APC is likely to be applied during a period of stress.

TRUenergy and AGL submitted that power system reliability is diminished by the distortion of market signal due a very low APC. The submission has also discussed the issues associated with the compensation mechanism.

The Commission agrees with TRUenergy and AGL, and recognises that the APC level should strike a balance between competing objectives.

TRUenergy and AGL proposed to increase the APC level to $500/MWh for both peak and off peak periods. They consider it is unlikely that the proposed level would significantly increase the risk of financial collapse of market participants. They argue that "$500/MWh should allow direct cost recovery for all scheduled liquid fuel plant in the NEM." They also believe that that level should attract the participation of non- scheduled generation and existing demand side response.

TRUenergy and AGL submitted that there is no justification to have a lower APC level for the off-peak periods.

The Commission's consideration of the proposed APC level of $500/MWh is discussed in section 4.4.1 of this report.

The Commission agrees that the APC level for the off-peak periods should be the same as that for the peak periods. This is discussed in section 4.5 of this report.

It was also proposed that the APC scheduled should be indexed so that it is not eroded by the effect of inflation.

The Commission's consideration on this matter is discussed in section 4.7 of this report.

### 6.1.4 International Power, Loy Yang & Intergen

International Power, Loy Yang and Intergen submitted that the APC is intended to reduce the quantum of financial damage and random wealth transfer for unusual plant failure events that are uncertain both in nature and timing.

International Power, Loy Yang and Intergen submitted that the establishment of the APC level should take into account that participants have varying degrees of ability to absorb the risks associated with an unusual plant failure. They argue that:

> "At one end of the spectrum, vertically integrated business with a diversified plant portfolio in a range of geographic locations would have a greater capability to manage the risk and a preference for a higher APC than would a stand alone generator of one type in a single geographic location."

and that the APC should be set with recognition of the more vulnerable participants.

International Power, Loy Yang and Intergen are therefore of the view that the current levels of the APC are effective and appropriate and considers that system reliability is supported by a workable compensation mechanism.

The Commission considers the current APC levels are effective in protecting market participants from a systemic financial failure following an extreme market event.

Nevertheless, the Commission also recognises the need to strike a balance between the competing objectives (see section 4.2) and considers these objectives are better met with an APC level of $300/MWh (see section 4.4.3). The Commission also considers the APC level for the off-peak periods should be the same as that for the peak periods (see section 4.5).

The Commission's consideration of the current APC level of $100/MWh is discussed in section 4.4.2 of this report.

### 6.1.5 EnergyAustralia

EnergyAustralia believe the policy objective of the APC should be to balance the overall financial risk to market participants in times of extreme market conditions, while maintaining appropriate incentives on individuals for prudent risk management and for minimising distortion of incentive for efficient investment.

The Commission agrees that the APC level should strike a balance between competing objectives.

EnergyAustralia proposed a small increase of the APC, to the maximum of $120/MWh, for both peak and off-peak periods.

EnergyAustralia submitted that a substantial increased in the APC level may not only have negative impacts on retailers and customers, but also on generators. In particular, EnergyAustralia argue that a high APC level would seriously impinge the financial viability of cap sellers.

EnergyAustralia submitted that its proposed APC level would ensure that there is sufficient incentive for gas fired generator to operate, while at the same time "not exposing cap sellers and future system security." In addition, the compensation mechanism is in place if the APC level fails to provide the appropriate incentive.

EnergyAustralia submitted that the APC should not be seen as a mechanism for generators to obtain opportunistic return on their capital investments. Any APC level higher than $120/MWh is likely to over-compensate most generators in vast majority of cases.

The Commission's consideration of EnergyAustralia's proposal, of low APC level, is discussed in section 4.4.2 of this report. The Commission would also like to receive feedback from cap sellers as to the appropriateness or otherwise of an APC level of $300/MWh.

EnergyAustralia noted in its submission that it has requested a Rule change to the current compensation provision. The Commission is currently considering this Rule change.

In addition, EnergyAustralia has expressed the view that the current CPT level is not effective in protecting the NEM from an extreme system stress event.

The Commission notes that the Reliability Panel has recently addressed the level of the CPT as part of the CRR. A Rule change from the Reliability Panel is expected and will go through the normal consultative Rule change process.

### 6.1.6 ERAA

The ERAA believes the setting of the CPT and the APC are important components of the NEM safety net, which operates when triggered to limit market participants' exposure to the wholesale spot market during periods of prolonged high prices.

The ERAA submitted that the APC should not be seen or used as a mechanism for allowing generators to obtain opportunistic return on their capital investments. Rather, the policy objective of the APC should be to limit the financial stress on the market during extreme conditions (or market failure).

While the objective of the APC is to limit overall financial stress in the market, the ERAA submitted that the APC needs to "balance against the need to ensure the APC is sufficient to encourage available generator or demand side resources to continue to participate in the market."

The Commission agrees that the APC level should strike a balance between competing objectives.

The ERAA supports EnergyAustralia's Rule change proposal regarding the compensation agreement under clause 3.14.6 of the Rules. However, the ERAA recognises that "change in itself is not sufficient to ensure that unhedgeable compensation payments do not arise for retailers."

The Commission agrees with the ERAA and endeavours to mitigate, but not eliminate the compensation under clause 3.14.6 of the Rules.

The ERAA did not submit a concluded view on the appropriate level of the APC.