



Australian Energy Market Commission

DIRECTIONS PAPER

AMENDING THE ADMINISTERED PRICE CAP

PROPONENT

Alinta Energy

29 SEPTEMBER 2022

RULE

INQUIRIES

Australian Energy Market Commission
GPO Box 2603
Sydney NSW 2000

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

Reference: ERC0347

CITATION

AEMC, Amending the administered price cap, 29 September 2022

ABOUT THE AEMC

The AEMC reports to the Energy Ministers' Meeting (formerly the Council of Australian Governments Energy Council). We have two functions. We make and amend the national electricity, gas and energy retail rules and conduct independent reviews for the Energy Ministers' Meeting.

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SUMMARY

This Directions paper seeks further stakeholder feedback on the rule change request from Alinta Energy that proposes a temporary change to the administered price cap (APC).¹

The two key policy positions proposed in this Directions paper, and on which the Commission is seeking feedback, are:

- **a temporary increase in the APC from \$300/MWh to \$600/MWh, to be implemented as soon as practicable and proposed to be in place until no later than 1 July 2025 when any change to the longer term setting of the APC would be made following the AEMC’s consideration of the Reliability Panel’s rule change request.**
- **no temporary change to the CPT.**

The raising of the APC temporarily to provide for its more effective operation when the CPT is breached is expected to benefit consumers by increasing the ability for generators to be able to bid as normal into the market during administered pricing periods (APP). This is expected to reduce the threat to system security and reliability by allowing for the normal operation of the market during APP and the avoidance of increasing levels of market intervention and directions.

The change is expected to improve cost outcomes for consumers. Compensation costs are likely to be minimised providing improved certainty of cost outcomes during APP, in a market that is already experiencing higher spot and contract prices driven by higher fuel input costs for generators. While there may be an impact on the value of contract market instruments in future periods, this is expected to be minor.

The Commission notes that, while it considers that the rule change remains urgent (as defined by the NEL), the complexity of issues raised in stakeholder feedback has meant that further consultation would be beneficial.

This paper responds to stakeholder feedback on the consultation paper published in August 2022 and outlines a proposed policy position moving forward

Stakeholder arguments in submissions to the consultation paper supporting making the key elements of the rule could be summarised as:

- **Outcomes for consumers:** temporarily increasing the level of the APC leads to better outcomes for consumers by reducing the likelihood of another energy market suspension.
- **Safety, security and reliability:** AEMO noted that a higher APC should be sufficient to avoid spiralling levels of intervention, and the serious power system security risks associated with the inevitable delays in response when generation dispatch must be planned manually and implemented by directions.

¹ Consultation paper and rule change request available on the project web page: <https://www.aemc.gov.au/rule-changes/amending-administered-price-cap>

- **Market efficiency:** a revised APC would allow generators to recover costs from normal bidding and market operation and for efficient dispatch.
- **Implementation:** increasing the APC has the effect of reducing compensation payments which means there is less unmanageable risk allocated to retailers and consumers.
- **Impact analysis:** increasing the level of APC should reduce generator risk and retailer exposure to unpredictable compensation costs by providing appropriate incentives for electricity supply during APPs.
- **Predictability and stability:** a temporary implementation of a new level of APC until 1 July 2025 would provide certainty and stability to the market.

Stakeholder arguments in submissions to the consultation paper opposing making the key elements of the rule could be summarised as:

- **Outcomes for consumers:** increasing the administered price cap is likely to place more financial stress on end users and retailers, this cost will be passed on directly to consumers.
- **Safety, security and reliability:** temporarily increasing the level of APC may reduce the number of compensation claims but does not guarantee a generator will actually run during APPs, which means market suspension remains a risk.
- **Market efficiency:** an increase does not materially change the fundamental resource cost or change the complexity of the administration of the compensation process.
- **Implementation:** a rapid change process will not allow contract markets to adjust appropriately and will potentially adversely impact some generators who have sold cap contracts or invalidate some contracts exposing retailers to significant and avoidable risk.
- **Impact analysis:** some stakeholders contend that an increase only serves to improve revenues for generators to the detriment of consumers.
- **Predictability and stability:** a temporary increase in the APC is not sufficient to appropriately protect consumers and mitigate the likelihood of another market suspension.

A temporary change to the level of the APC until 1 July 2025

This Directions paper proposes temporarily increasing the existing level of the APC of \$300/MWh to \$600/MWh, to be implemented as soon as practicable and proposed to be in place until no later than 1 July 2025 when any change to the longer term setting of the APC would be made following the AEMC's consideration of the Reliability Panel's rule change request.

This Directions paper also proposes that there should be no change to the level of the CPT except through the existing annual mechanism under clause 3.14.1(d) to (f) of the NER. The Reliability Panel has recommended changes to the CPT to take effect through rule changes for the period after 1 July 2025.

Time frame for consultation

This paper has been published to facilitate further consultation on the rule change request. Please provide your submissions in response to this directions paper by **13 October 2022**. The Commission intends to publish a final determination by **17 November 2022**.

CONTENTS

1	Introduction	1
1.1	This paper proposes an appropriate temporary level of APC	1
1.2	Rule change request	1
1.3	The rule making process	2
1.4	Structure of this document	2
2	Assessment framework	4
2.1	We must consider the NEO	4
2.2	Making a more preferable rule	4
2.3	The Commission will also take into account the RSSR Guidelines	4
2.4	Stakeholder feedback on the assessment framework	5
3	Key issues for consultation	7
3.1	What is the problem the rule change is trying to solve?	7
3.2	What is an appropriate temporary level of APC?	11
3.3	What is an appropriate temporary level of CPT?	18
3.4	What period should the proposed change to the APC apply for?	21
3.5	Impacts of the proposed policy positions	23
	Abbreviations	34
	TABLES	
Table 3.1:	Estimated thermal plant capacity covered by different APC levels	15
Table 3.2:	Estimated thermal plant capacity with SRMC below different gas APC's	15
Table 3.3:	Recommended MPC/CPT transition pathway	21
Table 3.4:	Compensation costs associated with June event	29
Table 3.5:	Retailer impact summary	30
Table 3.6:	Retailer impact summary — breakeven hedging levels	31
	FIGURES	
Figure 3.1:	ACCC LNG netback price series — 1 September 2022	14
Figure 3.2:	Percentage of available capacity from which storage can charge	16
Figure 3.3:	Impact on annual cap or swap settlement outcomes (AUD nominal)	26

1 INTRODUCTION

This chapter provides an overview of:

- the rule change request;
- the rule making process;
- the purpose of this directions paper;
- the process for making a submission; and
- the structure of this paper.

1.1 This paper proposes an appropriate temporary level of APC

The purpose of this paper is to describe the proposed policy positions for amending the administered price cap. It builds on the Commission's consultation paper for Alinta's rule change request which was published on 4 August 2022.² The AEMC has considered stakeholder submissions to the consultation paper, the NEO and the assessment framework in forming these policy positions.

Most stakeholders expressed broad support for a temporary change in the level of the APC until 1 July 2025, and no change to the CPT. While there were some dissenting views, most stakeholders felt that a higher APC would lead to more efficient market outcomes, a more secure and reliable market and better outcomes for consumers, retailers and other market participants. Some stakeholders held the view that a change such as this warrants greater consideration of the potential impacts on existing contractual arrangements that may be detrimental to consumers and participants.

The two key policy positions proposed in this Directions paper are:

- a temporary increase in the APC from \$300/MWh to \$600/MWh, to be implemented as soon as practicable and proposed to be in place until no later than 1 July 2025 when any change to the longer term setting of the APC would be made following the AEMC's consideration of the Reliability Panel's rule change request.
- no temporary change to the CPT.

1.2 Rule change request

On 1 July 2022, Alinta Energy submitted a rule change request to the AEMC.³ The rule change request seeks to amend the APC to mitigate ongoing threats to the reliable operation of the NEM. The rule change proposes to increase the APC from \$300/MWh to \$600/MWh in every NEM region, with a sunset period of 12 months or a suitable period as determined by the AEMC.

2 Consultation paper and rule change request available on project web page: <https://www.aemc.gov.au/rule-changes/amending-administered-price-cap>

3 Alinta Energy, Rule change proposal - amendment to the administered price cap to mitigate the ongoing threat to the reliable operation of the market and system, rule change request, p. 2.

The proposed amendment to the APC seeks to ensure normal market operation and settlement during APP, where prices are reflective of the SRMC of coal and gas generators buying fuels under today's market conditions and dispatch is based on least cost. Alinta Energy requested that the AEMC consider the proposal as a request for an urgent rule under section 96(1) of the NEL.

1.3 The rule making process

On 4 August 2022, the Commission published a consultation paper in respect of the rule change request proposed by Alinta. The consultation paper identified specific issues to be considered for the rule change process. Submissions closed on 1 September 2022.

The Commission considered that the rule change request was a request for an urgent rule change as defined under section 96(1) of the NEL. Accordingly, the Commission commenced an expedited rule change process, subject to any written requests not to do so. The closing date for receipt of written requests was 18 August 2022. The Commission received six written requests not to expedite the rule change request.⁴ The Commission considered the reasons outlined in the objections submitted and determined that, in its opinion, the reasons given in the objections were misconceived and lacking in substance.⁵ Accordingly, the rule change request will continue to be assessed under the expedited rule making process.⁶

The Commission received 24 submissions to the consultation paper containing differing views around the problem the rule change is seeking to address, the level of the APC, the level of the CPT, the time frame that any temporary change should apply and the impacts on market participants and consumers. The Commission notes that while the rule change remains urgent (as defined by the NEL), in that if the rule was not made, it would result in an imminent prejudicing or threatening of the security or reliability of the national electricity system, the complexity of issues raised by the rule change request suggests there would be a benefit in allowing for more extensive stakeholder consultation.

The purpose of this Directions paper is to seek stakeholder feedback on the proposed policy positions. The Commission welcomes submissions from stakeholders in response to this directions paper and will use the comments received to inform its final determination. Submissions are due on **13 October 2022**.

1.4 Structure of this document

The remainder of this Directions paper is structured as follows:

- Chapter 2 describes the assessment framework for this rule change.
- Chapter 3 provides an overview of the issues for consultation and the proposed policy positions regarding:
 - the problem the rule change is trying to solve;

⁴ Submissions that objected to the expedited process are available on the AEMC project page. The responses published by the AEMC are also available on the project page here: <https://www.aemc.gov.au/rule-changes/amending-administered-price-cap>

⁵ Section 96(3) of the NEL

⁶ Section 96 of the NEL

- the appropriate level of a temporary APC;
- the appropriate level of a temporary CPT; and
- an appropriate time frame for the application of the new levels of APC and CPT where recommended

2 ASSESSMENT FRAMEWORK

This chapter outlines:

- why we must consider the NEO
- how we will consider the general assessment principles set out in the RSSR Guidelines
- the decision-making framework the Commission is applying, to determine whether the rule change request contributes to the NEO

2.1 We must consider the NEO

2.1.1 **The Commission may only make a rule if it is in the long-term interests of consumers**

Under the NEL the Commission may only make a rule if it is satisfied that the rule will, or is likely to, contribute to the achievement of the national electricity objective (NEO).⁷ This is the decision-making framework that the Commission must apply.

The NEO is:⁸

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.

2.2 Making a more preferable rule

Under s. 91A of the NEL, the Commission may make a rule that is different (including materially different) to a proposed rule (a more preferable rule) if it is satisfied that, having regard to the issue or issues raised in the rule change request, the more preferable rule will or is likely to better contribute to the achievement of the NEO.

2.3 The Commission will also take into account the *RSSR Guidelines*

The Commission will also take into account the *RSSR Guidelines* which set out the principles, assumptions and criteria the Reliability Panel must comply with when conducting its RSS reviews. The general assessment principles include:

- allowing efficient price signals while managing price risk
- delivering a level of reliability consistent with the value placed on that reliability by customers
- providing a predictable and flexible regulatory framework.⁹

When undertaking each review of the reliability standard and settings, the Reliability Panel is guided by the general assessment principles in order to meet the NEO. It is therefore

⁷ Section 88 of the NEL.

⁸ Section 7 of the NEL.

⁹ Reliability Panel, *Review of the reliability standard and settings guidelines*, Final guidelines, 1 July 2021, p. 6.

relevant for the Commission to consider the principles set out in the RSSR Guidelines when making rules with respect to the reliability settings.

There are also a number of requirements in the NER that, collectively, relate to the assessment of the reliability standard and each of the settings.¹⁰ When undertaking an assessment of the level of APC, the Reliability Panel considered the matters outlined in the NER and factors including but not limited to whether there had been any:

- Significant changes in the typical short-run marginal costs of generators in the NEM, and
- Any compensation claims since the last review.¹¹

2.4 Stakeholder feedback on the assessment framework

In the consultation paper, the Commission proposed and sought feedback from stakeholders on the proposed assessment framework to assess whether the rule change request is likely to contribute to achieving the NEO. The proposed assessment framework includes the following criteria:

- **Outcomes for consumers:** Will consumers face lower costs as a consequence of changes to the APC?
- **Safety, security and reliability:**
 - How would the rule change enable the reliable, secure and safe provision of energy at an efficient cost to consumers over the long term?
 - How would the rule promote the efficient operation and use of, and investment in, generation facilities, load, storage, networks and other system service capability?
- **Market efficiency:**
 - **Productive efficiency:** does the rule change facilitate least-cost dispatch to meet demand?
 - **Allocative efficiency:** does the rule change enable prices that facilitate the allocation of electricity to its highest-valued uses?
 - **Dynamic efficiency:** does the rule change promote the long-term interest of consumers through incentives to meet demand as the market evolves and new technologies develop?
 - **Transparency:** Does the rule change provide market participants with transparency on prices during administered price periods?
 - **Risk allocation:** Does the rule change allocate risk to the parties that are best suited to manage risk using existing instruments?
 - **Incentives:** Does the rule change encourage operation and settlement where prices reflect SRMC of electricity generation?
- **Implementation:**

¹⁰ Clause 3.9.A(e) of the NER.

¹¹ Reliability Panel, Review of the reliability standard and settings guidelines, Final guidelines, July 2021, pp. 4-9.

- **Cost and complexity:** Will a change in the APC lead to ongoing or administrative costs to market participants, consumers, and market bodies?
- **Timing and uncertainty:** What are the interactions between this rule change and the next RSSR in 2025/26?
- **Impact analysis:** Which market participants will be affected by a change in the APC level?
- **Principles of good regulatory practice:**
 - **Predictability and stability:** how do the proposed changes provide the market with predictability and regulatory stability?

In response to the consultation paper, most stakeholders were supportive of the proposed assessment framework.¹²

Arrow Energy is supportive of the proposed assessment framework and notes that the long term benefits related to the proposed rule should be assessed by the framework.¹³ Delta Electricity noted that the proposed assessment framework is comprehensive but could be streamlined to focus on the primary objectives of the rule change.¹⁴

Some stakeholders suggested additional considerations should be included in the assessment framework.¹⁵ Blue Pacific Energy noted that Alinta's contractual and physical position should be considered alongside questions of how quickly forward curves for coal and gas can change.¹⁶

The Commission will consider stakeholder views on the assessment framework in the final determination.

12 Submissions to consultation paper: AEC, pp. 1-2; AGL, p. 1; Arrow Energy, p. 3; Delta Electricity, p. 1.

13 Arrow Energy, submission to consultation paper, p. 3.

14 Delta Electricity, submission to consultation paper, p. 1.

15 Submissions to consultation paper: Blue Pacific Energy p. 2; Mark Maze, p. 1.

16 Blue Pacific Energy, submission to consultation paper, p. 2.

3 KEY ISSUES FOR CONSULTATION

This section provides a summary of the Commission’s analysis, and initial stakeholder views, on the following key issues considered in this rule change:

- What is the problem the rule change is trying to solve?
- What is an appropriate temporary level of APC?
- What is an appropriate temporary level of CPT?
- For what period should the proposed change to the APC apply?
- Impacts of the proposed policy positions

We seek your views on these issues in light of the analysis set out below.

3.1 What is the problem the rule change is trying to solve?

3.1.1 **Stakeholders were supportive that the rule change addresses the threat to security and reliability posed by the current APC**

AEMO note that futures prices for gas, coal and diesel indicate that prices are likely to remain very high for some time. AEMO state changing the APC is the best solution to a well-defined, narrow problem statement and that for the APC to work effectively it needs to:

- enable market players to cover their short run marginal costs,
- promote reasonably efficient dispatch by allowing generators to recover their fuel costs,
- minimise the need for AEMO directions or other intervention and
- assist in maintaining a secure power system.¹⁷

Shell Energy acknowledge that a range of factors contributed to the market outcomes in June 2022 but also agree that a major factor was the interaction of the NEM’s APC with generation input costs during a tight supply/demand balance period. Shell notes that a revised APC would not necessarily affect market outcomes in all trading intervals, but it would promote efficient dispatch outcomes where the marginal generating units can respond as needed to demand signals without the need for intervention in the market by AEMO.¹⁸ Shell also note that it would avoid the system security risks associated with the activation of the market suspension pricing schedule.

The AEC considers the current \$300/MWh APC to be the market setting that prevented the market from functioning during the recent APP of June 2022.¹⁹

The South Australian Government state that the APC and CPT have led to broadly efficient outcomes in the past but recent events and unforeseen generation input cost increases have led to SRMCs being pushed above the envelope where these settings provide effective market signals.²⁰

¹⁷ AEMO, submission to consultation paper, p. 2.

¹⁸ Shell, submission to consultation paper, p. 1.

¹⁹ AEC, submission to consultation paper, p. 1.

²⁰ South Australian Government, submission to the consultation paper, p.1.

The Aluminium council agree that there is a mismatch in price caps but does not believe the APC itself is a problem and states the real issue is availability of gas and gas price levels and therefore proposes an alternative solution to the rule change may be amending the gas APC from \$40/GJ to \$20/GJ.²¹

Enel X states that the rule change does not address the root cause of all the markets problems in June, which include market confidence in compensation processes. Enel X states an alternative solution would be focusing on reform of compensation processes as compensation provides the appropriate incentive to generators.²²

The EUAA states that generator compensation processes are well understood and a functioning part of market processes and that compensation in its own right is not bad. The EUAA also states fuel availability is not an excuse and that it is generators' job to source fuel adequate to meet their generation obligations. The EUAA think that instead of the rule change, the AEMC should review compensation arrangements, look at alignment of gas and electricity caps and consider different APCs in different regions.²³

Pacific Energy state that compensating a small number of high cost generators is cheaper than having those generators set the marginal price for all generation in the NEM. Pacific Energy point to generator bidding behaviour as an issue in the lead up to market suspension and suggest that the AER should investigate and analyse the rebids of relevant participants during this period before any rule change is made.²⁴ Pacific Energy go on to conclude that this rule change will not resolve or address this issue, as increasing the APC will not prevent generators from rebidding to higher price bands during an APP or prevent generators from withdrawing capacity.

PIAC also suggests that the AEMC should not increase the APC without an investigation of generator behaviour and assessing alternate rules that may not result in a change to the APC or CPT, in particular around improving compensation.²⁵

Engie suggests that the issue to be addressed may be the CPT not the APC, given a too low level of CPT may have kept the market in APP.²⁶

3.1.2 **AEMC analysis relating to the problem the rule change is trying to solve**

The purpose of the APC

The APC is designed to work, in tandem with the CPT, to limit extreme financial risk to the market. It is intended to cap the spot price at a level sufficient to cover the SRMC of most generators thereby maintaining incentives for participants to supply energy while capping participant exposure to what could otherwise be high prices during an APP. Once the

21 Aluminium Council, submission to the consultation paper, p.2.

22 Enel X, submission to consultation paper, p. 3.

23 EUAA, submission to consultation paper, p. 3.

24 Pacific Energy, submission to consultation paper, p. 2.

25 PIAC, submission to consultation paper, p. 1.

26 Engie, submission to the consultation paper, p. 2.

cumulative price drops below the CPT and the market is operating closer to normal, the APC is lifted.

Commodity prices, and in particular gas and coal prices for electricity generation, increased in early 2022 due to international events such as the war in Ukraine, materially increasing global commodity prices and domestic prices in turn. By early June domestic fuel supply concerns were exacerbated further by high demand from colder than average winter weather conditions and scheduled generator maintenance and unplanned outages that reduced thermal generator availability by around 8,000 MW. This supply situation was further compounded by environmental limitations on hydroelectric generators and low wind output. Together these factors pushed spot and contract market prices up to very high levels over a prolonged period.²⁷ Weekly average spot market prices were between \$330/MWh and \$600/MWh and around 7,000 MW of thermal generation had an SRMC above \$300/MWh, the current level of the APC. This was almost 30% of the capacity available to the market at the time.

The outcomes of the application of the APC in June

AEMO notes in its report *NEM market suspension and operational challenges in June 2022*, that the application of the APC in regions of the NEM coincided with reductions in the volume of generation offered to the market. On 12 June 2022, when the CPT was breached and the APC applied in Queensland, generating capacity available to the market declined. Available capacity declined further on 13 June 2022 when the CPT was breached in the other three mainland regions of the NEM and the APC then also applied in those regions. AEMO intervened, directing generators to make generation capacity available to be dispatched for system reliability and implemented manual processes to manage capacity and energy limitations on generating facilities.²⁸

The withdrawal of capacity may have contributed to the high prices and may have prolonged the application of the APP. The APP ends when the seven-day rolling average dispatch price, determined by the market dispatch engine from generator bids before it is capped by the APC, falls below the CPT (\$1,359,100/MWh at that time). High gas and coal prices and generator withdrawals to manage fuel positions may have forced pre-capped prices up towards the MPC, keeping the APC in place.

The withdrawal of capacity impacted security and reliability. AEMO was forced to issue manual directions to dispatch the plant that had withdrawn and these manual directions constrained the normal dispatch process, potentially reducing the efficiency of dispatch while trying to maintain least cost security constrained market outcomes.

Over constrained dispatch intervals, where the dispatch engine is unable to find a feasible dispatch solution without violating a constraint, occurred more frequently and at times the power system was operated in an insecure state. Consequently, AEMO determined that it was

²⁷ AER *Wholesale Markets Quarterly - Q2 2022*, <https://www.aer.gov.au/wholesale-markets/performance-reporting/wholesale-markets-quarterly-q2-2022>.

²⁸ AEMO, *NEM market suspension and operational challenges in June 2022*, p. 4.

impossible to operate the spot market in accordance with the rules and suspended the market at 1405 on 15 June 2022.

The application of the APC and subsequent market suspension led to significant unhedgeable compensation costs including administered pricing compensation, RERT costs, market suspension compensation and directions compensation. These costs are paid to eligible market participants and ultimately recovered from consumers.

The APC is a key driver but other factors and solutions are relevant

The current level of the APC is below the SRMC of a significant amount of thermal generating capacity, making it hard for the market to ration and value energy during APP. A higher APC will give the market more headroom to cover high fuel costs and to self-ration its limited energy supply. This is in relation to both thermal generation and hydro and battery storage. As the Reliability Panel noted in its final report for the RSSR, a higher APC:

Improves incentives for storage to participate during an APP. During the recent APP, the Panel has heard reports that energy-limited units found the \$300/MWh APC did not sufficiently provide incentives to charge and discharge as normal, which resulted in less than optimal utilisation without material intervention from AEMO.²⁹

Generator behaviour, in withdrawing capacity from the market prior to the market suspension, has been cited by stakeholders.³⁰ Further, the AER and ACCC indicated that they would be monitoring and potentially investigating generator and retailer behaviours during and following the events of June 2022.³¹

Compensation processes and improvements to compensation processes were also cited by stakeholders as a solution to the issues occurring in June 2022.³²

Stakeholders have also suggested that gas market price settings may need adjustment and the gas market itself may have issues that need addressing including the availability of gas supply when peak electricity demand is high or demand for gas generation is particularly high either due to a lack of availability of coal generation or lower than expected renewable energy output.³³

The presence of other potential factors however does not break the link between the level of the APC and the problems with the application of the APC in June 2022, or help to resolve issues with the current level of the APC.

Longer-term solutions may also be relevant to the immediate problem. For example, the need for the APC to be indexed in the same way that other market price settings, such as the MPC and CPT are indexed. This would allow for changes in fuel and other input costs over time,

29 Final Report Reliability Panel, *Reliability Standard and Settings Review*, 1 September 2022.
<https://www.aemc.gov.au/sites/default/files/2022-09/2022%20RSS%20Review%20Final%20Report%20%281%29.pdf>

30 Pacific Energy Trading, submission to consultation paper, p. 1., Enel X p.3., PIAC p.1.

31 https://www.aer.gov.au/system/files/correspondence-to-market-participants-clare-savage-14-june-2022_0.pdf and
https://www.aer.gov.au/system/files/correspondence-to-retailers-aer-and-accc-chairs-10-june-2022_0.pdf

32 PIAC and EUAA, submissions to consultation paper.

33 Australian Aluminium Council, Stakeholder submission, p.2.

and also for technological changes in the market. In the 2022 RSSR final report, the Reliability Panel noted that several stakeholders in the review suggested changing the form of the APC from a fixed value to a dynamic mechanism in recognition of the links between gas and electricity prices. The Reliability Panel recommended that a follow-up review consider the form of the reliability standard and links with the gas APC to ensure it is addressed as the market continues to transition.

The relationship of gas price settings to electricity price settings, and how and when these settings are reviewed relative to one another is also relevant to these longer-term solutions.

The Commission, in considering these broader changes, will need to balance the need for an immediate and temporary change to the settings with longer-term needs and the existing role of the Reliability Panel in reviewing enduring changes to the market price settings.

3.2

What is an appropriate temporary level of APC?

3.2.1

Stakeholder views

Most generators, the AER, AEMO, AFMA, ECA and South Australian Government are in favour of an increase to the level of the APC. Snowy Hydro and Enel X are strongly against any change until the contract markets have had a chance to resettle and incorporate the higher prices.

AFMA highlighted that a short implementation period for an increase to the APC will affect the financial market with \$300/MW cap instruments and the sellers of those being most affected. In particular, during rare administered price periods with a higher APC, the cap seller may need to run their plant to minimise the cap payout. Under normal market pricing, a cap seller would operate in this way but with the APC at \$300/MWh it is unnecessary as the cap payout would be zero.³⁴ AFMA suggests in the short term this would result in wealth transfers from sellers to buyers because the \$300/MW cap offers more protection during an APP.

AFMA further noted that the economics of \$300/MW caps will not change during periods of normal market operation or under market suspension when the market suspension pricing schedule would apply. They also identified that over the long term, financial markets will deliver new products to supplement or replace the existing \$300/MW caps such as the \$500/MW cap being introduced by the FEX Global exchange.³⁵

Some submissions observed that the \$300/MWh APC set in 2008 would be close to \$600/MWh proposed by Alinta if it was indexed with inflation. Delta, CEC, AEC, AGL, EA agreed that an increase to \$600/MWh is appropriate assuming a \$40/GJ gas price. Origin considered a lower value, \$500/MWh, would be adequate assuming the same gas price but a lower heat rate of 12 GJ/MWh.³⁶

³⁴ AFMA, submission to consultation paper pp. 2-4.

³⁵ AFMA, submission to consultation paper, p. 2-4.

³⁶ Origin, submission to consultation paper, p. 3.

Energy Consumers Australia (ECA) supports the rule change as proposed as a temporary low-risk option that will reduce the likelihood of another market suspension but also states that reverting to the lower APC after 12 months is foolhardy. They state that the market suspension increased consumer costs through inefficient market operation and likely inefficient dispatch, and, delayed compensation payments, higher transaction costs from the compensation process and decreased market certainty.³⁷

The South Australian Government observed that if the \$300/MWh APC as set in 2008 had been indexed with inflation it would currently be \$592/MWh.³⁸

The EUAA is not in favour of an increase in the APC. The EUAA are concerned that a higher APC with the intention of reducing or removing compensation is unwarranted when compensation mechanisms exist that can ensure generators are appropriately reimbursed. Further, the EUAA suggested the reviews and methodologies for setting the gas and electricity administrative price caps should be aligned. The EUAA also emphasised the implicit social licence obligation that generators have in the provision of an essential service and that the 'quid pro quo' for generators meeting that obligation is for consumers to ensure that no generator is out of pocket in covering their SRMC. This is best achieved by keeping the APC at its current level and providing timely compensation for those whose SRMC is greater than \$300/MWh. They identified that brown coal generators have SRMC values substantially lower than the current APC and are presently over rewarded.³⁹

PIAC consider that the APC should not change without a comprehensive and transparent analysis of potential contract market and consumer bill impacts and an assessment of alternatives such as modifying the compensation arrangements that apply to Administered Pricing, AEMO directions and market suspension.⁴⁰

Aurora stated that during periods of market stress, it is likely many retailers will have insufficient hedge contract cover. Consequently, a higher APC would lead to increased losses for those retailers without generation assets. Further, retailers may have to hedge more at a higher price given the greater price risk associated with a \$600/MWh APC, increasing costs to retailers and consumers.⁴¹

Stakeholders also raised issues in relation to the indexation of the level of APC longer-term and the interaction between electricity and gas settings.

AGL stated that longer-term it may be appropriate for the APC to be linked to both inflation and fuel prices.⁴² Arrow noted support for indexation of the APC to gas benchmarks such as the STTMs or DWGM, with a defined heat rate and a periodic review mechanism similar to the CPT and MPC.⁴³

37 ECA, submission to consultation paper, p. 1.

38 South Australian Government, submission to the consultation paper, p. 2.

39 EUAA, submission to consultation paper, pp. 2-4.

40 PIAC, submission to consultation paper, p. 1.

41 Aurora, submission to consultation paper, p. 5.

42 AGL, submission to consultation paper, p. 3.

43 Arrow, submission to consultation paper, p. 2.

The South Australian Government noted that while it is beyond the scope of this rule change, there is a need for a broader review of the interaction between the market settings and a need for a more flexible framework that allows for adjustment to the APC in the event of unforeseen extreme market disruptions that would otherwise result in the market ceasing to operate as intended.⁴⁴

3.2.2 **AEMC analysis relating to the level of the APC**

The APC is an operational measure designed to cap the exposure of generators and retailers during periods of market distress when spot market prices elevate sufficiently to exceed the CPT. During an administered price period, it caps spot market prices to a much lower level than the market price cap (MPC) without affecting the normal market dispatch process. In this way, it should ensure that the normal bidding and dispatch process continues, allowing participants to manage their positions through their bids but limit the maximum dispatch price to a level that covers the SRMC of generators that normally only operate during peak conditions. The APC should facilitate normal dispatch and typical price variation and should allow all forms of generation to participate fully while limiting the market costs from a period of extended price volatility.

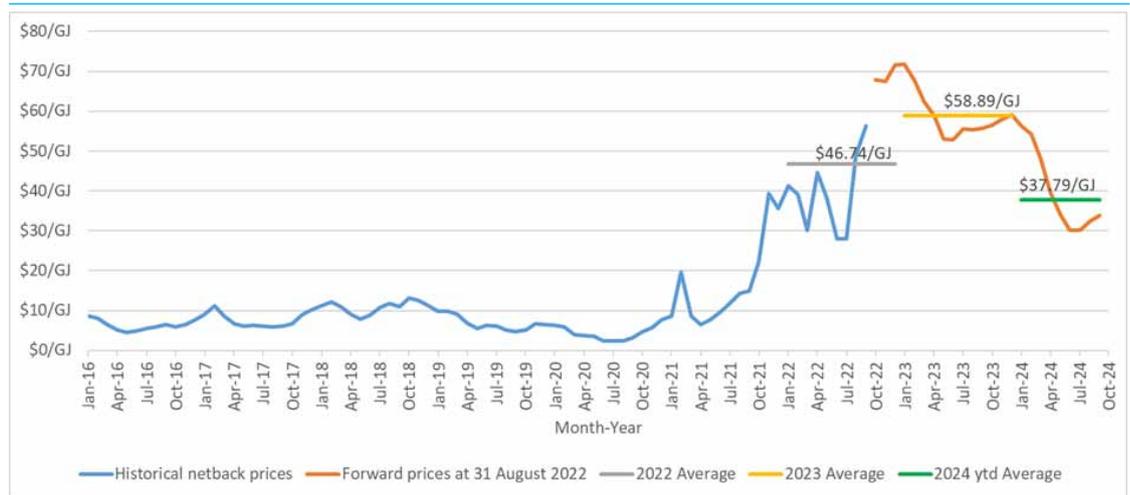
The APC has been \$300/MWh since 2008. The APC is not indexed to CPI or linked to other market settings.

For conventional generators, the cost of fuel dominates the SRMC value and gas and diesel fired generation dominates the provision of non-hydro and non-battery peaking services. Information from the ACCC's forward medium-term LNG netback price series shows that the export parity price for gas is expected to remain above the current gas APC until early 2024.⁴⁵ This suggests that over the next two years, the probability of extended high gas price events impacting east coast gas and electricity markets is higher than it has been historically and higher than it might be expected to be longer-term.

⁴⁴ South Australian Government, submission to consultation paper, p. 2.

⁴⁵ ACCC LNG netback series

Figure 3.1: ACCC LNG netback price series – 1 September 2022



Source: ACCC LNG netback prices

Based on plant performance and operating cost assumptions used in the AEMO Integrated System Plan we have examined the capacity of thermal generators available in the NEM during the recent market events in June.⁴⁶

Leading up to the breach of the CPT in June 2022, a material portion of thermal generation was unavailable. While the total nameplate capacity of all thermal generators in the NEM is currently approximately 33.5 GW, at times around 8 GW was unavailable in the two weeks leading up to the June 2022 events. While the availability of capacity compared to its nameplate rating will differ in future events, the reduced availability that occurred in early June 2022 is a useful reference point for understanding the capacity of thermal generation that may need compensation during a future APP.

The table below shows different levels of the APC, and the number of megawatts of thermal generating capacity with SRMC values greater than the APC and the percentage of thermal generating capacity with SRMC values less than the APC. The table refers to the reduced thermal capacity that remained after the planned and unplanned outages in the first weeks of June 2022 and the total installed nameplate capacity of thermal generation in the NEM.

⁴⁶ AEMO ISP input and assumptions workbook, <https://aemo.com.au/-/media/files/major-publications/isp/2022/2022-documents/inputs-assumptions-and-scenarios-workbook.xlsx?la=en>

Table 3.1: Estimated thermal plant capacity covered by different APC levels

APC (\$/MWH)	THERMAL PLANT NEEDING COM- PENSATION (MW '22 REDUCED THERMAL AVAILABILITY / MW THERMAL NAMEPLATE)	THERMAL PLANT WITH SRMC COVERED ('22 REDUCED THERMAL AVAIL- ABILITY / THERMAL NAMEPLATE)
300	7100 / 10900	71% / 67%
500	5000 / 7700	79% / 87%
600	3600 / 5000	85% / 85%
700	500 / 700	98% / 98%

In the 2022 RSSR final report the Reliability Panel concluded that while having regard to the greater financial burden a higher APC may have on retailers and consumers, on balance, there was a material benefit to increasing the APC to minimise reliance on the compensation regime.⁴⁷

Table 3.2: Estimated thermal plant capacity with SRMC below different gas APC's

ELECTRICITY APC LEVEL	\$500/MWH	\$600/MWH	\$700/MWH
Total thermal plant capacity (% of '22 reduced thermal availability / % of total thermal nameplate)			
Gas APC at \$40/GJ	79% / 77%	85% / 85%	98% / 98%
Gas APC at \$50/GJ	79% / 76%	80% / 77%	88% / 86%
Gas APC at \$60/GJ	78% / 75%	79% / 77%	87% / 83%
Total gas capacity (% of '22 gas reduced thermal availability / % of gas thermal nameplate)			
Gas APC at \$40/GJ	38% / 35%	63% / 65%	90% / 92%
Gas APC at \$50/GJ	36% / 34%	38% / 35%	47% / 45%
Gas APC at \$60/GJ	30% / 29%	36% / 34%	38% / 35%

A level of APC that provides a price incentive for battery storage and pumped hydro to be able to recover the cost of lost energy in charging and discharging during APP is also an important consideration. The importance of this is likely to increase as the system transitions and a greater amount of battery storage is used to provide power during peak periods.

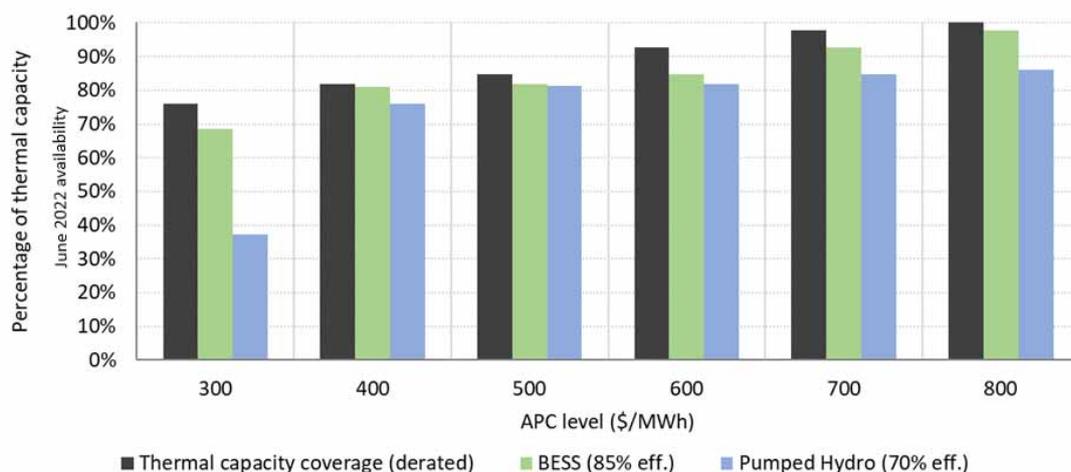
The APC needs to be high enough to provide sufficient variation for battery and pumped hydro dispatch to recover 15% and 30% lost energy in the course of charging and discharging. During the June 2022 events, the NSW price was continuously capped by the

⁴⁷ Final Report Reliability Panel, *Reliability Standard and Settings Review*, 1 September 2022.
<https://www.aemc.gov.au/sites/default/files/2022-09/2022%20RSS%20Review%20Final%20Report%20%281%29.pdf>

\$300/MWh APC for several days and the grid scale batteries had little chance to recover the cost of lost energy as a consequence of the round trip efficiency of charging and discharging. It was not until the market was suspended, and the market suspension pricing regime was applied, that price volatility was sufficient for storage systems to economically charge their facilities and provide more resources to meet demand.

Figure 3.2 shows the amount of thermal capacity in the system from which a battery or hydro storage facility can charge, given the SRMC of thermal capacity, and cover their round trip efficiency losses and then discharge into market prices up to the APC. An APC of \$300/MWh is insufficient to allow the majority of pumped hydro assets, which have a round trip efficiency of around 70%, to charge profitably from the majority of thermal generation. However, higher APC values provide greater opportunities to cycle the storages, providing dispatch operates normally and spot prices vary to match the SRMC's of the marginal generators.

Figure 3.2: Percentage of available capacity from which storage can charge



Note: Pumped Hydro is assumed to have 70% round trip efficiency and batteries are assumed to have a round trip efficiency of 85%

If the APC is to be increased then the impact on consumers and retailers must be considered. With the assistance of a consultant, we have examined the position of an unhedged retailer and a fully hedged retailer.

The AEMC has also examined the potential cost to the retailers with different levels of hedge cover to a change to the APC. As discussed in the consultation paper a lower APC favours an unhedged retailer while a higher APC favours a prudently hedged retailer but further to this, an APC that results in material compensation can penalise a prudently hedged retailer. This analysis also indicates that, based on the assumptions used, the hedging level where a hedged retailer is indifferent to an increase in the APC, is less than 70% of load. This is discussed in more detail in Section 3.5.2.

Another factor to consider is the cost of caps to retailers and generators. The AEMC has considered the potential change in the cost of the existing \$300 cap contract. While the value

of these caps may change slightly, it is important to recognise that spot prices exceeding \$300/MWh, on which these cap instruments operate, are not uncommon but it is very rare for there to be a sequence of spot prices in a 7 day period high enough to breach the CPT. That is the majority of the value of these caps to a retailer is derived in normal market operation not from periods when administered pricing occurs. We also note that FEX Global has listed a \$500 exchange traded cap instrument.⁴⁸ We would expect that this cap, for a similar exposure period in a quarter, would be slightly less expensive than an equivalent \$300 cap instrument. It is likely that this new \$500 instrument would operate in conjunction with the existing \$300 instrument, augmenting the portfolios of retailers and generators, rather than replace it. APPs are very rare events having occurred only three times including the June 2022 event, in energy, since the start of the NEM in December 1998. A prudent retailer's estimation of value at risk and consideration of the maximum number of intervals the market will operate at the MPC during a quarter is unlikely to encompass price events that would result in the CPT being exceeded. While there may be changes in AEMO prudential requirements for short periods during an APP and some dynamic adjustment in the market from recent events, the overall change to the cost of a cap, as discussed in more detail in section 3.5.2 is expected to be very small.

Conclusion

From the analysis and the potential for gas prices to remain high until 2025, the Commission considers that an APC of \$600/MWh appears to be appropriate. While this is higher than the \$500/MWh figure recommended by the Reliability Panel in the RSSR to apply from 1 July 2025, it may be justified in the near term due to a greater likelihood of gas prices reaching and, for short periods, potentially exceeding the gas APC.

Further, since indexation of the APC or development of a more complex dynamic APC is not proposed to be addressed in this rule change, a higher level gives more headroom prior to RSSR levels commencing on 1 July 2025.

QUESTION 1: TEMPORARY LEVEL OF APC

1. Do you agree that the proposed temporary level of \$600/MWh would facilitate improved market operation and greater security and reliability during an APP?
2. Would a level greater than or less than \$600/MWh facilitate improved market operation security and reliability during an APP? Where different, please provide reasons for your answer?

⁴⁸ FEX \$500 Strike 5MS cap power contract https://www.fexglobal.com.au/sites/default/files/documents/FGLNotice2022_010.pdf

3.3 What is an appropriate temporary level of CPT?

3.3.1 **Most stakeholders suggested that changes to the CPT in this rule change process are not necessary**

AGL and Engie were supportive of a temporary change to the CPT.⁴⁹ The CEC was supportive of longer-term changes to the CPT to support required investment, however the CEC noted that these permanent changes to the settings should occur either through the Reliability Panel's current review of the reliability standards and settings, or through a Panel self-initiated review to be commenced as soon practicable after the current review concludes.⁵⁰

Most stakeholders were unsupportive of a temporary change to the level of the CPT. Pacific Energy note that there is no clear relationship between the CPT and the issue this rule change is looking to address. Pacific Energy state that changes to the CPT are more impactful than changes to the APC and should be considered separately to changes to the APC.⁵¹

Shell Energy state they see no need to modify the CPT, as the current level and form of the CPT is appropriate to provide protection from sustained high prices, while also leaving sufficient signals for new investment.⁵²

Origin states that addressing the APC addresses the underlying issue whereas changing the CPT could have a material impact on participants. It sets the upper limit on prolonged exposure to the MPC that informs hedging. Changes to the CPT, according to Origin, are better managed through the RSSR process and signalled well in advance so participants can manage the changes to their risk profile.⁵³

Energy Australia state that they do not consider there is necessarily a case for adjusting the CPT if the APC is raised. If the proposed APC of \$600/MWh is deemed sufficient, this would be materially below the current CPT trigger of \$694/MWh when averaged over seven days. Energy Australia state that they accept the CPT may need adjustment if the Commission considered that an APC of over \$700/MWh was necessary.⁵⁴

AEMO's submission states that the CPT is sufficient to allow for economic dispatch and that changing the CPT significantly broadens the assessment, detracts from the problem at hand, and should not be in scope.⁵⁵

Delta Electricity state that the calculation of the CPT should be amended. Delta notes that currently AEMO uses dispatch prices and the Regional Override Price (ROP) to calculate the cumulative price. The ROP and the Regional Reference Price (RRP) are typically the same when the market is not under administered prices so dispatch and settled prices are not different under normal conditions. However, in a region not under APC, but that is exporting to an APC region, the ROP is still used for dispatch but the RRP is scaled down. So the

49 Submissions to consultation paper: AGL, p. 3; Engie, pp. 5-7.

50 CEC, submission to consultation paper, pp. 2-3.

51 Pacific Energy trading, submission to consultation paper, p. 3.

52 Shell, submission to consultation paper, p. 2.

53 Origin, submission to consultation paper, pp. 3-4.

54 Energy Australia, submission to consultation paper, p. 2.

55 AEMO, submission to consultation paper, p. 6.

exporting regions' CPT can be breached even though those higher prices causing the breach have not been realised in settlement.⁵⁶ Delta notes that the rule change provides an opportunity to amend the rules to ensure a more efficient and equitable market design for calculating how the CPT is reached, regardless of whether other regions have already reached their CPT.

More broadly in relation to the use of the ROP in calculating the cumulative price, Pacific Energy noted that they didn't believe there should be a change to using the ROP, they believe it is essential, as it allows for the fact that some generation may still be out of service.⁵⁷

3.3.2 AEMC analysis relating to the level of the CPT

According to the Reliability Panel, the two purposes of the CPT are to:⁵⁸

- cap the total price risk to which market participants are exposed over a given time period, and
- maintain the effectiveness of the MPC, by not hindering the market price signals for efficient operational decisions and efficient investment in generation capacity and/or demand-side response.

The CPT, therefore, acts to limit generator and retailer risk, by triggering the application of the APC. It is a backstop for extreme conditions that are beyond what reasonable and prudent participants could be expected to prepare for.

The CPT is determined by its relationship to the MPC which is indexed to CPI. The logic of the initial value of CPT when implemented was to allow recovery of three years of amortised capital expenditure for a new entrant generator before the CPT was triggered.⁵⁹ Consistent with achieving the reliability standard, the CPT and MPC together determine the extent to which spot market revenue provides sufficient financial incentives to encourage a new entrant.

When assessing the level of the CPT, the guidelines require the Reliability Panel to consider the following principles. The CPT should:⁶⁰

- protect all market participants from prolonged periods of high market prices, with particular consideration to impacts on investment costs and the promotion of market stability
- not impede the ability of the market to determine price signals for efficient operation and investment in energy services, and
- be determined by giving consideration to the level of the MPC.

56 Delta Electricity, submission to consultation paper, p. 3.

57 Pacific Energy trading, submission to consultation paper, p. 3.

58 Final Report Reliability Panel, *Reliability Standard and Settings Review*, 1 September 2022. p.63. <https://www.aemc.gov.au/sites/default/files/2022-09/2022%20RSS%20Review%20Final%20Report%20%281%29.pdf>

59 AEMC Reliability Panel *Comprehensive Reliability Review Final Report*, December 2007. p.84. <https://www.aemc.gov.au/sites/default/files/content/2956da26-6f9d-4fe3-9935-f584d340a8d2/Final-Report.pdf>

60 Final Report Reliability Panel, *Reliability Standard and Settings Review*, 1 September 2022. p.65. <https://www.aemc.gov.au/sites/default/files/2022-09/2022%20RSS%20Review%20Final%20Report%20%281%29.pdf>

As such, the CPT should be set to allow the market to operate most of the time without the application of the APC.

Significant near term changes in the CPT are seen by most stakeholders as having a greater impact on contract values than the APC, given it allows greater exposure to the MPC.

Links between the APC and CPT

The mechanisms of the CPT and the APC are not linked in operational terms or in terms of their purpose.

In operational terms, the CPT is currently calculated with reference to uncapped prices as determined by NEMDE during APP, not the market price capped at the APC. The level of the APC therefore has no bearing on the CPT.

The APC is a measure to limit prices while allowing generators to still bid into the market by allowing for their operating costs. The CPT in contrast is an investment measure, designed to manage systemic risk while allowing for an investment signal for new generation capacity.

As a result, changes to the APC do not require consequent changes to the CPT.

The potential need to allow for high commodity prices

Higher commodity prices and consequent increases in the cost of generation and the spot price of electricity over extended time periods can remove some of the headroom for volatility provided by the CPT as well as affecting the investment signal for new generation.

Higher gas prices over a seven-day period in the lead up to CPT breach, where they are driven by higher commodity prices, can reduce the signal normally provided from price volatility up to the point the CPT is breached.

However long duration high gas prices will only impact the investment signal in the year they occur. Investment signals should be considered over multi-year time frames. The optimal setting for those investment signals is addressed through the work of the Reliability Panel. Even where CPT breaches were to occur in the near future due to high gas prices over a seven-day period, the impact on the investment signal from price volatility will only impact the market in the year it occurs. As such, any changes to the level of the CPT to account for higher gas prices are unnecessary for short-term periods and in the longer-term are best considered by the Reliability Panel.

Changes to the longer-term level of CPT through the RSSR

The final report for the 2022 review of the reliability standard and settings recommends a level for the CPT of \$2,193,000 (corresponding to 8.5 hours of market prices at the recommended MPC) in 2021 dollars by the end of the review period.⁶¹ The Panel also recommended progressive annual changes, to achieve the recommended level by the end of the review period.

⁶¹ Final Report Reliability Panel, *Reliability Standard and Settings Review*, 1 September 2022.
<https://www.aemc.gov.au/sites/default/files/2022-09/2022%20RSS%20Review%20Final%20Report%20%281%29.pdf>

Table 3.3: Recommended MPC/CPT transition pathway

2021 \$	1 JULY 2025	1 JULY 2026	1 JULY 2027
MPC (\$/MWh)	17,500	19,500	21,500
CPT (\$)	1,575,000	1,872,000	2,193,000
CPT hours at MPC	7.5	8	8.5

Note: All figures are in 2021 dollars.

The Reliability Panel considered that these recommended levels will enable the market to achieve and send efficient price signals and support the efficient operation of, and investment in, electricity services over the long run, while also limiting market participant exposure to price risk. The current level of the CPT is \$1,398,100 for the period 1 July 2022 to 30 June 2023.⁶²

Conclusion

Temporary changes to the level of the APC do not necessitate changes to the level of the CPT. The level of the CPT as currently applied is not seen to be a driver of events that led to the market suspension in June. Market changes, including higher expected commodity costs over the next two years, do not necessitate a change to the level of the CPT and where they are required should be considered through the work of the Reliability Panel. Therefore, no changes to the level of the CPT are required at the current time. The method of calculating the cumulative price and any longer-term changes required are best left to the Reliability Panel and considered in subsequent reviews of the Reliability Panel.

QUESTION 2: LEVEL OF THE CPT

1. Do you agree that the level and escalation methodology of the CPT should remain unchanged in this rule change?
2. Do you agree that any changes to the method of calculation of the cumulative price, is a matter best left to the Reliability Panel?

3.4

What period should the proposed change to the APC apply for?

In considering temporary changes to the APC, the Commission must consider the timing of the temporary change, the length of time the change should apply, and the settings that would apply after the temporary level no longer applies.

On 1 September 2022, the Reliability Panel published its final report which considered whether the existing form and level of the reliability standard and settings remain appropriate for the expected market conditions from 1 July 2025 to 30 June 2028.

⁶² The CPT is increased by indexation each year.

The Panel's final recommendation is to increase the level of the APC from \$300/MWh to \$500/MWh for the period of 1 July 2025 to 30 June 2028.⁶³ The Panel considered an increase to the level of the APC is justified to reduce undue reliance on the compensation scheme and reduce additional pass-through costs to consumers.

Now that RSSR has been completed, the Reliability Panel must submit a rule change proposal to the AEMC for consideration through a normal rule change process as soon as practicable.⁶⁴

3.4.1 Stakeholder views

Stakeholders were generally supportive of maintaining a new level of APC until the RSSR recommendations are implemented on 1 July 2025.⁶⁵

Origin commented that a revised APC should remain in place until 1 July 2025 to align with the commencement of the Reliability Panel's recommended change, and ideally align to the level recommended by the Panel (i.e. \$500/MWh).⁶⁶

AEMO suggested that in the interests of stability it may be sensible for the AEMC to consider whether a new APC should remain until commencement of the Reliability Panel's recommendations arising from the current Reliability Standard and Settings Review.⁶⁷ AGL noted that a temporary change of the APC, followed by a temporary period where the APC reverts to the current APC, followed by new Reliability Panel settings for example would be too disruptive.⁶⁸

Delta Electricity states that for simplicity and least disruption to the market any temporary changes to the APC and CPT should apply up until the implementation of the recommendations from the 2022 review of the RSSR. This would minimise the number of times the reliability settings change over a relatively short period of time and provide more consistent and clear signals to the market.⁶⁹

Some stakeholders cautioned that a change to the level of APC implemented immediately may impact the contract market.⁷⁰ Engie comments that an immediate increase in the APC would distort the purpose of \$300 caps and have long-term impacts on the contract market.

3.4.2 AEMC analysis

In considering temporary changes to the APC, the Commission will consider any potential interaction between the temporary measures and the Panel's final outcome and, what, if any transition, may be necessary between the temporary measures and the implementation of the Panel's recommendations.

63 Final Report Reliability Panel, *Reliability Standard and Settings Review*, 1 September 2022. <https://www.aemc.gov.au/sites/default/files/2022-09/2022%20RSS%20Review%20Final%20Report%20%281%29.pdf>

64 Clause 3.9.3A(i) of the NER.

65 Submissions to consultation paper: AFMA, p. 3; AGL, p. 4; Arrow Energy, p. 5; Blue Pacific Energy, p. 4; CEC, p. 2; Delta Electricity, p. 2; Origin, p. 3; Shell, p. 3; AEMO, p. 6.

66 Origin, submission to consultation paper, p. 3.

67 AEMO, submission to consultation paper, p. 6.

68 AGL, submission to consultation paper, p. 4.

69 Delta Electricity, submission to consultation paper, p. 3.

70 Submissions to consultation paper: Snowy Hydro, p. 2; Energy Australia, p. 3; Engie, p. 2.

Analysis carried out for the Commission examining the impact of different levels of APC is applicable to conditions over the next two years to FY2025, given the prospects for elevated international and domestic gas prices over this time frame. Over the longer-term, changes to the APC may consider price impacts in a power system with significant levels of variable renewable energy high levels of storage and expectations around high or elevated gas prices.

The Commission explored two options for a temporary application of a new level of APC.

One option involves setting a new level of APC for 12 months contingent on gas prices falling below a threshold, by the end of that period when the APC would revert back to the current \$300MWh. This option provides flexibility in the level of APC to account for changes in gas prices but imposes an unpredictable change that may have other impacts on the contract market. Furthermore, this option would also require the consideration of a number of administrative matters including, but not limited to, identifying the source of the gas prices to be used (spot market or futures prices or other sources or combinations thereof), which market body or entity would be responsible managing such a scheme, what notice period would be required regarding changes to the level of APC.

Another option involves setting a new level of APC, to be implemented as soon as practicable and proposed to be in place until no later than 1 July 2025 when any change to the longer-term setting of the APC would be made following the AEMC's consideration of the Reliability Panel's rule change request. This option provides regulatory stability and consistency for market participants and aligns with stakeholder views on the time frame for the application of a new level of APC.

The Commission's preferred approach is to set a new level of APC, to be implemented as soon as practicable until no later than 1 July 2025, beyond which the level will revert to its longer-term setting, as recommended by the Reliability Panel and implemented through the normal rule change process.

QUESTION 3: TIME FRAME OF APC

1. Do you agree that the proposed temporary level of \$600/MWh should apply as soon as practicable until 1 July 2025?
2. Is there any other period of application of a temporary level of APC that would be more appropriate? If so, please provide reasons for your answer.

3.5 Impacts of the proposed policy positions

There are three key areas to analyse in relation to the benefits and impacts of amending the APC. These key areas include:

- Security and reliability
- Contract market impacts
- Retailer and consumer impacts.

The Commission understands that in these key areas, the benefits of increasing the APC outweigh the costs, as consumers, retailers and other market participants are better off in terms of security and reliability and the likely costs of energy versus the counterfactual. In line with the assessment framework, the Commission believes that increasing the APC is in the best interest of consumers and will provide the most benefits in securing their energy security.

3.5.1

Stakeholder views

Most stakeholders believe that the benefits of amending the APC in line with Alinta's proposal outweigh the costs associated. The South Australian government, AGL, AEMO, AEC, Delta, Origin and Shell Energy believe to cover the SRMC of most gas generators, the APC must be raised.⁷¹ This will in turn protect the security of the system and help to alleviate the risk of another market suspension. ECA further commented that temporarily increasing the APC will reduce the likelihood of another suspension of the energy market, which would decrease costs for consumers.⁷²

AEMO, Arrow Energy, ECA and Delta believe the proposed change is likely to increase market transparency by providing generators with appropriate incentives to bid capacity and maintain security and reliability through APPs or similar periods of market stress.⁷³ Other stakeholders noted that the balance between costs and benefits is more equal. Aurora Energy and Energy Australia acknowledge both benefits and costs in increasing the APC.⁷⁴ Whilst acknowledging the increased level of security in the market, these stakeholders state the risk of retailers becoming financially insolvent due to financial constraints and increased prudential costs also exists.

While Snowy Hydro agrees that the APC should be increased, they consider that an increase should be phased in over an extended period to allow parties to adjust their existing contract positions.⁷⁵ Snowy argues that considering the tenure of current contracts, any change to the APC should not take effect until 1 January 2025. Snowy maintains that rapidly changing the APC on a short-term basis, without a transition period, would expose systemically important generators to potentially intolerable financial risk. Snowy further state that if they are energy constrained, it is difficult to source additional fuel for their generators during an APP, which may pose additional risk.

Some stakeholders however believe that the benefits of amending the APC in line with Alinta's proposal do not outweigh the costs associated. EUAA believe the negative impact on retailers and consumers outweighs the benefits and that only generators benefit from an increased APC.⁷⁶ Furthermore, they believe retailers will pass higher costs onto all consumers. Enel X, PIAC and Blue Pacific Energy believe increasing the APC will have a significant impact

71 Submissions to consultation paper: AEMO, p. 2; AGL, p. 3; AEC, p. 3; South Australian Government, p. 2; Delta, p. 2; Origin, p. 3; Shell Energy, p. 2.

72 ECA, submission to consultation paper, p. 3.

73 Submissions to consultation paper: AEMO, p. 2; Arrow Energy, p. 2; AEC, p. 3; ECA, p. 2; Delta, p. 2.

74 Submissions to consultation paper: Aurora Energy, p. 3; Energy Australia, p. 4.

75 Snowy, submission to consultation paper, p. 2.

76 EUAA, submission to consultation paper, p. 3.

on existing cap contracts whilst not addressing the issues with incentives during an APP and because of this, will not be in the interest of electricity consumers.⁷⁷

3.5.2

AEMC's analysis

Security and reliability

The key benefit of increasing the APC relates to its impact on security and reliability. A higher APC increases the ability and incentive for generators to be able to bid as normal into the market during the application of the APC in an APP. This relates to their ability to recover costs through bids and to preserve scarce energy balances through bidding and in response to the bidding of other generators.

An APC that is set too low means that some thermal generation with costs above APC cannot bid as normal into the market in a cost reflective manner and be dispatched. In recent APPs, many generating units were bidding unavailable, requiring AEMO to issue directions to these plants. Directions are instructions from AEMO to generators to produce particular levels of electricity output. When this occurs, generators are forced to generate at a particular level of output rather than following the National Electricity Market Dispatch Engine (NEMDE) instructions as they would during normal dispatch conditions.

The information from generating units bidding unavailable is used by NEMDE as an input constraint. An increase in input constraints translates to a reduction in feasible and secure outcomes that can be generated by NEMDE. This mechanism led to many NEMDE constraints being violated which increased the likelihood of the market operating outside of the safe operating envelope, threatening the security of the national electricity system and increasing the likelihood of blackouts.

AEMO's submission to the consultation paper notes that relying on interventions to meet demand means that many of the automated dispatch and pre-dispatch processes cannot provide effective market signals, and the wholesale exchange cannot be effectively administered. AEMO states that this in turn presents very real threats to the security and reliability of the power system.⁷⁸

Furthermore, the dynamic of a low APC compared to generator costs makes it hard for the market to exit circumstances in which the APP is applied and there is a lack of generation capacity offered to the market through normal bidding processes. The AEMO report *NEM Market Suspension and Operational Challenges in June 2022*, noted that in determining intervention pricing, prices were increasing and reaching the market price cap due to the need for continuous directions to generators from AEMO. As long as the dynamic of reduced market-offered generation volumes continued and AEMO directions were required, AEMO notes that there was little prospect of uncapped dispatch prices falling and cumulative prices returning to levels below the CPT.⁷⁹ Consequently, AEMO determined that it was not practical to operate central dispatch and determine spot prices due to the determined dispatch prices

⁷⁷ Submissions to consultation paper: Enel X, p. 2; PIAC, p. 3; Blue Pacific Energy, p. 4.

⁷⁸ AEMO, Submission to the consultation paper, p. 2.

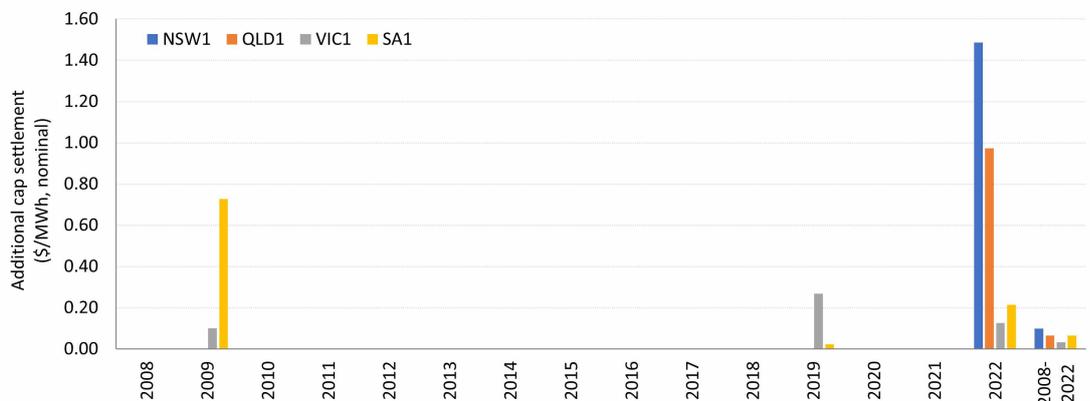
⁷⁹ AEMO, *NEM Market Suspension and Operational Challenges June 2022*, August 2022, p. 42.

in NEMDE being capped by the APC during the APP. AEMO subsequently suspended the market.

Contract market

The overall impact on contract prices from a higher APC is expected to be minimal. Historical APP events are rare. Even assuming the events of June 2022 were to recur in future periods and actual \$300/MWh APC periods were scaled up to \$600/MWh the additional cap payout would increase by less than \$1/MWh on average across the NEM. This increase in dollar amounts is the same for swap contracts. The analysis assumes that the historical payouts are calculated on a 5-min settlement basis. This estimation is conservative in that not all \$300/MWh prices at the APC would scale directly to the higher APC level. Further, the contract market may not attribute 100% probability of these high prices events recurring over a forthcoming contract period. The estimate is an upper bound on the extent of the pricing impact retrospectively, for APC periods.

Figure 3.3: Impact on annual cap or swap settlement outcomes (AUD nominal)



Note: the \$/MWh impact would also apply to the equivalent swap contract

It is not expected that a change in the level of the APC would warrant significant changes to existing and future hedging arrangements. Given the impact, we would expect no disruption to existing contract markets other than a minor adjustment to pricing expectations to account for the higher APC levels during APP periods, subject to the expectation of their future recurrence.

A change to the level of the APC does not in and of itself necessitate a change to the level of cap products. The origins of the \$300/MWh price in the cap contracts commonly traded in the NEM are not related to the APC. The \$300/MWh price originally came from the VicPool electricity market's coinsurance scheme which dates back to 1994. The price of \$300/MWh was set to be higher than the marginal costs of the most expensive generators using liquid fuels. As such, changing the APC does not require cap contracts be struck at the new level of the APC, although it may be a consideration among other factors in the creation of, and trade in, new instruments. The commission is continuing to look at existing hedging contracts in

the market to determine the price impacts, however, it is not expected that the impact will be significant.

A change or temporary change in the level of APC may result in some administrative costs for the futures market given there may be an impact on the types of instruments participants wish to purchase and offer and that exchanges wish to offer as products on their platform. The ASX noted in their submission that the effectiveness of the \$300/MWh cap futures contract is determined by the price level of the underlying AEMO 5-minute spot contract and is effective as a hedging tool as long as the AEMO 5-minute spot contract does not remain over the \$300 price level for a sustained period of time.⁸⁰ The ASX believes that a change in the APC would not directly affect the AEMO 5-minute spot price. It believes that instead of modifying existing \$300/MWh cap futures contracts, it would be preferable to list a new Cap Futures Contract alongside the existing one. This would assist in avoiding impacting those with existing contract positions in the market. They note the delivery time for this would be a minimum of 6 months and there would be minimal costs with the change.

FEX Global have recently advised of their new \$500 cap product, in part driven by demand from industry participants for the new product.⁸¹ This became available for trading on 19 September 2022 and signifies the market may already require a range of cap price products to manage the risks associated with the current volatile market and higher wholesale price outcomes.

Prudential framework

AEMO's prudential framework requires market participants to put forward a sufficient amount of credit to minimise the chances of a shortfall in the spot market in the instance of a participant default.⁸² The prudential requirements are assessed daily and can create issues in the timing of cash flows for retailers that have to put up greater amounts of guarantee before their hedging contracts payout. Reallocation arrangements can reduce these risks for retailers. However, it is understood that not all retailers have these in place and if not, they can be exposed to greater credit requirements.

Prudential costs may be considered by some stakeholders to be a concern under a higher APC based on the view that where the APC is applied, the retailer is now exposed to greater prudential requirements during an APP given the increase in the APC. However, the cumulative price must first exceed the CPT in order for the market to enter an APP with the application of the APC. As such, the CPT effectively sets the maximum exposure to prudential requirements for market participants. Once the APC is in effect, prudential costs would be capped by APC prices, which are lower than the level of the CPT, provided the APC is set at a level below the seven-day average price necessary to exceed the CPT. Thus, any change in the APC should not have an impact on the maximum prudential requirements a retailer needs to have in place, provided the APC is set below the seven-day average price of the CPT.

80 Submission to consultation paper, p. 5.

81 https://www.fexglobal.com.au/sites/default/files/documents/FGLNotice2022_010.pdf

82 AEMO

Retailers and consumers

In a security and reliability sense, consumers are at less risk of being exposed to load shedding with a higher APC due to more generation being available in the market. Increasing the APC should reduce the risk of unplanned load shedding for consumers.

In relation to the costs paid by consumers for energy, retailers and consequently consumers will benefit from a higher APC due to reductions in unhedgeable compensation costs. These costs are estimated to be over \$200 million AUD for the June 2022 events recently experienced by the market, although the full extent of the costs has not yet been determined. The box below provides a brief explanation of the categories of compensation that will need to be recovered from consumers from the events that occurred in June 2022.

BOX 1: COMPENSATION FRAMEWORK

Reliability and Emergency Reserve Trader (RERT)

RERT allows AEMO to contract for reserves of generation or demand-side capacity that is not otherwise available to the market through any other arrangement. AEMO can activate RERT in the event that it determines that market participants are not expected to meet the reliability standard and, where practicable, maintain power system security. While RERT is an intervention mechanism and not a compensation mechanism, the costs of RERT that applied during the June events are recovered from market customers and are therefore appropriately considered here.

Directions compensation

To maintain power system security or reliability, AEMO can issue directions to Registered Participants for one or more of the following services:¹

- Energy
- Market ancillary service
- Other service (for system security)

Directions may result in payment of compensation to directed Market Participants and other Market Participants directly impacted by resulting changes in dispatch outcomes.²

Administered pricing compensation

Compensation due to the application of an administered price cap is intended to allow generators and scheduled network service providers to recover their direct and opportunity costs of supplying energy and ancillary services to the market during APP. Compensation due to the application of the administered floor price is intended to allow market participants in respect of scheduled load to recover compensation for consuming energy during the APP.³

Suspension compensation

Compensation due to market suspension pricing schedule periods is intended to allow scheduled generators and ancillary service providers to recover the cost of supplying energy

and ancillary services during market suspension pricing schedule periods.⁴

Note: 1. See clause 4.8.9 of the NER

Note: 2. See clauses 3.15.7 and 3.15.7A of the NER for compensation to directed participants and clause 3.12.2 of the NER for affected participant compensation. We note that AEMO's Compensation Update dated 15 August 2022 states that no claims were received for affected participant compensation.

Note: 3. See clause 3.14.6 of the NER

Note: 4. See clause 3.14.6 (b) of the NER

The table below shows a breakdown of estimated compensation costs associated with the June event:

Table 3.4: Compensation costs associated with June event

CATEGORY	COSTS	TOTAL
RERT payments for activated demand response under RERT contracts	<ul style="list-style-type: none"> \$80 million NEM wide recovered in July 2022 from weeks 25 and 26 in June. Potential additional \$1.4 million from June to be recovered between November 2022 to January 2023, subject to metering and performance adjustments. 	\$81.4 million
Directions compensation for directed participants for energy, ancillary services or other compensable services	<ul style="list-style-type: none"> \$2.1 million NEM wide recovered in July 2022. Additional claims of approximately \$16 million pending AEMO and independent expert determination 	\$18.1 million
Suspension compensation for eligible costs not covered by spot prices when set/affected by market suspension pricing schedule prices	<ul style="list-style-type: none"> \$7.2 million NEM wide recovered in July 2022. Additional claims of approximately \$98.4 million pending AEMO and independent expert determination 	\$105.6 million
Administered pricing compensation	The AEMC is currently assessing claims for administered pricing compensation. At this stage, there is no estimate for the total amount of administered pricing compensation. The AEMC has received a notice of intent to claim from 23 claimants in total.	Not available

Source: AEMO, June 2022 NEM Events: Compensation Update (15 August 2022) and AEMC analysis

The compensation costs shown above are the costs that will need to be passed through to consumers. A higher APC, to the extent that it avoids the need for administered pricing

compensation, will avoid these costs during future periods of administered pricing where compensation is required. This potential saving needs to be assessed against any impact that might result from the higher level of the APC on potential spot price outcomes during APP.

The table below illustrates the impact on a retailer assuming a notional load of 1,000 MW from changing the level of APC from \$300/MWh to \$600/MWh. The table shows the change in the impact of directions compensation costs and the change in the impact through price outcomes from the higher APC. It shows this for an unhedged retailer, and then for a hedged retailer. The figures reflect a conservative, or worst case, view of the impact. The spot price during APP is assumed to move to \$600/MWh all the time. In practice, under a higher APC, the spot price might be expected to trade under the cap a greater proportion of the time.

Table 3.5: Retailer impact summary

CATEGORY	INPUT/OUTPUT	UNITS	APC 300	APC 600
Spot market	Load	MW	1,000	1,000
Spot market	APC	\$/MWh	300	600
Spot market	Spot price*	\$/MWh	300	600
Spot market	Capacity under APC	MW	900	954
Spot market	Total pool purchase	\$	300,000	600,000
APC Directions	Generation	MW	100	46
APC Directions	Marginal generator	\$/MWh	750	750
APC Directions	Average cost	\$/MWh (average)	545	663
APC Directions	Total compensation	\$	24,500	2,900
Contract	Hedge (swap)	MW	1,000	1,000
Contract	Hedge strike (swap)	\$/MWh	200	200
Contract	Hedge payout	\$ (negative is a benefit)	-100,000	-400,000
Unhedged retailer	Cost of load	\$	324,500	602,900
Unhedged retailer	Cost of load	\$/MWh	325	603
Unhedged retailer	Cost of load	\$/MWh benefit**	0	-278 (Net Cost)
Hedged retailer	Cost of load	\$	224,500	202,900
Hedged retailer	Cost of load	\$/MWh	225	203
Hedged retailer	Cost of load	\$/MWh benefit**	0	22 (Net Benefit)

Note: *The spot price would reflect the highest cost generator below the APC in this case

Note: **This is the benefit compared to \$300/MWh (Negative corresponds to a cost)

In this example, where the APC is \$300/MWh, 100 MW of generation requires directions compensation (100 MW of directions above), or costs more than \$300 to generate. The same supply costs are used for the higher level of APC, and so with a higher APC, less generation requires compensation, in this case only 46 MW (46 MW of directions above). As a result compensation costs fall between the two cases.

Spot prices however during APP are now higher, \$600 versus \$300 under the price change assumed, noting under a higher APC, the price may not necessarily be at APC all the time as in this example. The cost to the unhedged retailer increases with an increasing APC as a result. Spot prices increase from \$300 to \$600, while compensation costs fall that would be pass onto consumers from \$25/MWh to \$3/MWh giving a net cost change from \$325/MWh to \$603/MWh.

For the hedged retailer, the hedge pays out against the spot price which is capped to the APC. As the APC increases, the hedge payout increases. The level of directions compensation also reduces with the higher APC, and in aggregate the resulting cost of load to the hedged retailer reduces. Based on these results, a lower APC favours an unhedged retailer whereas a high APC favours a prudently hedged retailer.

A key question is then at what level of hedging, would a retailer or consumer be better off under a higher APC. This level can change depending on the strike prices of the contract struck. But in the example below where the hedges are struck at a price of \$200/MWh, the retailer is better off versus the unhedged retailer with a lower APC, provided they have contracted 696 MW or 69.6% of their load. Assuming this strike price, this is the break-even hedging level where the retailer would be better off under the higher APC.

Table 3.6: Retailer impact summary – breakeven hedging levels

CATEGORY	INPUT/OUTPUT	UNITS	APC 300	APC 600
Spot market	Load	MW	1,000	1,000
Spot market	APC	\$/MWh	300	600
Spot market	Spot price*	\$/MWh	300	600
Spot market	Capacity under APC	MW	900	954
Spot market	Total pool purchase	\$	300,000	600,000
APC Directions	Generation	MW	100	46
APC Directions	Marginal generator	\$/MWh	750	750
APC Directions	Average cost	\$/MWh (average)	545	663
APC Directions	Total compensation	\$	24,500	2,900
Contract	Hedge (swap)	MW	n/a	696
Contract	Hedge strike	\$/MWh	n/a	200

CATEGORY	INPUT/OUTPUT	UNITS	APC 300	APC 600
	(swap)			
Contract	Hedge payout	\$ (negative is a benefit)	n/a	-278,400
Unhedged retailer	Cost of load	\$	324,500	n/a
Unhedged retailer	Cost of load	\$/MWh	325	n/a
Unhedged retailer	Cost of load	\$/MWh benefit**	n/a	n/a
Hedged retailer	Cost of load	\$	n/a	324,500
Hedged retailer	Cost of load	\$/MWh	n/a	325
Hedged retailer	Cost of load	\$/MWh benefit**	n/a	n/a

Note: *The spot price would reflect the highest cost generator below the APC in this case

Note: **This is the benefit compared to \$300/MWh (Negative corresponds to a cost)

Finally, a higher APC should facilitate more cost-reflective bidding from the generators. This should reduce the costs for consumers compared to the scenario where generators are directed to stay on at a lower APC and need significant compensation. Ultimately the total cost passed through for retailers should be lowered through effective and efficient cost-based dispatch and reduced compensation costs.

Any reduction in scarcity pricing relates to more thermal generation being available to operate during an APP, but also, assuming that price volatility occurs from the thermal generators bidding in a more cost reflective manner, a greater opportunity for pumped hydro and battery storage to participate through their charge and discharge cycles. The Reliability Panel noted in its recent recommendation for an increased level of APC that it would improve incentives for storage to participate during APP, given the \$300/MWh APC in June 2022 has been reported to have reduced the price signals for battery and pumped hydro to charge and discharge.

Conclusion

The net impact on the security and reliability of supply to consumers is expected to be positive. While unserved energy was avoided in June, the risk as noted by AEMO was elevated, and avoiding this risk in future is the key driver of the rule change.

The costs paid by consumers is expected to be lower as compensation costs from any future periods of APP and the associated market suspension are avoided. Higher spot prices that might occur in a future APP are covered by existing hedging instruments. The impact on contract costs, as retailers re-contract into the future, is expected to be minimal based on historical analysis of the impact of a higher APC on price outcomes during the June 2022 events, even before allowing for the probability the contract market might place on these events recurring.

QUESTION 4: IMPACTS

1. Do you agree that the impact of a change on the level of the APC for a temporary time period will have a relatively minor impact on the contract market based on observed price levels during June 2022's events?
2. Is this a fair reflection of the likely impact on the contract market of any change? Should any other factors be considered?
3. Do you agree that the impact of a change on retailer and end user costs is likely to be positive, provided retailers and end users are adequately hedged? If not, please state reasons for your answer?

ABBREVIATIONS

AEMC	Australian Energy Market Commission
AEMO	Australian Energy Market Operator
AER	Australian Energy Regulator
APC	Administered price cap
APP	Administered pricing period
ASX	Australian Securities Exchange
Commission	See AEMC
CPT	Cumulative price threshold
FEX	Financial and Energy Exchange
MCE	Ministerial Council on Energy
MPC	Market price cap
NEL	National Electricity Law
NEO	National electricity objective
ROP	Regional Override Price
RRP	Regional Reference Price
RSSR	Reliability standards and settings review