Note:

The AEMC wishes to amend the process for making a submission to this consultation paper, outlined on page iv under the heading 'How to make a written submission', to:

“Please email a pdf version of your submission to submissions@aemc.gov.au and reference the project code CRP0128.”

Australian Energy Market Commission

CONSULTATION PAPER

DRAFT OPPORTUNITY COST METHODOLOGIES

CLAIMANTS

Snowy Hydro Limited

Sunset Power International Pty Ltd trading as Delta Electricity

14 SEPTEMBER 2023

INQUIRIES

Australian Energy Market Commission
Level 15, 60 Castlereagh Street
Sydney NSW 2000

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

Reference: CRP0128

ABOUT THE AEMC

The AEMC reports to the energy ministers. We have two functions. We make and amend the national electricity, gas and energy retail rules and conduct independent reviews for the energy ministers.

ACKNOWLEDGEMENT OF COUNTRY

The AEMC acknowledges and shows respect for the traditional custodians of the many different lands across Australia on which we all live and work. We pay respect to all Elders past and present and the continuing connection of Aboriginal and Torres Strait Islander peoples to Country. The AEMC office is located on the land traditionally owned by the Gadigal people of the Eora nation.

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SUMMARY

Background

1 The National Electricity Rules (NER) under clause 3.14.6 and the Australian Energy Market Commission (AEMC or the Commission) compensation guidelines (Guidelines) set out a process for market participants to claim compensation for certain losses during an administered price period where the administered price cap (APC) or administered floor price is applied.

2 These arrangements are designed to protect market participants from losses during a price limit event to maintain the incentive for them to continue to supply or consume energy or services. In this way, administered pricing compensation supports a reliable supply of electricity to customers during price limit events.

3 This consultation paper relates to the following claims for administered pricing compensation, which both relate to the June 2022 administered price period (APP):

- Snowy Hydro Limited (SHL) has made a compensation claim for direct costs and opportunity costs. Its opportunity costs claim is in respect of Colongra, Laverton, Valley Power, (collectively substitute generation units), Tumut 3, Upper Tumut and Murray power stations (collectively affected generation units).
- Sunset Power International Pty Ltd trading as Delta Electricity (Delta) has made a compensation claim for opportunity costs only in respect of its Vales Point power station.

4 The Commission recognises the efforts of both claimants in continuing to supply energy during the administered price period in June 2022, thereby supporting the continued functioning of the energy market.

5 The Commission is required under clause 3.14.6(o) of the NER to publish claimants' proposed methodologies for valuing the claimants' opportunity costs, and the valuation methodology for each claimant we propose to use in assessing their claims for compensation for opportunity costs (draft opportunity cost methodologies), and to invite written submissions from the public. This consultation paper is published for that purpose. Public consultation does not occur for direct cost claims.

6 The views expressed in this consultation paper represent the Commission's current view as to the methodologies it proposes to use in determining the claimants' opportunity costs. Those views may change following the receipt and consideration of stakeholder submissions and further information or submissions provided by the claimants.

7 The purpose of this document is not to, and the Commission does not, express any concluded view on any other aspects of SHL's and Delta's claims for compensation.

8 The Commission will have regard to any written submissions made in response to this consultation paper under clause 3.14.6(p) of the NER, and any further consultation with the claimants under clause 3.14.6(r), before making a final decision (under clause 3.14.6(q)) on the methodology to be used in determining the claimants' opportunity costs, whether compensation should be paid to the claimants and, if so, the amount of compensation that should be paid.

Claimants must demonstrate a limitation

9 In accordance with the NER and the Guidelines, to make a claim for compensation for opportunity costs, a claimant must demonstrate that its plant has scarce capacity or resources because of a technical or commercial limitation that applied over the relevant period during a price limit event.

Calculating the value of a claimant's opportunity costs

10 In relation to claims for opportunity costs compensation from scheduled generators, the calculation of the value of a claimant's opportunity costs consists of a *quantity* component and a *price* component:

- The *quantity* component constitutes the quantum of generation that the claimant supplied to the NEM during the APP that is above what it would have preferred to supply, but for the application of the administered price cap.
- The *price* component is the price at which that quantum of generation is valued for the purposes of valuing the forgone opportunity.

Review of SHL's claim for opportunity costs

SHL's claimed limitation

11 SHL claims to have been subject to a technical limitation that restricts its ability to supply energy from its hydro-electric generation units. To demonstrate its claimed technical limitation, SHL provided the Commission with its water licence and a letter from the NSW Department of Planning and Environment outlining the risks of easing restrictions.

12 The Commission accepts that the over-utilisation of water in the first two months of the water year may restrict the ability for SHL to supply energy from its hydro-electric units at a later period of time, and that this may constitute a relevant technical limitation.

SHL's proposed methodology for valuing its claimed opportunity costs

13 In relation to the *quantity* component of SHL's claim, the Commission accepts that SHL's determination of the quantity of generation that applies to its forgone opportunity is appropriate.

14 In relation to the *price* component, SHL proposes a price based on the estimated short-run marginal costs of replacing generation from its hydro-electric units with generation from its diesel and gas units. It is a cost-based approach. The Commission's preliminary view is that:

- SHL's method is not the preferred method for valuing opportunity cost specified in the Guidelines – the preferred method is a market-based approach
- SHL has not demonstrated that an appropriate market-based valuation is not available to value its opportunity costs
- SHL has not demonstrated any compelling reason why the Commission should depart from the Guidelines in this respect.

Review of Delta's claim for opportunity costs

Delta's claimed limitation

15 Delta claims to have been subject to both a technical limitation that restricts its ability to supply energy, and a related commercial limitation. The claimed limitations both relate to Delta's claimed low coal stockpile level during the APP. Delta has proposed a market-based approach to determine its opportunity costs.

16 At this time, and based on the information provided by Delta to date, the Commission has some reservations as to whether Delta's claimed coal constraints during the APP actually give rise to a technical or commercial limitation.

Delta's proposed methodology for valuing its claimed opportunity costs

17 Nevertheless, the Commission has considered Delta's proposed valuation methodology on the assumption that a technical or commercial limitation can be established to the Commission's satisfaction.

18 The Commission does not propose any changes in relation to the *quantity* component of Delta's proposed valuation approach. Delta's preferred APP generation profile has been tested against the technical limits of the generating units and aligns with Delta's past generation at similar price points.

19 In relation to the *price* component, the Commission is supportive of Delta's proposal of a market-based approach and recognises this is consistent with the hierarchy of principles set out in section 5.3.4 in the Guidelines. However, the Commission proposes a change to one of the inputs into Delta's valuation methodology.

20 Delta has valued its forgone opportunity based on the revenues *it would have received* had it pursued a hypothetical 'optimised' generation profile in the 28 days following the APP (from 23 June 2022 to 21 July 2022). The Commission has reservations about this approach. Delta's optimised post-APP generation profile has been constructed at a time when there is full knowledge of prevailing spot prices across the relevant period in which the Compensation energy is valued. This is not knowledge that would have been possessed by the claimant or other market participants making bidding decisions at the time.

21 The Commission therefore proposes a different market-based approach to the price component of Delta's claim.

The Commission proposes a market-based valuation approach for SHL and Delta

22 As outlined above, the Commission does not propose any changes to the quantity component of each claim.

23 For the price component, however, the Commission proposes a market-based valuation approach that values each claimant's forgone opportunities, in line with the hierarchy of principles set out in the Guidelines, using a volume-weighted average price (VWAP) estimate. The estimate is different for each claim, and is based on the VWAP each claimant received for

generation from the units that are the subject of their claims in the 14 days preceding the APP, from 29 May 2022 to 12 June 2022.

24 In the Commission's view, this approach values the claimed forgone opportunities at prices each claimant accepted for generation from its generation units in a contemporaneous period. In this sense, it reflects the revealed preference of each claimant in relation to the units that are the subject of the claim. For SHL, the VWAP is based on its Tumut 3, Upper Tumut, and Murray generation units. For Delta, the VWAP is based on its Vales Point units.

25 The Commission proposes to calculate the VWAP across the two weeks preceding the APP because:

- a shorter period may not provide sufficient data points to determine a representative value for VWAP
- a longer period may be less representative of the prices prevailing around the time of the APP
- it represents the most contemporaneous value of energy generated in the market conditions prior to the event
- being prior to the APP event, it is free from the potential influence of any relevant limitations claimed.

How to make a submission to this process

26 We are seeking stakeholder feedback on our draft opportunity cost methodologies for SHL and Delta by 13 October 2023. You may make submissions on the draft opportunity cost methodology for SHL or for Delta, or for both. You may make submissions on the specific questions set out in this consultation paper, or any other aspect of the Commission's draft opportunity cost methodologies.

27 Stakeholder input on the draft opportunity cost methodologies will further inform our analysis of SHL and Delta's claims and will be considered in our final decisions.

We encourage you to make a submission

Stakeholders can help shape the solutions by participating in the consultation process. Engaging with stakeholders helps us understand the potential impacts of our decisions and, in so doing, contributes to well-informed, high quality decisions.

How to make a written submission

Due date: Written submissions responding to this consultation paper must be lodged with Commission by **13 October 2023**.

How to make a submission: Go to the Commission's website, www.aemc.gov.au, find the "lodge a submission" function under the "Contact Us" tab, and select the project reference code **CRP0128**.[1]

1 If you are not able to lodge a submission online, please contact us and we will provide instructions for alternative methods to lodge the submission.

Publication: The Commission publishes submissions on its website. However, we will not publish parts of a submission that we agree are confidential, or that we consider inappropriate (for example offensive or defamatory content, or content that is likely to infringe intellectual property rights).[2]

For more information, you can contact us

Please contact the project leader with questions or feedback at any stage.

Project leader:	Drew Butterworth
Email:	drew.butterworth@aemc.gov.au
Telephone:	02 8296 7883

QUESTION 1: DO STAKEHOLDERS CONSIDER THAT SHL HAD A TECHNICAL LIMITATION THAT APPLIED DURING THE APP?

QUESTION 2: WHAT ARE STAKEHOLDERS' OPINIONS ON THE AEMC'S PROPOSED METHODOLOGY TO VALUE SHL'S CLAIMED OPPORTUNITY COSTS?

QUESTION 3: DO STAKEHOLDERS CONSIDER THAT DELTA HAD A TECHNICAL OR COMMERCIAL LIMITATION THAT APPLIED DURING THE APP?

QUESTION 4: WHAT ARE STAKEHOLDERS' OPINIONS ON THE AEMC'S PROPOSED METHODOLOGY TO VALUE DELTA'S CLAIMED OPPORTUNITY COSTS?

2 Further information is available here: https://www.aemc.gov.au/contact-us/lodge-submission

CONTENTS

APPENDICES

TABLES

FIGURES

1 INTRODUCTION

1.1 What is administered pricing?

Sustained periods of abnormally high wholesale energy prices carry the potential to threaten the commercial viability of market participants, including energy retailers, and therefore the availability of energy for households and businesses. To manage this risk, at times when wholesale energy prices remain high for a sustained period, prices are temporarily 'capped' at a predetermined level (the Administered Price Cap (APC)).[3] Application of the APC shields customers from abnormally high energy prices, thereby providing for the continued functioning of the energy market.

1.2 What is the administered pricing compensation scheme?

The National Electricity Rules (NER) under clause 3.14.6 and the Australian Energy Market Commission (AEMC, or the Commission) compensation guidelines (21 October 2021)[4] set out a process for market participants to claim compensation for certain losses during an administered price period where the administered price cap (APC) or administered floor price is applied.

The administered pricing compensation framework is designed to protect participants such as generators, scheduled network service providers, scheduled loads, ancillary service providers and demand response service providers from losses during a price limit event to maintain the incentive for them to continue to supply (or consume) energy or services (as the case may be).

1.3 Market events in June 2022

On 12 June 2022, the cumulative price threshold (CPT) was exceeded for the Queensland region and the APC of $300/MWh was applied under clause 3.14.2(d1) of the NER from 6:55pm on that day. Price scaling applied to the other mainland National Electricity Market (NEM) regions when energy was flowing towards Queensland. On 13 June 2022, the CPT was exceeded in the NSW, Victoria and South Australia regions (from 6:35pm in NSW, 10:00pm in South Australia and 10:05pm in Victoria). The APC of $300/MWh was therefore applied in each mainland NEM region.

After the application of the $300/MWh APC, several generators rebid their energy volumes offered to the market, significantly reducing the generation capacity available for dispatch. Generators that maintained their supply to the NEM during this time supported the continued operation of the market, and the Commission recognises the efforts these generators made in light of the uncertainty they faced at the time.

Ultimately AEMO determined at 2:05pm on 15 June 2022 that it was necessary to suspend the spot market in all regions of the NEM under clause 3.14.3 of the NER. During this period

3 Clause 3.14.2 of the NER

4 AEMC, Compensation guidelines, Final guidelines, 21 October 2021. https://www.aemc.gov.au/sites/default/files/documents/final_amended_compensation_guidelines.pdf

of market suspension, spot prices were set in accordance with the market suspension pricing schedule published by AEMO. On 22 June 2022, AEMO released its criteria and process for lifting market suspension.

Administered price periods officially ended when the CPT was no longer exceeded. In South Australia, this occurred on 22 June 2022 and in New South Wales, Queensland and Victoria, this occurred on 23 June 2022. Normal dispatch pricing resumed on 23 June 2022. The market suspension was formally lifted by AEMO in all regions from 2:00pm on 24 June 2022.

Information on the background, context and purpose of administered pricing compensation is included in Appendix A. Information on the Commission's role and process for administered pricing compensation is included in Appendix B.

For further information on administered pricing compensation claims, see here https://www.aemc.gov.au/our-work/apc-claims.

2 HOW THE COMMISSION ASSESSES OPPORTUNITY COSTS

In assessing claims for compensation for opportunity costs, the Commission must have regard to:

- its functions under clause 3.14.6 of the NER
- the Guidelines
- its powers under the National Electricity Law
- the information and documents provided by SHL to support its claim (including any further information and documents provided in consultation with SHL pursuant to clause 3.14.6(q) of the NER)
- the information and documents provided by Delta to support its claim (including any further information and documents provided in consultation with Delta pursuant to clause 3.14.6(q) of the NER)
- the information provided by AEMO in accordance with the Guidelines
- written submissions in response to this consultation paper pursuant to clause 3.14.6(s)(1) of the NER.

As set out in the Guidelines, when performing its functions under clause 3.14.6 of the NER, the Commission is required to take all reasonable measures to protect from unauthorised use or disclosure information given to it in confidence.[5]

2.1 About the Guidelines

The Commission must apply the Guidelines unless it is satisfied that there are compelling reasons not to do so.[6] The Guidelines set out a definition of opportunity cost (for the purposes of clauses 3.14.6(a) and (e)(1) of the NER) and the methodology for calculating compensation for both direct and opportunity costs. In particular, the Guidelines set out, in section 5.3.4, a hierarchy of principles to be followed in choosing a method for valuing opportunity cost.

The version of the Guidelines published in October 2021 applies to the claims from June 2022 being assessed in this consultation paper and all references to the Guidelines in this consultation paper are references to the October 2021 version. The Guidelines were updated on 1 December 2022 as a result of the making of the *National Electricity Amendment (Amending the administered price cap) Rule 2022.*

2.2 Components of the total claimable amount

The Guidelines specify that for any type of claim, the total level of compensation is to be based on the following calculation:

5 Section 24, Australian Energy Market Commission Establishment Act 2004. Section 31 of the National Electricity Law.

6 Clause 3.14.6(s)(2) of the NER

$$TCA = \sum_{t} (DC_t + OC_t + OTH_t - REV_t)$$

Where:

- TCA = Total Claimable Amount.
- DC_t = Direct costs incurred in the eligibility period(s).
- OC_t = Opportunity costs incurred over the relevant period of time.
- REV_t = Actual or potential revenue.
- OTH_t = Any other adjustments to the amount of compensation payable to be taken into consideration by the Commission.
- t = relevant period of time for which a claim is being made.

2.3 Making a claim for opportunity costs compensation

Under clause 3.14.6(e)(1) of the NER, the types of opportunity costs that can be claimed are defined in the Guidelines. The Guidelines (pp12-13) define opportunity cost as:

> The value of the best alternative opportunity for eligible participants during the application of a price limit event or at a later point in time. The opportunity cost is the foreclosure of this alternative opportunity to use scarce capacity or resources more profitably at the same point in time or at a later point in time.

Opportunity costs only arise where capacity or resources are scarce. Resource constraints that apply during the price limit event, as defined in the Guidelines, may impact the ability to generate or to meet financial obligations either during or following the price limit event.

In accordance with the NER and the Guidelines, to make a claim for compensation for opportunity costs, claimants must demonstrate the following:

1. the claimant's total costs exceed its total revenue from the spot market (i.e. incur a net loss) over an entire eligibility period [7]
2. the claimant's plant has scarce capacity or resources because of a technical or commercial limitation that applied over the relevant period during a price limit event.[8]

Additional criteria may also apply depending on the type of claimant as indicated in the Guidelines.

Claimants must further outline the value of the more profitable alternative opportunity applying approaches in the following order, as noted in the hierarchy of principles set out in section 5.3.4 of the Guidelines:

1. a market-based valuation

7 Clause 3.14.6(b) of the NER
8 Section 5.3.3 of the Guidelines

2. a valuation applying market values over a similar past period (where an appropriate market-based valuation is not available)
3. an alternative methodology developed by the claimant (where neither 1 nor 2 is possible).

For further information, the full version of the Guidelines is available at https://www.aemc.gov.au/sites/default/files/documents/final_amended_compensation_guidelines.pdf

3 DETAILS OF SHL'S CLAIM

3.1 SHL's direct cost claim

On 21 June 2022, SHL provided notification of its intent to claim compensation in relation to the administered price period in Queensland, New South Wales, Victoria and South Australia between 12 June 2022 and 15 June 2022. For the purposes of this claim, this is the administered price period to which the claim relates. This notification was received within the prescribed timeframe in the NER.[9]

SHL is claiming direct costs in operating its Colongra (NSW), Laverton (VIC), Valley Power (VIC), Lonsdale (SA), Angaston (SA) and Port Stanvac (SA) gas and liquid fuel generating units. This claim is for the period commencing 6:00pm on 12 June 2022 and ceasing at 2:00pm on 15 June 2022. Each trading day (or part of a trading day) within this period is a separate eligibility period for the purposes of this claim.[10]

This consultation paper does not express a view on whether SHL is eligible for compensation (under clause 3.14.6(b) of the NER) in any or all of the eligibility periods claimed.

As public consultation does not occur for claims for directs costs, the Commission's assessment of SHL's claim for direct costs will be set out in the final decision.

3.2 SHL's opportunity cost claim

SHL is claiming opportunity costs in operating its Tumut3 (NSW), Upper Tumut (NSW) and Murray Hydro (NSW) units during the period commencing 6:00pm on 12 June 2022 and ceasing at 2:00pm on 15 June 2022. Each trading day (or part of a trading day) within this period is a separate eligibility period for the purposes of this claim.[11] In this paper, the Commission:

- details SHL's proposed valuation methodology to determine the opportunity cost
- reviews this proposed valuation methodology against section 5.3 of the Guidelines
- proposes a valuation methodology to determine the opportunity cost to align with section 5.3 of the Guidelines.

3.3 Information provided by SHL

SHL provided information to the Commission in accordance with the requirements in the Guidelines on 26 October 2022.

The Commission verified certain information provided by SHL with AEMO and received verification of the spot price, bid offers, generation and spot revenue during the period. Following this, two information requests were issued to SHL:

- on 3 February 2023, the AEMC had requested further information to clarify the following aspects of the claim, which was provided on 27 February 2023:

9 Clause 3.14.6(i) of the NER.
10 Clause 3.14.6(a) of the NER.
11 Clause 3.14.6(a) of the NER.

  - evidencing of its operational costs
  - description of its limitation due to its water licences
  - adjustments to the amount of compensation payable (compensation from other schemes).
- on 11 July 2023, the AEMC had requested the following additional information which SHL provided on 20 July 2023:
  - SHL's exposure to the electricity spot market
  - further evidence of operational costs
  - PASA information.

AEMO has also notified the Commission of other forms of compensation that the claimant has also received for the APP.

The Commission commenced formal assessment of SHL's compensation claim on 8 June 2023. Further details about the compensation process are set out in Appendix B. A timetable for determining SHL's compensation claim is set out in Appendix C.

3.4 Confidentiality

SHL made a claim for confidentiality in respect of its calculation of the total claimable amount, particulars of its costs in accordance with the categories of eligible costs in the Guidelines, details of its opportunity costs, and further information requested by the Commission to verify and substantiate SHL's compensation claim.

The discussion of SHL's claim in this document is partly constrained in order to protect SHL's confidential information.

4 METHODOLOGY PROPOSED BY SHL

This section summarises the submissions made by SHL in support of and relevant to its proposed methodology for determining its opportunity costs. The summary of those submissions here does not represent a finding that the Commission accepts those submissions. Those issues will be dealt with in the Commission's final decision on SHL's claim under clause 3.14.6(q) of the NER.

4.1 SHL's proposed methodology for determining opportunity costs

Generation from SHL's hydroelectric generation units is constrained as a function of SHL's water licence[12].

Issued on 28 June 2002 for a period of seventy-five years, SHL's water licence limits the amount of water that can be released to generate electricity across any given water year. The water year is a period between May and April (inclusive).

SHL claims that exceeding its water licence will impact downstream water security. SHL made a request to the NSW Department of Planning and Environment during the APP to increase its generation capacity. This request was declined due to a risk of flooding. SHL notes that a breach of its water licence could result in criminal sanctions.

During the APP, SHL deployed three of its hydroelectric generation units – Tumut 3, Upper Tumut and Murray (collectively the **affected generation units**). This resulted in a depletion of the volume of water able to be drawn down by SHL for generation purposes for the remainder of the water year (**lost water**).

4.2 SHL claims a technical limitation

SHL claims a technical limitation, as its water licence limits the amount of water that can be used across the water year.

SHL manages its allowable water flows based on forecasts throughout the year. This is to ensure SHL meets the requirements of its water licence and is available to run its generation units, whilst also maintaining water storage to protect irrigators during periods of drought or flooding events.

Over-utilising water early in the year places constraints on the capacity of the hydroelectric generators to generate later in the year.

4.3 SHL proposes a cost-based approach to value its opportunity cost claim

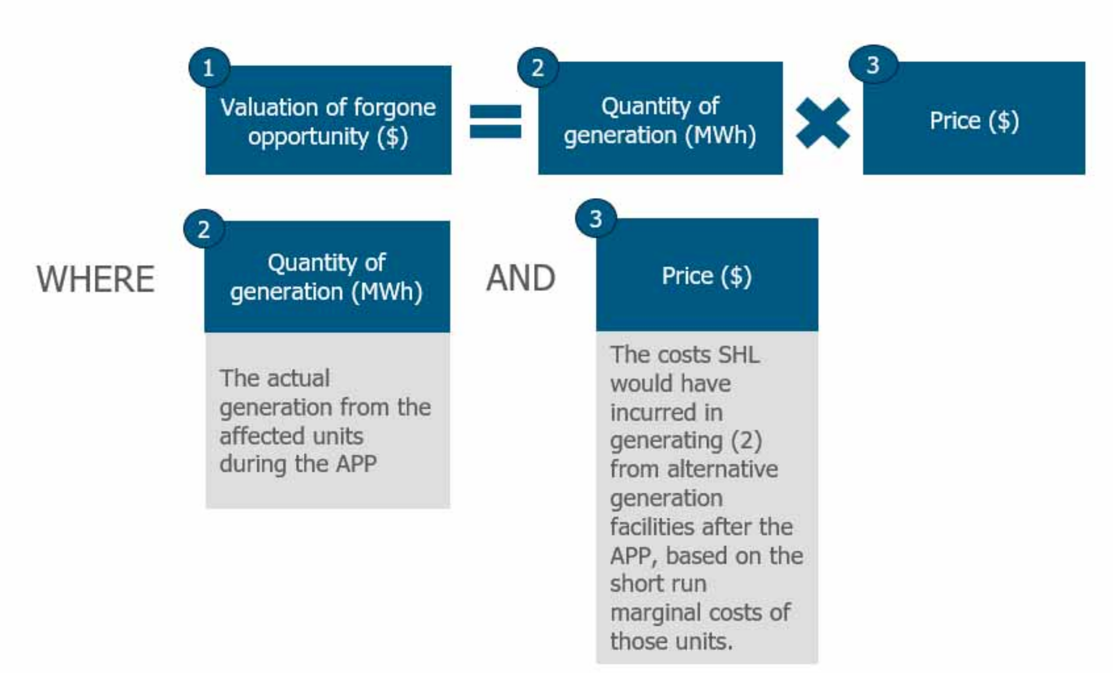
SHL claims that utilising its hydro-electric facilities to generate electricity during the APP constitutes a forgone opportunity to generate electricity for higher prices after the APP, using the same resources.

12 For more information see https://www.industry.nsw.gov.au/water/basins-catchments/snowy-river/corporate-licence

The value of the forgone opportunity comprises the quantum of energy claimed and the price attributed to this energy. SHL values this forgone opportunity by estimating the costs it would incur to replace the relevant quantum of energy generated from its hydro-electric units during the APP, with energy generated from its gas and diesel units after the APP.

Figure 4.1 shows the methodology proposed by SHL to value its opportunity cost claim. Note, this does not include the deduction of any actual or potential revenue earned (which will be undertaken separately in any final assessment of compensation payable in accordance with the formula set out in section 2.2 above).

Figure 4.1: SHL's proposed methodology for evaluating its opportunity cost claim.



Source: AEMC, 2023, based on information supplied by SHL.

The quantum of energy required to replace depleted storage resources with alternative fuels as a result of generation during the administered price period is defined by SHL as the *replacement amount*. The *replacement amount* is all of SHL's generation during the APP. That is, in effect, SHL claims that it would not have generated any energy from its affected generation units during the period of the APP and would instead have used its limited resources to generate energy at a later (and more profitable time) following the APP.

The costs of generating the *replacement amount* using its gas and diesel facilities include:

- fuel costs
- start-up costs

- the cost of demineralised water and urea, which are required in order to allow the Substitute Generation Units to operate in compliance with environmental licensing requirements
- wear and tear costs linked to the increased use of these assets as a result of them being used to replace hydro generation.

5 REVIEW OF SHL'S PROPOSED METHODOLOGY

5.1 Evidence in support of SHL's claimed technical limitation

To demonstrate its claimed technical limitation, SHL provided the Commission with:

1. its water licence
2. a letter from the NSW Department of Planning and Environment outlining the risks of easing restrictions.

This consultation paper proceeds on the assumption that SHL has provided sufficient evidence to demonstrate resource scarcity given the limitations on water flows. The Commission accepts that the over-utilisation of water in the first two months of the water year may restrict the ability for SHL's affected generation units to supply energy at a later period of time, and that this may constitute a relevant technical limitation.

5.2 SHL's proposed valuation methodology does not align with the hierarchy of principles

SHL's proposed methodology for valuing opportunity costs is based on the estimated short-run marginal costs of replacing generation from its hydro units with generation from its diesel and gas units. It is a cost-based approach.

Section 5.3.4 of the Guidelines provides a hierarchy of principles to be adopted by claimants when selecting a method to apply for valuing the relevant opportunity cost. It specifies that a market-based valuation approach is the preferred method, but permits alternatives in the event that an appropriate market-based valuation is not available.

SHL has not demonstrated that an appropriate market-based valuation approach is not available in the circumstances of its claim. Nor has it provided any reason why the Commission should depart from the Guidelines in relation to the hierarchy of principles set out in section 5.3.4 of the Guidelines.

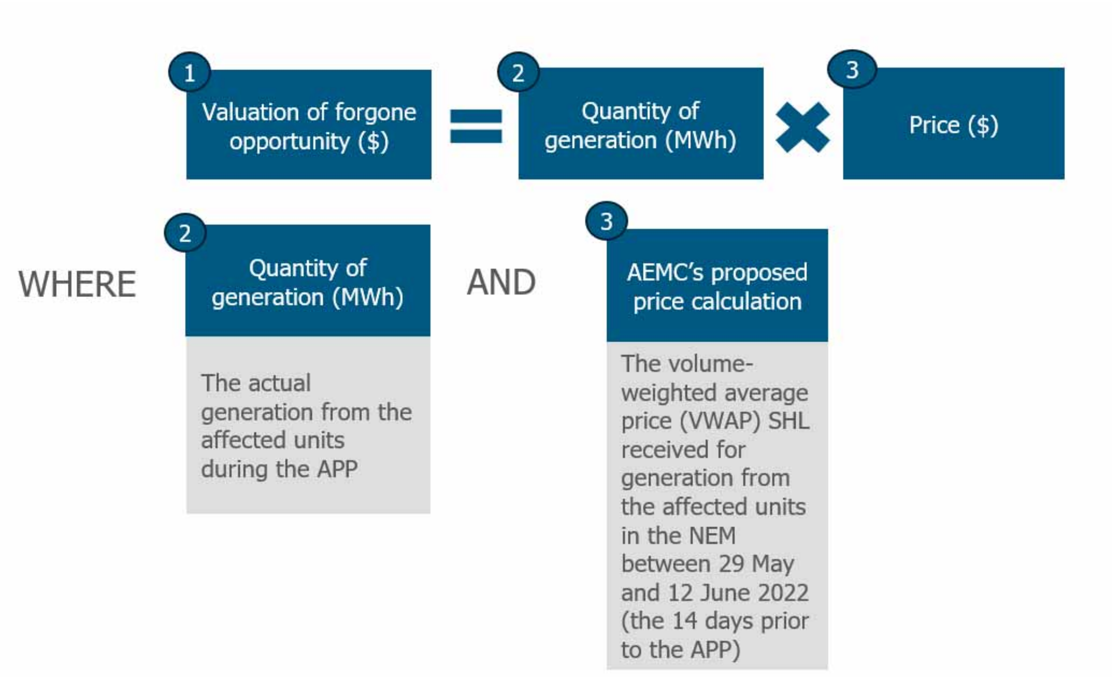
6 THE AEMC'S PROPOSED VALUATION METHODOLOGY FOR SHL'S OPPORTUNITY COSTS

The Commission's view is that the value of any forgone opportunity should be quantified by reference to SHL's forgone generation opportunities in the NEM for the Affected Generation Units in the period following the APP.

The Commission accepts that SHL's determination of the quantity of generation that applies to its forgone opportunity is appropriate. The Commission notes hydro-electric generation can be reduced to zero, which may not be the case for other types of generation facilities. Therefore, it is feasible that SHL could have reduced generation from its hydro-electric units to zero during the APP.

Figure 6.1 shows the Commission's proposed valuation methodology to determine SHL's opportunity cost claim.

Figure 6.1: Commission's proposed valuation methodology for SHL



Source: AEMC, 2023

The Commission proposes that an alternative market-based valuation would use each affected generating unit's volume-weighted average price (VWAP) for the period from 29 May to 12 June 2022. In the Commission's view, this approach values SHL's forgone opportunity at prices that SHL has accepted for generation from its affected units in a contemporaneous period. In this sense, it reflects the revealed preference of SHL in relation to the affected units. The period in which the VWAP is calculated is chosen because:

- a shorter period may not provide sufficient data points to determine a representative value for VWAP
- a longer period may be less representative of the prices prevailing around the time of the APP
- it represents the most contemporaneous value of energy generated in the market conditions prior to the event
- being prior to the APP event, it is free from the potential influence of any relevant limitations claimed, in that calculation of a VWAP based on SHL's affected units in periods after the APP event could arguably be influenced by its claimed limitation.

The proposed alternative methodology would use this calculation of VWAP to value SHL's **Replacement Amount**.

QUESTION 1: DO STAKEHOLDERS CONSIDER THAT SHL HAD A TECHNICAL LIMITATION THAT APPLIED DURING THE APP?

QUESTION 2: WHAT ARE STAKEHOLDERS' OPINIONS ON THE AEMC'S PROPOSED METHODOLOGY TO VALUE SHL'S CLAIMED OPPORTUNITY COSTS?

7 DETAILS OF DELTA'S OPPORTUNITY COST CLAIM

7.1 Delta's opportunity cost claim

On 21 June 2022, Delta provided notification of its intent to claim compensation in relation to the administered price period in Queensland and New South Wales between 12 June 2022 and 23 June 2022. For the purposes of this claim, this is the administered price period to which the claim relates. This notification was received within the prescribed timeframe in the NER.[13]

Delta is claiming compensation for its coal power station Vales Point (NSW). This power station is a scheduled generator registered to Delta.

Delta is claiming opportunity costs in operating its coal power station during the period commencing 6:55pm on 12 June 2022 and ceasing at 4:00am on 23 June 2022. Each trading day (or part of a trading day) within this period is a separate eligibility period as defined in clause 3.14.6 of the NER.[14]

This consultation paper does not express a view on whether Delta is eligible for compensation (under clause 3.14.6(b) of the NER) in any or all of the eligibility periods claimed.

7.2 Information provided by Delta

Delta provided information to the Commission in accordance with the requirements of the Guidelines on 6 December 2022.

The Commission verified certain information provided by Delta with AEMO and received verification of the spot price and generation and revenue earnt by Delta during the period. Following this, two information requests were issued to Delta:

- on 6 February 2023, the AEMC held a meeting with Delta and received further information from Delta supporting its claim on 16 February 2023.
- on 11 July 2023, further information was sought from Delta to evidence its minimum coal stockpile level, coal procurement endeavours, and communications with AEMO during the administered price period. Delta responded to the information request on 25 July 2023.

The Commission commenced formal assessment of Delta's compensation claim on 8 June 2023. Further details about the compensation process are set out in Appendix B. A timetable for determining Delta's compensation claim is set out in Appendix C.

7.3 Confidentiality

Delta made a claim for confidentiality in respect of its coal stockpile levels, PASA and maximum availability data as it relates to commercially sensitive information that could affect Delta's competitive position. These particulars relate to its claimed limitation. Delta also made

13 Clause 3.14.6(i) of the NER.

14 Clause 3.14.6(a) of the NER.

a claim for confidentiality of its generation data which affects the calculation of its claimable amount.

The discussion of Delta's claim in this document is partly constrained in order to protect Delta's confidential information.

8 METHODOLOGY PROPOSED BY DELTA

This section summarises the submissions made by Delta in support of and relevant to its proposed methodology for determining its opportunity costs. The summary of those submissions here does not represent a finding that the Commission accepts those submissions. Those issues will be dealt with in the Commission's final decision on Delta's claim under clause 3.14.6(q) of the NER.

8.1 Delta's proposed methodology for determining opportunity costs

Delta's Vales Point power station is a vertically integrated coal generator. Delta's parent company owns the nearby Chain Valley colliery which supplies coal for generation at Vales Point. Delta claims that its coal stockpile at the Vales Point power station fell to critically low levels during the APP. Delta claims that it:

- experienced geological issues at its neighbouring Chain Valley colliery preventing replenishment of its coal stockpile
- experienced procurement issues arising from some additional coal suppliers under-delivering on contracts
- responded to AEMO requests (not formal directions) to continue to generate during the APP at a level higher than Delta's preferred generation, despite its claimed low coal stockpile level.

8.2 Delta claims both a technical and a commercial limitation

Delta claims that both a technical and a commercial limitation applied during the APP arising from a coal constraint. Delta claims:

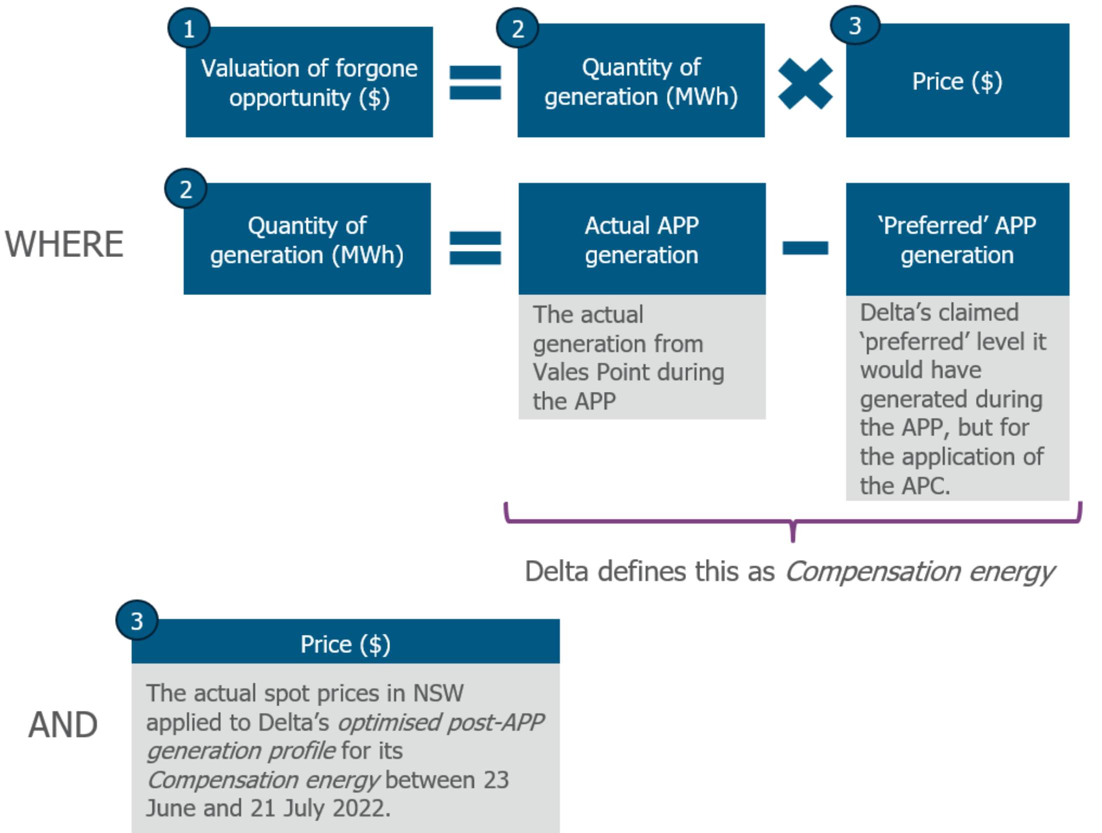
- a technical limitation at the time of the APP in its available coal, as the coal stockpile was at a critically low level with only approximately five days of coal left in the stockpile
- the technical limitation of very scarce coal and the price limit event then created a commercial limitation on Delta, as Delta consumed its scarce coal and produced energy at a lower (capped) price than its preferred approach to produce that energy after the price cap was lifted.

8.3 Delta proposes a market-based approach to value its claimed opportunity costs

Delta claims that due to its claimed coal shortfall during the APP, it experienced a forgone opportunity to use the same resources to generate for higher prices in the period following the APP. Delta's proposed valuation methodology for determining its claimed opportunity costs is a market-based valuation of this forgone generation opportunity.

The value of the forgone opportunity comprises the quantum of energy claimed and the price attributed to this energy. Figure 8.1 details Delta's proposed valuation methodology. Note, this does not include the deduction of any actual or potential revenue earned (which will be undertaken separately in any final assessment of compensation payable in accordance with the formula set out in section 2.2 above).

Figure 8.1: Delta's proposed valuation methodology for its claimed opportunity costs



Source: AEMC, 2023, based on information supplied by Delta

Delta's claim calculates the quantum of energy it produced above its preferred amount during the APP. It does this by outlining its *preferred APP generation* during the APP and calculating the difference against its *actual APP generation,* which is its actual generation during the APP. The *preferred APP generation* is based on operation at or above the plant's technical minimum generation, which Delta argues was its preferred response during the relevant period.

The difference between Delta's *preferred APP generation* during the APP and its *actual APP generation* is termed its *Compensation energy* in Delta's claim.

Delta then articulates an *optimised post-APP generation profile* it says it would have pursued in the periods following the APP, but for the application of the APC. This *optimised post-APP generation profile* comprises Delta's actual post-APP generation behaviour, adjusted to reflect how it claims it would have behaved but for the APP. In aggregate, it equates to the same quantum of energy as its *Compensation energy,* plus the generation it supplied to the NEM in the post-APP period.

Delta proposes to value its *Compensation energy* by estimating the prices it would have received for this energy had it pursued its *optimised post-APP generation profile*.

9 REVIEW OF DELTA'S PROPOSED METHODOLOGY

9.1 The Commission has reservations about Delta's claimed limitation

At this time, and based on the information provided by Delta to date, the Commission has some reservations as to whether Delta's claimed coal shortfall during the APP actually gives rise to a technical or commercial limitation.

9.2 Consideration of Delta's claimed technical limitation

Delta provided the Commission with data on its coal stockpile levels for the period July 2021 to August 2022. The reasons for the Commission's reservations about the claimed technical limitation include the following observations:

- The Commission's analysis of Delta's data indicates the stockpile had not reached a level that restricted Delta's ability to supply energy during the APP. The approximate level the stockpile reached during the APP had been reached prior to the APP and was reached again following the APP.
- The above observation is consistent with Delta's generation behaviour during the APP, in that it continued to supply energy from Vales Point.
- It is also consistent with Delta's PASA submissions to AEMO. Delta reported in its PASA that both generators were available to generate during the APP. Whilst its maximum availability reported in PASA fell during the APP, Delta reported each unit was available to generate above its preferred minimum generation during the APP. This may suggest its ability to supply was not substantially restricted.

These observations are captured in Figure 9.1, which depicts average daily generation from Delta's Vales Point units surrounding the APP, and a stylised version of Delta's coal stockpile levels during the same period. The coal stockpile level is stylised in order to protect Delta's claimed confidential information, and as such no specific figures are attributed to the stockpile level.

Figure 9.1: Delta's actual average daily generation and stylised stockpile level before, during and following the APP

Source: AEMC, 2023. Based on AEMO 2022 NEMWEB data.
Note: The stockpile levels represented in this figure are not to scale and are for illustrative purposes only.

9.3 Consideration of Delta's claimed commercial limitation

The reasons for the Commission's reservations about the claimed commercial limitation include the following observations:

- Delta claims that if the Vales Point coal stockpile were to decrease below its minimum target, then it would operate as 'resource constrained' and would conserve its generation. Delta claims this target has been established based on covenants with its financier. As part of its claim, Delta has provided the Commission with its coal stockpile levels from July 2021 to August 2022. The Commission notes that according to Delta's definition, Vales Point was resource-constrained from August 2021 through to August 2022.
- Delta has not provided evidence to substantiate the incurrence of any penalties relating to a failure to meet its contractual positions when the coal stockpile fell below this or other levels before, during or following the APP.
- Delta has not evidenced that it had insufficient coal available to meet any contract positions that would result in penalties or other commercial disincentives, either during or after the APP.

We are likewise interested in stakeholders' feedback on these issues.

9.4 Delta has proposed a market-based valuation methodology

While the Commission presently has reservations about the limitations claimed by Delta, we have nevertheless considered Delta's valuation methodology and set out the Commissions *draft opportunity costs methodology* on the assumption that the Commission is satisfied of the existence of a relevant technical or commercial limitation, to inform stakeholders' submissions.

Delta's claimed forgone opportunity relates to generation in the period following the APP. Delta claims it would have generated in a different manner following the APP, but for the application of the APC.

The forgone opportunity involves generating at higher levels in periods following the APP in trading intervals where the spot price exceeded a set threshold, within the constraints of the plant's technical limitations. The generation profile that Delta has claimed it would have pursued is defined as the *optimised post-APP generation profile*. Delta values its forgone opportunity based on the revenue it would have received in the NEM had its generation followed the *optimised post-APP generation profile*.

The valuation methodology proposed by Delta represents a market-based valuation in accordance with the hierarchy of principles outlined in section 5.3.4 of the Guidelines, and the Commission is broadly supportive of the approach. However, we note that the valuation methodology benefits materially from hindsight of actual spot prices in the NEM, and we therefore propose to use a slightly adjusted version of Delta's proposed valuation approach set out below.

10 THE AEMC'S PROPOSED VALUATION METHODOLOGY FOR DELTA'S OPPORTUNITY COSTS

The Commission proposes the following change to Delta's proposed valuation methodology:

- the price applied to value Delta's *Compensation energy* is Vales Point's actual VWAP between 29 May and 12 June 2022.

This period for calculating VWAP is chosen because:

- a shorter period may not provide sufficient data points to determine a representative value for VWAP
- a longer period may be less representative of the prices prevailing around the time of the APP
- it represents the most contemporaneous value of energy generated in the market conditions prior to the event
- being prior to the APP event, it is free from the potential influence of any relevant limitations claimed, in that calculation of a VWAP based on Delta's Vales Point units in periods after the APP event could arguably be influenced by its claimed limitation.

The Commission proposes this change as it considers that Delta's proposed approach benefits from perfect hindsight of spot prices in the NEM.

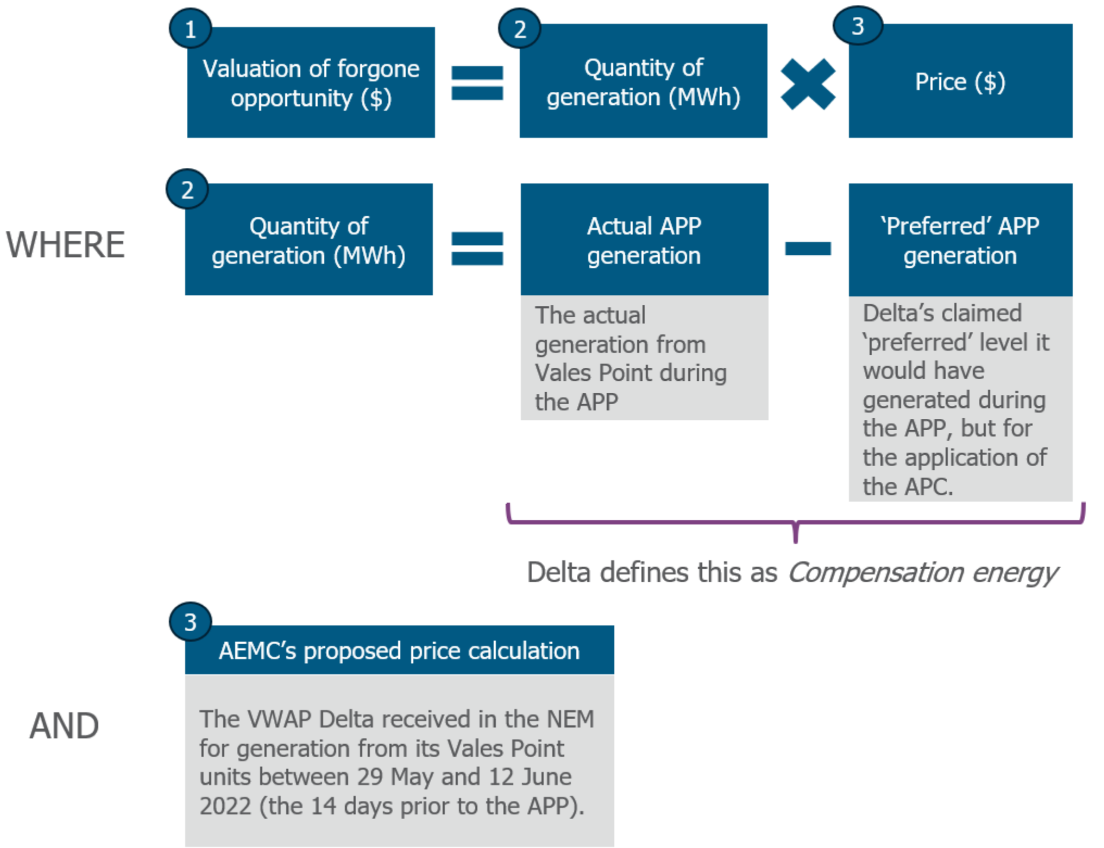
Delta's *optimised post-APP generation profile* has been constructed at a time when there is full knowledge of prevailing spot prices across the relevant period in which the *Compensation energy* is valued. This is not knowledge that would have been possessed by Delta or other market participants making bidding decisions at the time and, absent clear contemporaneous evidence of Delta's bidding strategy or objectives at that time, it is more difficult for the Commission to be satisfied that this is how Delta would have in fact acted but for the application of the APC.

The Commission's proposed approach removes this potential benefit of perfect hindsight of spot prices in the NEM. It instead values Delta's claimed forgone opportunity based on prices it accepted for generation from Vales Point in a comparable period. In the Commission's view, Delta's actual bidding and generation behaviour in a contemporaneous period is the preferable representation of the strategy it would likely have pursued in the period.

The Commission does not propose any changes to Delta's method to determine its quantity of *preferred APP generation*. The preferred APP generation profile has been tested against the technical limits of the generating units and aligns with Delta's past generation at similar price points.

Figure 10.1 outlines the Commission's proposed methodology for valuing Delta's claimed opportunity costs.

Figure 10.1: Commission's proposed methodology to value Delta's claimed opportunity costs.



Source: AEMC, 2023, based on analysis of information supplied by Delta.

QUESTION 3: DO STAKEHOLDERS CONSIDER THAT DELTA HAD A TECHNICAL OR COMMERCIAL LIMITATION THAT APPLIED DURING THE APP?

QUESTION 4: WHAT ARE STAKEHOLDERS' OPINIONS ON THE AEMC'S PROPOSED METHODOLOGY TO VALUE DELTA'S CLAIMED OPPORTUNITY COSTS?

ABBREVIATIONS

AEMC	Australian Energy Market Commission
AEMO	Australian Energy Market Operator
APC	Administered price cap
APP	Administered pricing period
CPT	Cumulative price threshold
Commission	See AEMC
Delta	Sunset Power International Pty Ltd trading as Delta Electricity
Guidelines	AEMC, Compensation guidelines, Final guidelines, 21 October 2021
NEM	National Electricity Market
NER	National Electricity Rules
SHL	Snowy Hydro Limited
VWAP	Volume weighted average price

A BACKGROUND AND PURPOSE OF ADMINISTERED PRICING COMPENSATION PROCESS

Wholesale spot prices in the National Electricity Market (NEM) can vary within a range of between minus $1,000 per MWh[15] and $15,500 per MWh.[16]

Persistent high or low prices can create risks for participants and impact the stability of the market. To limit this variation, at times of extreme prices where the cumulative price threshold (CPT)[17] is exceeded, the administered price cap of $600 per MWh and the administered floor price of -$600 per MWh is applied to spot prices.[18]

At the time of the June 2022 market events to which this claim for compensation relates:

- the MPC was $15,100/MWh[19]
- the CPT was $1,359,100; and[20]
- the APC was $300/MWh[21]

The NER under clause 3.14.6 and the AEMC compensation guidelines (published by the Commission under clause 3.14.6(e) of the NER) set out a process for market participants to claim compensation for certain losses incurred during an administered pricing period where the APC or administered floor price is applied.

The purpose of administered pricing compensation is to minimise disincentives during administered price periods

The potential for market participants such as generators, particularly those with high costs, to incur a loss during these administered price periods may create a disincentive for them to supply energy and ancillary services, which could in turn have a negative impact on the security and reliability of the electricity system.

To minimise these disincentives, the NER allow participants to claim administered pricing compensation if they incur a loss during price limit events, being periods in which the spot

15 This amount is the 'market floor price' under clause 3.9.6(b) of the NER.

16 This amount is the 'market price cap' (MPC) under clause 3.9.4 of the NER. Under clause 3.9.4(d) of the NER, the MPC must be adjusted in line with the consumer price index each year. At the time of the market events occurring in June 2022, the MPC was $15,100/MWh. As of 1 July 2022, the MPC is $15,500/MWh.

17 The CPT represents the limit of aggregate dispatch prices over a period of seven days (2,016 trading intervals). Under clause 3.14.1(e) of the NER, the CPT must be adjusted in line with the consumer price index each year. At the time of the market events occurring in June 2022, the CPT was $1,359,100. As of 1 July 2022, the CPT is now set at $1,398,100.

18 Clauses 3.14.1 and 11.155.2 of the NER.

19 Under clause 3.9.4(d) of the NER, the MPC must be adjusted in line with the consumer price index each year. As of 1 July 2022, the MPC is $15,500/MWh

20 Under clause 3.14.1(e) of the NER, the CPT must be adjusted in line with the consumer price index each year. As of 1 July 2022, the CPT is $1,398,100.

21 As a result of making the *National Electricity Amendment (Amending the administered price cap) Rule 2022*, the administered price cap is $600/MWh on and from 1 December 2022 until the end of 30 June 2025.

price is set by the APC during an administered price period.[22] The Commission administers this compensation process. Prior to June 2022, there has only been one claim for compensation arising from an administered price period, which occurred in January/February 2009.[23]

22 See clause 3.14.6 of the NER. A price limit event also includes where the spot price for a trading interval is set as a result of price scaling (i.e. the application of clause 3.14.2(e)(2)), and for market participants in respect of scheduled load where the spot price for a trading interval is set by the administered floor price or the result of price scaling (under clause 3.14.2(e)(4)), for scheduled network service providers the spot price for a trading interval for a region towards which it is transporting power is set by the APC or price scaling, and for ancillary service providers where the ancillary service price for a trading interval is set by the APC during an administered price period.

23 AEMC 2010, Compensation claim from Synergen Power Pty Ltd, Final decision, 8 September 2010. https://www.aemc.gov.au/markets-reviews-advice/compensation-claim-from-synergen-power

B THE COMMISSION'S ROLE AND PROCESS FOR ADMINISTERED PRICING COMPENSATION

Eligibility to claim for compensation

Parties eligible to make a claim for administered pricing compensation are:

- Scheduled Generators, Non-Scheduled Generators and Scheduled Network Service Providers to supply energy,
- Ancillary Service Providers to supply ancillary services,
- Market Participants with scheduled loads to consume energy, and
- Demand Response Service Providers to supply wholesale demand response

These parties can claim compensation if they supplied energy or other services during an administered pricing period and incurred a net loss. That is, their direct and/or opportunity costs exceeded their total revenue from the spot market over an entire "eligibility period" (the period from the first trading interval of a trading day where the spot price is set by the administered price cap, until the end of that trading day). There may be multiple eligibility periods within an administered price period.

Direct costs are costs directly incurred by eligible participants due to a price limit event.

Opportunity costs are the value of opportunities forgone by eligible participants due to the price limit event as defined in the compensation guidelines.

Making a claim

The compensation guidelines set out how participants can make a claim for compensation for direct costs and opportunity costs following the application of an APC. The Commission is required to apply the compensation guidelines in assessing claims for compensation unless it is satisfied there are compelling reasons not to do so.

If a party decides to make a claim, the following applies:

- The claimant must provide notification in writing that it is making a claim within five business days of notification by AEMO of the end of the administered price period to both:
    - AEMC at applications@aemc.gov.au
    - AEMO at NEMIntervention@aemo.com.au
    - This notification in writing will include the:
        - administered price period and price limit event (Price limit events(s) refer to a period in which the spot price is set by the APC during an administered price period or as a result of price scaling.
        - Region(s) in which the administered price period and price limit event applied.
    - The notification will state whether the claim is a direct cost claim or a claim that includes opportunity costs.

- It is possible to claim direct costs and opportunity costs for the same price limit event.

Commencing formal assessment of a claim

- After receiving the notification to make a claim, the Commission will publish a notice of receipt. The Commission will then seek information from the claimant that we consider required to enable assessment of the claim - if the claim includes opportunity costs, this information must include the methodology used by the claimant to determine its opportunity costs.
- The claimant subsequently provides substantiation. The onus is on the claimant to provide evidence and justification. There is no set time period for this step. Any claims of confidentiality in respect of information provided by the claimant to the Commission must be specified in the claim.
- The Commission will commence formal assessment as soon as practicable after receiving sufficient information from the claimant.
- A notice will be published on the AEMC website that formal assessment has started.

Assessing and making a final determination with respect to a claim

The assessment process for direct and opportunity costs is set out in the guidelines. Claims will be assessed in accordance with the statutory timeframes.

For **direct cost claims**, the following key steps apply:

1. Commencement of formal assessment (once sufficient information is received from claimant – see above)
2. Assessment of claim
3. Consultation with claimant
4. Final determination of compensation payable (45 business days after formal commencement)
5. The Commission notifies AEMO of final amount payable
6. AEMO includes details of amounts payable by or to market participants within 25 days of being notified by the Commission

For **opportunity cost** claims the following key steps apply.

1. Commencement of formal assessment (once sufficient information is received from claimant see above)
2. Publish claimant's proposed methodology and the Commission's proposed methodology for public consultation (no later than 35 business days following formal commencement)
3. Close of consultation on the opportunity cost methodology (minimum of 20 business days after publication of draft methodology)
4. Assessment of claim
5. Consultation with claimant
6. Final determination of compensation payable (no later than 35 business days following close of consultation on the opportunity cost methodology)

7. The Commission notifies AEMO of final amount payable
8. AEMO includes details of amounts payable by or to market participants within 25 days of being notified by the Commission

Recovery of the Commission's costs of claim

Under clause 3.14.6(v) of the NER, the Commission may recover from a claimant any costs incurred by the Commission in carrying out its functions in respect of its claim. The Commission may require the claimant to pay all or a proportion of those costs to the Commission prior to the claim being considered or determined.

The Commission will exercise its discretion in deciding whether to recover processing and administrative costs from the claimant and will assess any costs to be recovered from a claimant on a case-by-case basis.

C TIMETABLE OF THE PROCESS FOR OPPORTUNITY COSTS CLAIMS ASSESSMENT FOR SHL AND DELTA

The following table sets out the timing of the Commission's compensation assessment process for the Claimants' opportunity costs claims. These dates align with the statutory timeframes, however pursuant to 3.14.6(t) of the NER, the AEMC may extend the period of time if it considers the extension reasonably necessary to enable it to properly assess the claim because of the complexity or difficulty of assessing the claim or because of a material change in circumstances.

Table C.1: SHL

DATE	MILESTONE
21 June 2022	Notice of claim received
26 October 2022	Supporting information received
8 June 2023	Commencement of formal assessment
20 July 2023	Extension to publish the draft opportunity cost methodology
14 September 2023	Publish draft opportunity cost methodology
13 October 2023	Close of submissions on draft opportunity cost methodology
October-November 2023	Consultation with claimant
30 November 2023	Final decision published

Table C.2: Delta

DATE	MILESTONE
21 June 2022	Notice of claim received
6 December 2022	Supporting information received
8 June 2023	Commencement of formal assessment
20 July 2023	Extension to publish the draft opportunity cost methodology
14 September 2023	Publish draft opportunity cost methodology
13 October 2023	Close of submissions on draft opportunity cost methodology
October-November 2023	Consultation with claimant
30 November 2023	Final decision published