

Final report

Snowy Hydro Limited compensation claim for direct and opportunity costs

Snowy Hydro Limited

DETERMINATION

16 May 2024

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Executive Summary

- 1 Clause 3.14.6 of the National Electricity Rules (NER) 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 (APP) where the administered price cap (APC) or administered floor price is applied. The administered pricing compensation framework is designed to protect participants 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). In this way, administered pricing compensation supports a reliable supply of electricity to customers during price limit events.
- 2 Snowy Hydro Limited (SHL) has claimed compensation for direct and opportunity costs in respect of its Colongra (NSW), Laverton (Vic), Valley Power (Vic), Lonsdale (SA), Angaston (SA), Port Stanvac (SA), Tumut3 (NSW), Upper Tumut (NSW) and Murray Hydro (Vic) power stations following the application of the APC in Queensland (Qld), New South Wales (NSW), Victoria (Vic) and South Australia (SA) between 12 June 2022 and 15 June 2022.
- 3 Opportunity costs can be claimed where it is demonstrated that the claimant's plant has scarce capacity or resources as a result of a relevant commercial or technical limitation that applied over the relevant period. Opportunity cost means the value of the best alternative opportunity for an eligible participant to use that scarce capacity or resources more profitably during the application of a price limit event or at a later point in time.¹
- 4 SHL has claimed:
 - a total amount of [REDACTED] for opportunity costs compensation, related to its claimed forgone opportunity to generate more profitably in periods following the APP using its hydro units.
 - a total amount of [REDACTED] for direct costs compensation, which includes fuel costs, start costs, demineralised water and urea costs, and general wear and tear costs.
- 5 **SHL is entitled to opportunity costs compensation.**
- 6 Opportunity cost means the value of the best alternative opportunity for an eligible participant to use that scarce capacity or resources more profitably during the application of a price limit event or at a later point in time.² In assessing claims for opportunity costs compensation, the Commission seeks to answer the following two questions:
 1. Has the claimant demonstrated that it had scarce capacity or resources as a result of a relevant limitation?³
 2. If yes, has the claimant suffered the foreclosure of an alternative opportunity to use that scarce capacity or resource more profitably at the same point in time or at a later point in time,⁴ due to the imposition of the price cap?⁵
- 7 In regard to the first question, the Commission is satisfied that SHL has demonstrated a technical limitation in regard to its hydro generating units which are the subject of its opportunity costs claim.
- 8 In regard to the second question, the Commission agrees with SHL that by generating energy from

1 Section 5.3.1 of the guidelines

2 Section 5.3.1. of the guidelines.

3 Sections 5.3.2 and 5.3.3 of the guidelines.

4 Section 5.3.1 of the guidelines.

5 Clause 3.14.6(a) of the NER.

its hydro generators during the APP, using its scarce water resource, it foreclosed the opportunity to use the same water resource to generate energy more profitably at a later point in time. The Commission has therefore determined that SHL is eligible for opportunity costs compensation.

9 The Commission values SHL's opportunity costs based on the volume-weighted average price (VWAP) SHL received.

10 We consider that the value of the forgone opportunity should be the revenue associated with the alternative opportunity less the costs that would have been incurred in pursuing it. This means that the value of opportunity costs reflects the profit forgone and not the revenue forgone.

11 The Commission's approach to estimating SHL's forgone opportunity is to take:

- the quantity of generation associated with the forgone opportunity
- multiplied by the estimated market price, estimated using the volume-weighted average price (VWAP) each generating unit received in the two-week period preceding the APP
- less the estimated costs that SHL would have incurred in pursuing the alternative opportunity.

12 The Commission's approach to valuing SHL's opportunity costs has the following features:

- It is a market-based approach consistent with the hierarchy of principles outlined in the guidelines.
- It leaves the claimant in the position it would have been in had it pursued its alternative, more profitable, opportunity.
- It supports the objective of the compensation framework, which is to maintain the incentive to supply services during an APP, in that the approach:
 - is transparent and repeatable, and furthermore it is generalisable to other market participants as the information on which it is based is publicly available
 - allows market participants to make informed decisions during a future APP, as participants can calculate the relevant VWAP that may apply to a compensation claim and bid their unit or units accordingly
- A VWAP calculated across the two-week period prior to the APP is preferred to one calculated after the APP, because the latter may be influenced by any relevant limitations claimed.

13 The Commission considers that SHL's opportunity cost should not be valued as SHL proposed in its claim. That is, it should not be valued based on the costs SHL would incur to run its alternative gas and diesel generators following the APP. This is because:

- SHL's proposed methodology is cost-based and is therefore not aligned with the hierarchy of principles outlined in the guidelines. SHL has not demonstrated that a market-based methodology is not available in the circumstances of the claim.
- SHL's methodology does not take into account the costs that would have been incurred to realise the forgone opportunity.

14 SHL is entitled to direct cost compensation.

15 The Commission has verified the information submitted by SHL in respect of its direct cost claim. Several adjustments to SHL's claim were necessary based on application of the NER and guidelines:

1. SHL's total costs and revenues were assessed over the entirety of each eligibility period.
2. The Commission found there were compelling reasons to depart from the guidelines in respect to periods which are the subject of a separate compensation claim that has already been determined and awarded.

3. AEMO's settlement data was used to determine generation and settlement amounts that inform the claim quantum. The Commission has decided that it is appropriate to use AEMO's data in determining the amount of compensation payable, given any settlement amounts payable to a participant, including spot market revenue, are ultimately calculated by AEMO based on AEMO's data.

16 SHL is to be paid compensation of \$11,206,127 (ex GST).

17 The Commission is satisfied that:

- SHL is eligible to claim compensation for the eligibility periods commencing on 14 and 15 June 2022 as it had incurred a net loss on these trading days
- SHL is not eligible for the eligibility periods commencing on 12 and 13 June 2022 as it did not incur a net loss on these trading days (its total costs did not exceed the total revenues it received from the spot market)
- there is a compelling reason for the Commission to depart from the guidelines in relation to the assessment of compensation for periods where compensation has already been assessed on 14 and 15 June 2022
- SHL notified the AEMC and AEMO of its intention to claim compensation in accordance with clause 3.14.6(h) and (i) of the NER
- the information provided by SHL to support and substantiate its claim complies with the guidelines
- the opportunity costs to be awarded to SHL are consistent with the definition of opportunity costs outlined in the guidelines
- the direct costs claimed by SHL are consistent with the categories of cost permitted in the guidelines.

18 The total compensation amount for SHL's claim is calculated as follows:

- opportunity costs incurred over the relevant eligibility period(s)
- plus direct costs incurred in the eligibility period(s)
- minus actual revenue from the spot market.

19 The Commission has determined that SHL is entitled to compensation in respect of its compensation claim, and that the amount of compensation that should be paid by AEMO is \$11,206,127 (exclusive of GST).

20 The Commission will write to AEMO to advise of the total amount of compensation payable to SHL for each relevant eligibility period by trading interval, exclusive of GST. AEMO will then recover the cost of compensation from market customers who purchased energy from the spot market in the relevant eligibility periods in the cost recovery region(s).⁶

21 We considered stakeholder input in making our decision

22 On 14 September 2023, the Commission published the draft opportunity cost methodology (DOCM), which outlined SHL's proposed methodology for determining its opportunity costs and the alternative methodology the Commission proposed to use.

23 The Commission received submissions on the DOCM pertaining to SHL's opportunity cost claim, from the Energy Users Association of Australia (EUAA), Australian Energy Council (AEC) and SHL:

⁶ Clause 3.15.10 of the NER.

- The EUAA supported the Commission’s position on SHL’s claimed limitation and the methodology proposed by the Commission to determine SHL’s opportunity costs.
- The AEC did not comment on the specifics of SHL’s claim or the Commission’s draft methodology, but emphasised the importance of market participants having confidence in the integrity of the compensation arrangements so that the arrangements continue to maintain the incentive to participate in the market during future price limit events.
- SHL disagreed with the Commission’s proposed alternative methodology to value SHL’s opportunity costs, and provided reasons to support its proposed methodology. SHL agreed with the Commission’s preliminary views on SHL’s limitation and quantity of forgone generation.

24 On 20 December 2023, the Commission provided a draft decision to SHL for the purposes of consultation under clause 3.14.6(r) of the NER. The draft decision outlined the Commission’s draft assessment of SHL’s direct and opportunity costs claim.

25 The Commission has taken all stakeholder submissions into account, including SHL’s response to the draft decision, in making this final decision.

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1 SHL's claim

1.1 Overview of SHL's claim

On 21 June 2022, SHL provided notification of its intent to claim compensation in relation to the administered price period in Qld, NSW, Vic and SA between 12 June 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 time frame in the NER.⁷

SHL is registered by AEMO as a generator under the NER, and the units SHL is claiming compensation for are classified as scheduled generating units under Chapter 2 of the NER.

SHL claims various costs during the period commencing 6:55pm 12 June 2022 and ceasing 2:05pm 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.⁸

1.2 SHL's direct costs claim

SHL claims 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, and Tumut3 (NSW), Upper Tumut (NSW), and Murray Hydro (Vic) hydro generating units.

The costs claimed are consistent with the categories of direct costs outlined in the Guidelines.

1.3 SHL's opportunity costs claim

SHL claims opportunity costs in operating its Tumut3 (NSW), Upper Tumut (NSW), and Murray Hydro (Vic) hydro generating units.

1.3.1 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.⁹

SHL's water licence, issued on 28 June 2002 for a period of seventy-five years, 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 manages its allowable water flows based on forecasts throughout the year. This is to ensure SHL meets the requirements of its water licence and that water is available to run its generation units, while 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.

During the APP, SHL made a request to the NSW Department of Planning and Environment 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.

⁷ Clause 3.14.6(i) of the NER.

⁸ Clause 3.14.6(a) of the NER.

⁹ For more information see <https://www.industry.nsw.gov.au/water/basins-catchments/snowy-river/corporate-licence>.

1.3.2 SHL claims its forgone opportunity occurred after the APP

During the APP, SHL deployed three of its hydroelectric generation units – Tumut 3, Upper Tumut and Murray (collectively the affected generation units). SHL claims it provided generation from its hydroelectric generation facilities to support the market during the APP. 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.

SHL claims that utilising its hydro-electric facilities to generate electricity during the APP caused it to forgo the opportunity to generate electricity for higher prices after the APP (between 24 June and 25 July 2022), using the same resources.

1.3.3 SHL's valuation of its claimed opportunity cost

SHL values its 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.

The quantum of energy claimed by SHL is the actual generation from its affected units (Tumut3 (NSW), Upper Tumut (NSW) and Murray Hydro (Vic)) during the APP.

The price at which SHL values the quantum of energy is the costs SHL would have incurred in generating the energy from its alternative gas and diesel generation facilities after the APP, based on the short-run marginal costs of those units.

1.4 Information provided by SHL and AEMO

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 market revenue during the period. Following this, three information requests were issued to SHL:

- On 3 February 2023, the AEMC requested additional information to support SHL's claim. SHL provided a response to this request on 27 February 2023.
- On 11 July 2023, further information was sought from SHL including its exposure to the electricity spot market. SHL responded to the information request on 20 July 2023.
- On 19 October 2023, the AEMC requested further detailed information to support SHL's claim. SHL responded to the information request on 10 November 2023.

SHL also provided further information in its submission to the DOCM and in response to the Commission's draft decision, provided to SHL in December 2023. AEMO notified the Commission of other forms of compensation that the claimant has received (and/or applied for) for the relevant period.

The Commission commenced formal assessment of the compensation claim on 8 June 2023. Details about the compensation process, including the Commission's role, are provided in appendix B. A chronology of this compensation assessment process is provided in Appendix C.

1.5 Confidentiality

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

As set out in the guidelines, when performing its functions under clause 3.14.6 of the NER, the AEMC is required to take all reasonable measures to protect from unauthorised use or disclosure of information given to it in confidence.¹⁰

¹⁰ Section 24, Australian Energy Market Commission Establishment Act 2004. Section 31 of the National Electricity Law.

2 The Commission's assessment of SHL's claim

In assessing SHL's claim for compensation, the Commission has had regard to:

- its functions and the administered pricing compensation process under clause 3.14.6 of the NER
- the guidelines¹¹
- its powers under the National Electricity Law
- 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(r) of the NER
- submissions received on the draft opportunity cost methodology for SHL's claim
- information provided by AEMO in accordance with the guidelines.
- SHL's response to the draft decision.

2.1 Eligibility to claim compensation

2.1.1 SHL is a party eligible to apply for compensation

SHL meets the eligibility criteria set out in the NER in regards to making a claim for administered pricing compensation (subject to the requirement that it has incurred total costs during each eligibility period that excess the total revenue it received from the spot market during that period).¹²

SHL is registered with AEMO as a generator and is a party eligible to apply for compensation with respect to its scheduled generating units:

- for its direct cost claim: Colongra (NSW), Laverton (Vic), Valley Power (Vic), Lonsdale (SA), Angaston (SA), Port Stanvac (SA) gas and liquid fuel generating units, and Tumut3 (NSW), Upper Tumut (NSW), and Murray Hydro (Vic) hydro generating units
- for its opportunity cost claim: Tumut3 (NSW), Upper Tumut (NSW), and Murray Hydro (Vic) hydro generating units.

SHL is claiming compensation in relation to the above power stations. AEMO has confirmed that these generating units were dispatched during the APP.

2.1.2 SHL is eligible to claim opportunity cost compensation

Requirements of the NER and the guidelines

Clause 3.14.6(a) of the NER defines opportunity costs as the value of opportunities forgone by the claimant due to the price limit event as defined in the guidelines.

The guidelines require that the claimant must demonstrate that its plant had relevant technical and/or commercial limitations that applied over the relevant period.¹³

In considering these provisions, a claimant must demonstrate that:

¹¹ AEMC, *Compensation guidelines*, Final guidelines, 21 October 2021.
https://www.aemc.gov.au/sites/default/files/documents/final_amended_compensation_guidelines.pdf.

¹² Clause 3.14.6(b) of the NER.

¹³ Section 5.3.3 of the guidelines.

- its plant had a capacity or resource scarcity that restricted its ability to supply energy during a price limit event, or at a later period of time, giving rise to a technical limitation¹⁴ or
- its plant had commercial incentives or disincentives on using capacity or resources in supplying energy during a price limit event, or at a later period of time, giving rise to a commercial limitation.¹⁵

For a scheduled generator such as those the subject of SHL's opportunity cost claim, a price limit event is defined as when the spot price for a trading interval is set by the administered price cap during an administered price period.¹⁶ Combined with the definition of opportunity costs in the NER (as set out above), this means that a claimant must demonstrate that its claimed alternative opportunity was forgone due to the imposition of a price cap.

The Commission's application of the NER and guidelines to an opportunity costs claim

Considering the requirements of the NER and guidelines, the Commission seeks to answer the following two questions in assessing claims for opportunity costs:

1. Has the claimant demonstrated that it had scarce capacity or resources as a result of a relevant (technical or commercial) limitation?¹⁷ If no, the claimant is not eligible to claim compensation.
2. If yes, has the claimant suffered the foreclosure of an alternative opportunity to use that scarce capacity or resource more profitably at the same point in time or at a later point in time,¹⁸ as a result of the imposition of a price cap?¹⁹

The answers to these questions in the context of SHL's claim are explored below.

SHL demonstrated a technical limitation due to restrictions imposed by its water licence

The answer to the first question is yes.

The Commission is satisfied that SHL has demonstrated a technical limitation in regard to its hydro generating units which are the subject of its opportunity costs claim. This is based on the information provided by SHL regarding limitations imposed by its water licence on the amount of water that can be used across the year,²⁰ and the risks associated with easing water restrictions. Submissions received on the DOCM were supportive of this assessment, with the EUAA agreeing with the AEMC that SHL had provided sufficient evidence.

SHL suffered the foreclosure of an alternative opportunity due to the application of a price cap

The answer to the second question is yes.

SHL claims it used generation from its hydroelectric generation facilities to support the market during the APP. The Commission accepts that:

- SHL used generation from its hydroelectric facilities to support the market, and that it could have instead reduced its generation to zero

14 Section 5.3.3(1) of the guidelines.

15 Section 5.3.3(2) of the guidelines.

16 Under clause 3.14.6 (a) of the NER.

17 Sections 5.3.2 and 5.3.3 of the guidelines.

18 Section 5.3.1 of the guidelines.

19 Clause 3.14.6(a) of the NER.

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

- In generating energy from its hydro generators during the APP, SHL depleted its scarce water resource. This constituted foreclosure of the opportunity to use the same water to generate energy at a later, and more profitable, point in time.
- SHL's water licence limits its ability to acquire additional water for energy generation across a water year. Therefore, the use of water to generate in one part of the water year precludes the opportunity to use that same water for generation at a later time in the water year.

Assessment of eligibility for individual eligibility periods depends on the method for valuing opportunity costs

SHL's eligibility to claim compensation for individual eligibility periods²¹ can only be assessed following determination of the methodology for valuing its claimed opportunity costs. This is because the equation to be applied in determining eligibility in an eligibility period includes the estimated opportunity costs (refer Figure 2.1).²² Given this, the discussion of SHL's eligibility to claim compensation for individual eligibility periods is provided in section 3.1, following the discussion of the opportunity costs methodology.

2.2 The Commission's determination of the opportunity costs methodology

2.2.1 The Commission's approach to valuing opportunity costs

Opportunity costs can be claimed where it is demonstrated that a claimant's plant has scarce capacity or resources as a result of a relevant limitation (commercial or technical) that applied over the relevant period. Opportunity cost means the value of the best alternative opportunity for an eligible participant to use that scarce capacity or resources more profitably during the application of a price limit event or at a later point in time.²³

In determining claims for opportunity costs, the Commission must assess the claimant's eligibility and its opportunity cost methodology. The Commission must also apply the guidelines,²⁴ consult with the claimant,²⁵ and take into account the submissions made in response to the DOCM.²⁶

The Commission considers that the value of a claimant's forgone opportunity should:

1. be consistent with the guidelines, be based on a market-based methodology, unless such a methodology is unavailable in the circumstances of the claim,
2. in terms of the compensation outcome, leave the claimant in the position it would have been in had it pursued its alternative, more profitable, opportunity.

2.2.2 Valuation of SHL's opportunity costs

The value of the forgone opportunity is the profit forgone from not having the resource available during the APP or at a later point in time (because the scarce capacity or resource was used during the APP). This can be estimated by assessing the potential revenue that could have been earned from dispatching the energy in the market, less the cost incurred to generate the energy.

21 Clause 3.14.6(a) of the NER.

22 The test for eligibility in clause 3.14.6(b) of the NER refers to "total costs", which is defined in clause 3.14.6(a) to include both direct costs and opportunity costs determined in accordance with the guidelines.

23 Section 5.3.1. of the guidelines.

24 Clauses 3.14.6(n) and 3.14.6(s)(2) of the NER.

25 Clause 3.14.6(r) of the NER.

26 Clause 3.14.6(s)(1) of the NER.

For SHL's claim, the value of the forgone opportunity can be calculated by first estimating the likely revenue forgone from generating energy, then deducting the likely cost of generating that energy. This achieves the second point above in section 2.2.1, in that the claimant's position post-compensation is that which would have occurred had it pursued its alternative opportunity. It is this approach that the Commission has determined to apply to SHL's claim.

The total claimable amount is determined using the formula given in the below figure.

Figure 2.1: Equation to determine the total claimable amount

$$TCA = \sum_t (DC_t + OC_t + OTH_t - REV_t)$$

Source: AEMC guidelines, 2021, Figure 5.1

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. The claimant is to define the time period(s) for which it is making a claim for compensation which should be limited to periods where the price limit event applies. The relevant time period may vary depending on the type of claim. The AEMC would assess whether the claimant has demonstrated the requirements for a claim in the relevant time period(s).

In the context of SHL's claim, the Commission's approach to evaluating the OC_t variable in the above formula is as follows:

Figure 2.2: Opportunity costs incurred over the relevant period of time

$$OC_t = REV_{t*} - DC_{t*}$$

Source: AEMC, 2023

Where:

- REV_{t*} = The potential revenue associated with SHL's alternative opportunity, in the period of time in which the opportunity lies (noting this may be estimated by reference to another period).
- DC_{t*} = The direct costs that would have been incurred had SHL pursued its alternative opportunity, in the period of time in which the opportunity lies.

- t^* = The period of time in which the forgone opportunity lies. SHL claims this period is 24 June 2022 to 25 July 2022 (noting the quantity of generation claimed within this period is less than the total energy generated by SHL's generating units in this period).

The potential revenue associated with the alternative opportunity (Rev_{t^*}) should reflect the *quantity* of energy generated multiplied by the *price* of the energy generated.

2.2.3 The AEMC agrees with SHL on the quantity of generation that applies to its forgone opportunity

With respect to the *quantity* component of revenue, the Commission's view is that SHL's determination of the quantity of generation that applies to its forgone opportunity is appropriate. The Commission accepts that SHL supplied positive generation from its hydroelectric facilities during the APP and that it could have instead reduced its generation from these facilities to zero and used its scarce water resource to generate energy at a later point in time.

2.2.4 The Commission values SHL's alternative opportunity using a market-based approach

The Commission has determined that an alternative methodology to that proposed by SHL should apply to the valuation of SHL's opportunity costs.

The methodology to be applied to estimating forgone revenue (Rev_{t^*}) is to use the volume-weighted average price (VWAP) that each affected generating unit received in the two weeks immediately prior to the APP, that is from 29 May to 12 June 2022.²⁷

The Commission considers that the best method to estimate the costs (DC_{t^*}) to be deducted from estimated forgone revenue (Rev_{t^*}) is to use the direct costs that SHL incurred in generating from its hydro units during the APP, as a proxy. The Commission considers that these costs are likely very similar to, if not the same as, the costs SHL would have incurred in pursuing its alternative opportunity. The Commission believes this is appropriate because the volume of energy is the same during the APP and the alternative opportunity, and the nature of a hydro plant means that the start and wear and tear costs are likely to be the same.

The Commission considers that using the VWAP that each affected generating unit received in the two weeks immediately prior to the APP (rather than the VWAP for the period of the claimed alternative opportunity) is appropriate for the assessment of revenue for SHL's opportunity costs claim. This is because:

- it is a market-based approach consistent with the second tier in the hierarchy of principles outlined in the guidelines
- the VWAP that the affected generating units received in the two-week period prior to the APP is reflective of the prices prevailing at the time SHL claims its forgone opportunity lies, which is the 28-day period following the APP
 - 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.

2.2.5 The Commission's approach aligns with the objective of the compensation scheme

The Commission seeks to apply a transparent and repeatable approach, to the extent possible and where appropriate to the claim, to its assessment of claims for opportunity costs. We consider

²⁷ This is the same methodology that the Commission proposed to use in the DOCM.

that this supports the stated objective²⁸ of the administered pricing compensation framework, which is to maintain the incentive for market participants to provide services during a price limit event.

The VWAP approach supports the framework objective. It references public information, available to all potential claimants. By referencing past prices, the approach allows a potential claimant to estimate, at the commencement of an APP, the price that could be applied to valuation of revenue associated with a forgone opportunity in the context of a potential opportunity cost claim. This allows market participants to make more informed decisions during a future APP. We consider that under these conditions, market participants are more likely to continue to supply services to the market during an APP.

We offer the following observations in respect of the VWAP approach applied to SHL's claim:

- A VWAP calculated post-APP may be influenced by any relevant limitations claimed. This is because the calculation of a VWAP based on SHL's affected units in periods after the APP event could arguably be influenced by its claimed limitation. It is for this reason that the first tier in the guidelines' hierarchy of principles, which would require a market-based valuation in the period after the APP in the context of SHL's claim, is considered not to be appropriate in the circumstances of this claim.
- A VWAP calculated prior to the APP is likely to be relatively generous in the context of prevailing market prices across the year, and therefore is likely to support a potential claimant's decision to continue to supply energy during an APP. That is to say, by virtue of being before an APP, the VWAP will capture the escalating prices that led to the breach of the cumulative price threshold, which are naturally relatively high prices.
- The prices in the two-week period prior to an APP are very likely to result in a VWAP that is higher than the price used in a directions compensation outcome. This approach therefore supports a participant's decision to continue to supply energy during an APP rather than bidding unavailable and awaiting a direction from AEMO, which is an alternative choice a potential claimant could make.

The Commission notes that all administered pricing compensation claims are assessed on their individual merits, and decisions on one claim do not necessarily mean that the Commission will decide in the same way on another claim.

2.2.6 The AEMC does not accept SHL's proposed valuation approach

SHL's approach to valuing its forgone opportunity is cost-based

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 where an appropriate market-based valuation is not available.

With respect to the *price* component of revenue, SHL proposes to value its forgone opportunity using the short run marginal costs (SRMC) of its gas and diesel units incurred in the period after the APP. SHL argues that it deployed these units after the APP to defend its contract position.

The Commission's view is that SHL's proposed approach to valuing its forgone opportunity is cost-based, and not market-based. It therefore does not accord with the hierarchy of principles outlined in the guidelines where an appropriate market-based approach is available.

²⁸ Clause 3.14.6(c) of the NER.

Despite SHL's argument that OCGTs can be a proxy to hydro, the SRMC is based on a build-up of direct costs.

The Commission considers that SHL has not demonstrated that an appropriate market-based valuation approach is not available in the circumstances of its claim. Nor did it provide compelling reasons why the Commission should depart from the hierarchy of principles in the guidelines. The reasons for the Commission's assessment include the following observations:

- The value of opportunity cost is the profit forgone from the foreclosure of an alternative opportunity. It is not the revenue forgone. A claimant would expect to incur some costs in pursuing its alternative opportunity, meaning revenue and profit would not be equal.
- SHL's approach uses estimated costs as a proxy for the profit forgone through the foreclosure of its claimed alternative opportunity. The Commission considers that the costs incurred in pursuing an alternative opportunity would not be equal to the profit forgone.

The Commission accepts that at times OCGTs can act as a proxy to energy-constrained hydro generation, however the Commission notes that a market-based methodology is available that is not based on cost. Using market-based values over a similar past period represents a higher tier in the hierarchy of principles in section 5.3.4 of the Guidelines.

We consider that reviewing a claimant's contract positions in detail is inappropriate

The Commission acknowledges that SHL may have had contract positions that influence its bidding and generation behaviour. SHL has argued that the combination of spot and contract revenue it would have received had it pursued its forgone opportunity would be at least as high as the SRMC of its alternative generation units. However, the Commission does not consider that reviewing the details of a claimant's contract positions in determining opportunity cost compensation outcomes is appropriate for the following reasons:

- We consider that reviewing contract incentives and payments in determining compensation outcomes would usually be undesirable. This is because it would require the AEMC, in making compensation determinations, to do the following:
 - review claimants' commercial contracts in detail, which could be confidential to the claimant and to any contract counter-parties
 - assess and take account of the revenues a market participant may have earned from both the spot market and from any contracts, in addition to considering costs.

SHL did not request that the AEMC review its contracts in determining SHL's claim and did not volunteer its contract information for this purpose.

SHL's proposed approach is less supportive of the objective of the administered pricing compensation framework

The Commission considers that awarding compensation based on the cost of an alternative generator within a claimant's portfolio is not transparent nor is it necessarily repeatable for all potential claimants. Conversely, the Commission's approach is based on publicly available information and can inform participants' bidding decisions during an APP. We therefore consider that our approach is more supportive of the objective of the compensation framework.

2.2.7 We have considered stakeholders' views in determining the methodology

In making this final decision, the Commission has considered stakeholder feedback through submissions to the DOCM published on 13 October 2023,²⁹ and SHL's submission in response to our draft decision.

The Commission received three submissions on the DOCM pertaining to SHL's claim. These were from SHL, EUAA and AEC. Below is a summary of the key points noted in submissions, with further discussion provided in the subsections to follow:

- The EUAA supported the Commission's position on the limitation and methodology for the claim, noting "the AEMC's current views presented in the Consultation Paper are appropriate for the documentation provided by the claimants",³⁰
- The AEC did not comment on the specifics of SHL's compensation claim but emphasised that it is critical for participants to have confidence in the integrity of compensation arrangements so they "maintain the incentive" to generate during future price limit events.³¹

SHL's submissions to the AEMC rejected the Commission's proposed methodology for valuing its opportunity costs and provided further rationale to substantiate its proposed approach. SHL's submissions did not make any adjustments to its original methodology as described in the DOCM.

SHL has argued in its submissions that the opportunity cost of hydro is the shadow cost of operating open cycle gas turbines (OCGTs), and that this is how SHL's opportunity cost should be valued.

SHL argued that the VWAP for the two weeks prior to the APP (as proposed by the Commission in the DOCM) is not appropriate because opportunity costs is a forward-looking concept. The guidelines contemplate that the alternative opportunity may arise "at the same point in time or a later point in time" and the Commission has accepted SHL's claim of an alternative opportunity at a later point in time. The Commission is then required to value the alternative opportunity, and Section 5.3.4 of the Guidelines indicates that the use of market values over a similar past period is acceptable in valuing a claimant's forgone opportunity.

SHL argued that the pre-APP VWAP proposed by the Commission to value SHL's forgone opportunity is inconsistent with the AEMC's proposed approach under the directions compensation framework, which is to reference the costs of open-cycle gas turbines when assessing compensation for hydro generating units. The Commission considers that the two compensation frameworks are subject to different criteria, address different circumstances and may not align in all cases, and are administered by different bodies (i.e. AEMO and the AEMC).

SHL also argued that the pre-APP VWAP is not commensurate with the new administered price cap (APC) which was raised in acknowledgement of the higher costs faced by the marginal generator. Administered pricing compensation claims are assessed on the basis of the Rules and guidelines in place at the time of the APP, not those that may exist in later periods. The Commission likewise does not seek to retroactively adjust previously determined claims on the basis of later decisions.

In its submission to the draft decision, SHL suggested that the AEMC has introduced a new principle (of transparent, repeatable and generalisable) that does not appear in the NER. The Commission considers that making compensation decisions that are, to the extent possible and where appropriate to the claimant's individual claim, transparent, repeatable and generalisable is

29 Clause 3.14.6 (o) of the NER; For more information see <https://www.aemc.gov.au/apc-claims/snowy-hydro>

30 EUAA submission. <https://aemc.gov.au/sites/default/files/2023-10/20231013%20-%20EUAA.pdf>, p.2.

31 AEC submission. <https://www.aemc.gov.au/sites/default/files/2023-10/20231013%20-%20AEC.pdf>, p.2.

consistent with the stated objective for the compensation regime in clause 3.14.6(c) to maintain the incentive for market participants to supply energy and consume energy and services during price limit events.

3 The Commission's determination of the quantum of compensation

3.1 SHL's eligibility to claim compensation for individual eligibility periods

3.1.1 SHL is eligible to claim compensation for the trading days of 14 June and 15 June 2022

Under the NER and guidelines, a claimant is eligible for compensation in an eligibility period if it is an eligible party and has incurred total costs during the eligibility period that exceed the total revenue it received from the spot market during that period.³²

An eligibility period is the period starting at the beginning of the first trading interval in which the price limit event occurs in a trading day and ending at the end of that trading day (i.e. at 4:00am on the following day).³³ The below table details the relevant eligibility periods to determine compensation claims under clause 3.14.6 of the NER.

Table 3.1: Eligibility periods for determining claims for compensation

Trading day	Queensland	New South Wales	South Australia	Victoria
12 June 2022	From 6:55pm to end of trading day	-	-	-
13 June 2022	Entire trading day	From 6:35pm to end of trading day	From 10:00pm to end of trading day	From 10:05pm to end of trading day
14 June 2022	Entire trading day	Entire trading day	Entire trading day	Entire trading day
15 June 2022	Entire trading day	Entire trading day	Entire trading day	Entire trading day

Note: All specified times are in Eastern Standard Time

Although SHL's claim is for the eligibility periods from 6:55pm on 12 June 2022 to 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 claim³⁴. This is because the Commission is required by clause 3.14.6(b) of the NER to consider SHL's eligibility based on total costs and total revenue over each entire eligibility period.

3.1.2 SHL is not eligible to claim compensation for 12 and 13 June 2022

SHL is not eligible for compensation for the eligibility periods commencing on 12 June and 13 June 2022 as it did not incur a net loss in either of these eligibility periods.

The table below presents the calculation of SHL's net position, equal to total costs less total revenues over each eligibility period. A claimant is only eligible in an eligibility period where its net position is a loss (shown by a negative number in the *Net position* column in the table).

³² Clause 3.14.6(b) of the NER.

³³ Clause 3.14.6(a) of the NER.

³⁴ Clause 3.14.6(a) of the NER. See also definition of 'trading day' in Chapter 10 of the NER.

Table 3.2: Calculation of net position to assess eligibility

Eligibility period	Opportunity costs*	Direct costs			Spot market revenue	Net position
		Fuel costs	Start costs	Other costs		
12 June 2022 (from 6:55pm to end of trading day)						
13 June 2022 (entire trading day)						
14 June 2022 (entire trading day)						
15 June 2022 (entire trading day)						

Source: AEMC, based information provided by SHL and AEMO. *Opportunity costs are as calculated by the AEMC.

Note: A positive net position indicated the claimant made a profit, while a negative net position indicates the claimant made a loss. A different net position could arise if opportunity costs were calculated using a different valuation methodology, including SHL's proposed methodology.

Claims for compensation may also be made as a result of price scaling. Price scaling occurs due to the application of clause 3.14.2(e)(2) of the NER. If an adjoining region is exporting energy across a regulated interconnector to a region where the price is capped at the APC, then under clause 3.14.2(e)(2), price scaling is applied to also cap the price in the exporting region to a level reflecting the importing region's administered price with an adjustment for interconnector losses.³⁵

SHL's claim includes an eligibility period on 12 and 13 June 2022 where its affected generators, located in Vic, NSW, and SA, were affected by price scaling due to the application of the APC in Qld. As the Commission has determined SHL is not eligible for compensation during the period in which price scaling applied, we have not given further consideration to the impact of price scaling in the assessment of SHL's direct cost and opportunity cost claims.

SHL argued in its submission to the draft decision that the fact that the eligibility period refers to a trading day does not entitle the AEMC to exclude such days where total costs exceed total revenues - it merely sets the boundaries in respect of which a claim should be assessed. It does not support a 'net costs' approach. The Commission is required to apply the rules in making its decision, and directs readers to Chapter 3.14.6 of the NER in this respect.

3.1.3 SHL is eligible to claim compensation for 14 and 15 June 2022

The Commission has determined SHL is eligible to claim compensation in respect of its scheduled generating units during the APP for trading days of 14 and 15 June 2022. When all relevant costs and revenues are included, SHL's total costs (both direct and opportunity costs) incurred during the eligibility periods commencing on 14 and 15 June 2022 exceeded the total

³⁵ See clause 3.14.2(e)(2) of the NER.

revenue it received from the spot market during those periods, for the generating units that are the subject of the claim. This applies to SHL's claims for direct and opportunity cost compensation.

SHL's claim arises out of a price limit event in which the spot price for a trading interval was set by the APC during an APP.³⁶ For the purposes of clause 3.14.6 of the NER, a price limit event occurs when the spot price is set by the APC during an administered price period or as a result of price scaling.³⁷ Following AEMO's suspension of the market, prices were set in accordance with the market suspension pricing schedule, and not by the APC.

3.1.4 SHL submitted that the Commission should depart from the NER in considering its eligibility

During claimant consultation, SHL argued that the NER does not support a 'net costs' approach and that the Commission is not entitled to exclude trading days where total revenues exceed total costs. Instead, SHL considers that as generators operate at a dispatch interval level and not on a day-to-day basis, the NER merely sets the boundaries in which the claim should be assessed.

The Commission considers that SHL's request is not consistent with the NER. The Commission therefore does not agree that SHL's eligibility for compensation on 12 and 13 June 2022 can or should be determined in the way proposed by SHL.

As noted above, clause 3.14.6(b) of the NER outlines how eligibility is determined, taking into account the total costs (both direct and opportunity costs) and total revenues incurred during each eligibility period. The Commission is required to apply the NER and does not have the discretion to assess claims in a manner that is inconsistent with those rules in respect to calculating SHL's eligibility for compensation on 12 and 13 June 2022.

3.1.5 We have included all trading intervals in our assessment of the claim

In its submission, SHL excluded some trading intervals in its calculation of costs and revenues. The Commission considers that the guidelines require that all trading intervals in relevant eligibility periods need to be included in the calculation of costs and revenues, unless there is a compelling reason or reasons to depart from the guidelines.

The Commission has adjusted SHL's claim to calculate costs and revenues over each entire eligibility period (on the trading days of 14 and 15 June 2022), except where there is compelling reason to depart from this approach.

3.2 Calculation of direct costs

3.2.1 The Commission uses AEMO's data to determine the amount of compensation payable

SHL provided cost and revenue information on a unit-basis relating to the period of the APP. AEMO provided details of generation and revenues that SHL received in respect of the period for which compensation has been claimed.

In relation to Colongra (NSW) and Valley Power (Vic) power stations, the Commission has reviewed the information provided and found a difference between the data provided by SHL versus that provided by AEMO. While SHL data is on a unit basis to account for differing fuel between units, AEMO settlement data aggregates generating units. In assessing SHL's compensation claim for Colongra and Valley Power, the Commission has disaggregated AEMO's settlement data into individual units based on the proportion of energy an individual unit is generating. This has resulted in slightly different values for final compensation that are minor

³⁶ Clause 3.14.6(a) of the NER.

³⁷ In accordance with clause 3.1.4(e)(2) of the NER.

relative to the total claim amount. SHL reviewed and agreed to these calculations prior to the AEMC making its final decision.

The Commission has decided that it is more appropriate to use AEMO's data in determining the amount of compensation payable as any settlement amounts payable to a participant, including spot market revenue, are ultimately calculated by AEMO based on its data.

3.2.2 Compelling reasons to depart from the guidelines

SHL claimed directions compensation from AEMO (under clause 3.15.7 of the NER) for the generating units and periods outlined in the below table.

Table 3.3: SHLs directed periods

Generating Unit	Start Time	End Time
Colongra Units 1, 2, 3	13/06/2022 6:10pm	13/06/2022 8:00pm
Colongra Unit 1	14/06/2022 8:00am	22/06/2022 4:00am
Colongra Units 2, 3, 4	14/06/2022 8:00am	23/06/2022 4:00am
Laverton North Power Station Units 1,2	15/06/2022 12:40pm	15/06/2022 9:30pm

Source: AEMO, 2022

Consistent with earlier decisions on claims arising from the June 2022 APP, the Commission has elected to depart from the guidelines by only assessing the direct cost components of SHL's claim under clause 3.14.6 of the NER over periods in which equivalent compensation has not already been awarded under another process.

While the guidelines contemplate that claimants might have received or be entitled to compensation from other sources in respect of the same events and costs,³⁸ the June 2022 events saw a confluence of factors including transmission outages, fuel shortages, coal plant outages and high energy demand produce sustained high energy prices that resulted in extended administered price periods, an extended period of market suspension and the issue of directions by AEMO.

Consequently, some market participants were entitled to submit compensation claims under multiple different mechanisms in the NER that are administered by different market bodies (AEMO and the AEMC) covering overlapping periods of time and similar categories of costs. It is clear from the guidelines, the AEMC's previous rule determinations and general legal principles that market participants should not be compensated twice for the same losses.

AEMO has notified the Commission that it has processed SHL's claims through AEMO's directions and market suspension compensation processes. Therefore, applying the guidelines in assessing claims which have already been assessed by AEMO would require the AEMC to re-make and potentially revise earlier compensation decisions determined, and compensation amounts awarded, by a separate market body. This is because:

- The method set out in the guidelines for taking account of other compensation (which includes any directions and market suspension compensation) requires the AEMC to make a

³⁸ Section 5.1.5 of the guidelines state that in determining the amount of compensation payable, the Commission may take into account the value of any other sources of compensation paid to the claimant where that compensation arises out of the same events and covers the same costs that are the subject of this compensation claim.

determination in relation to *all* costs and revenues across each eligibility period, which is defined in the NER and the guidelines as an entire trading day (or the period from the first trading interval when a price limit event occurs to the end of the trading day).

- The formula to calculate the administered pricing compensation contemplates an adjustment to be made for other compensation payable to avoid compensation being paid twice.³⁹
- Application of the formula requires the AEMC to assess costs for the entirety of the eligibility period(s), including sub-periods which are the subject of a separate compensation claim that has already been determined and awarded by AEMO or its Independent Expert. Taking account of the other compensation payable by way of a deduction of that other compensation in the formula (through the OTH_t variable) would therefore have the effect of re-making any previous determination(s).

This was, in the AEMC's view, not a circumstance that was specifically envisaged when the guidelines were drafted or last amended.

Therefore, the Commission has determined to depart from the guidelines by not assessing compensation for the generating units for the periods for which directions compensation has already been determined and awarded by AEMO and its Independent Expert (as outlined in the table below). The Commission will also not assess a generating unit's compensation claim over periods where it received market suspension compensation.

The Commission will do this by excising periods in calculating direct costs and spot market revenues for generating units which received directions or market suspension compensation. The remaining periods following this process are outlined in the below table.

Table 3.4: Assessment periods for direct costs for SHL's generators

Power station	Start Time	End Time
Colongra	14/06/2022 4:00 AM	14/06/2022 8:00 AM
Laverton North	14/06/2022 4:00 AM	15/06/2022 12:40 PM
Valley Power	14/06/2022 4:00 AM	15/06/2022 2:00 PM
Lonsdale		
Angaston		
Port Stanvac		
Tumut 3	14/06/2022 4:00 AM	16/06/2022 4:00 AM
Upper Tumut		
Murray		

Source: AEMC, based on information provided by AEMO

This departure is in accordance with the guidelines' objective to avoid double payment of compensation. It avoids the revision of earlier compensation decisions determined by a separate body, the impacts of which could include:

1. financial impacts on market participants that have already structured their affairs, and potentially their arrangements with third parties, based on awards made to date

³⁹ Section 5.1.5 of the guidelines.

2. the duplication of time and effort involved in re-assessing costs that have already been assessed by another body over the same time period under equivalent legislative criteria.

3.2.3 Fuel costs

In accordance with the guidelines, claimants may claim compensation for fuel costs incurred during the relevant eligibility period(s). Higher than normal fuel costs may also be included, with supporting reasoning to explain why they were incurred.⁴⁰

SHL has claimed [REDACTED] as compensation for fuel costs incurred during the relevant eligibility period.

SHL provided an itemised breakdown of fuel costs on a trading interval basis, along with evidence in the form of usual business documents such as supply contracts and receipts to substantiate the claim.

The Commission has reviewed SHL's fuel cost information and determined that the fuel costs being claimed are permitted under the guidelines.⁴¹

However, as discussed above, SHL's claim includes periods in which SHL is not eligible for compensation. The Commission has therefore excluded costs incurred on the trading days of 12 and 13 June 2022 in determining the amount of compensation. This has led to a reduction in the fuel costs being claimed.

The Commission has assessed SHL's fuel costs:

- across the entirety of each eligibility period except over trading intervals where equivalent compensation had been awarded under another process
- by disaggregating settlement data where appropriate.

This has also led to a decrease in the fuel costs being claimed.

The Commission has calculated the fuel costs, in the eligibility periods in which SHL is eligible for compensation, to be [REDACTED].

3.2.4 Operation and maintenance costs

In accordance with the guidelines, claimants may claim compensation to cover operation and maintenance expenses directly attributable to the pattern of operation to provide energy, wholesale demand response or market ancillary services during the relevant eligibility period(s).⁴²

SHL has claimed [REDACTED] in operation and maintenance costs for consumables such as demineralised water and urea ([REDACTED]), and start costs ([REDACTED]).

To substantiate its claim, SHL provided:

- an itemised breakdown of demineralised water and urea costs on a trading interval basis, business documents such as supply contracts and receipts, and a detailed description of the cost breakdown.
- information on the derivation of start costs as "the estimated cost of major overhaul outage after a set number of starts divided by that number of starts", and a detailed description of the start cost breakdown.

⁴⁰ See clause 3.14.6(e) of the NER and section 5.2.1 of the guidelines.

⁴¹ Clause 3.14.6(e) of the NER and section 5.2.1 of the guidelines.

⁴² See Clause 3.14.6(e) of the NER and section 5.2.1 of the guidelines.

SHL also noted that estimating start costs is not an exact science. It argued that the start costs SHL has claimed as part of this process have already been accepted as reasonable by AEMO and its independent expert in respect of other claims made and awarded to date.

As discussed above, due to SHL's claim including periods in which SHL is not eligible for compensation, the Commission has excluded costs incurred on the trading days of 12 and 13 June 2022.

The Commission has assessed SHL's operation and maintenance costs:

- across the entirety of each eligibility period except over trading intervals where equivalent compensation had been awarded under another process,
- disaggregating settlement data where appropriate.

This has led to a decrease in the operation and maintenance costs being claimed.

The Commission has calculated the operation and maintenance costs, in the eligibility periods in which SHL is eligible for compensation, to be [REDACTED], comprising [REDACTED] of demineralised water and urea costs, and [REDACTED] of start costs.

3.2.5 General wear and tear

In accordance with the guidelines, claimants may claim compensation for general wear and tear directly attributable to the pattern of operation during the relevant trading intervals.⁴³

SHL claimed [REDACTED] as wear and tear costs associated with running its generating units during the relevant eligibility periods. SHL has assumed the general wear and tear costs per MWh and applied that to each generating unit.

SHL has made reference to AEMO's ISP inputs and assumptions⁴⁴ to substantiate its claim. SHL notes the wear and tear cost per MWh is multiples lower than AEMO's Variable Operation and Maintenance (VOM) cost per MWh.

The Commission has reviewed the general wear and tear cost information provided by SHL and considers sufficient evidence has been provided to substantiate the cost being claimed.

As discussed above, due to SHL's claim including periods in which SHL is not eligible for compensation, the Commission has excluded costs incurred on the trading days of 12 and 13 June 2022.

The Commission has assessed SHL's wear and tear costs:

- across the entirety of each eligibility period except over trading intervals where equivalent compensation had been awarded under another process
- disaggregating settlement data where appropriate.

This has led to a decrease in the general wear and tear costs being claimed.

The Commission has calculated the general wear and tear costs, in the eligibility periods in which SHL is eligible for compensation, to be [REDACTED].

⁴³ See clause 3.14.6(e) of the NER and section 5.2.1 of the guidelines.

⁴⁴ For more information see <https://aemo.com.au/-/media/files/major-publications/isp/2022/2022-documents/inputs-assumptions-and-scenarios-workbook.xlsx?la=en>

3.2.6 Excluded costs

In accordance with the guidelines, claimants may not claim compensation for certain categories of costs set out in section 5.2.4 unless they demonstrate a compelling case based on extraordinary circumstances.

SHL has not made a claim for any excluded costs.

3.3 Calculation of opportunity costs

The amount at which SHL has valued its opportunity costs is [REDACTED].⁴⁵

SHL has provided its generation, price, dispatch offers, start costs, and wear and tear costs for its affected hydro generating units and fuel costs, start costs, demineralised water/urea costs representing the SRMC of its replacement OCGTs to substantiate its claim.

The Commission has reviewed the information provided by SHL and verified this information with AEMO against market data where available.

The Commission has elected to calculate the opportunity cost at the level of each generating unit, and then aggregate these values to arrive at a total opportunity cost valuation figure. This approach multiplies the quantity of generation forgone for each unit in each eligibility period by its volume weighted average price (VWAP) over the two weeks prior to the APP. The VWAP values for the three generators that are the subject of the opportunity cost claim are:

- Tumut3: \$671 / MWh
- Upper Tumut: \$488 / MWh
- Murray: \$410 / MWh

The Commission was also provided with the direct costs of running the generating units in question during the APP. These direct costs include start costs and wear and tear costs in generating the quantity of generation forgone for each eligibility period.

SHL has claimed both the direct and opportunity costs for the units that are the subject of the opportunity cost component of the claim. The Commission has calculated the value of opportunity cost as the forgone revenue less the direct costs incurred in generating that revenue, which is consistent with opportunity cost being the value forgone or profit.

Deducting direct costs is consistent with the guidelines, which require the Commission to value the “alternative opportunity”. The task required by the guidelines properly involves considering both the revenue earned from the alternative opportunity, and the costs necessarily involved in realising that revenue. This approach is the same as that outlined in the draft decision provided to SHL.

Awarding a revenue value would overcompensate the claimant in respect of its forgone opportunity. It would, in effect, assume that the claimant could have pursued its alternative opportunity without incurring any costs. This assumption is, in our view, false.

In assessing SHL’s claim, the Commission has used the costs that the claimant did incur in providing the equivalent quantum of generation from the affected units during the APP as a proxy for the direct costs that likely would have been incurred to generate the foregone revenue. We note that this assumption may not hold for all potential claims as it may depend on prevailing fuel prices and the values of other inputs across time. However, we consider that in the case of SHL’s

⁴⁵ This is different to its total opportunity cost claim which is [REDACTED], once relevant revenues are accounted for.

claim where the input costs for its hydro units are not expected to materially differ from one week to the next, this assumption holds.

The Commission has determined the opportunity costs to be [REDACTED] calculated as set out in the below table.

Table 3.5: Calculation of opportunity cost

	Tumut 3		Upper Tumut		Murray		Totals	
Eligibility period	Q (MWh)	Forgone Revenue (\$)	Q (MWh)	Forgone Revenue (\$)	Q (MWh)	Forgone Revenue (\$)	Q (MWh)	Forgone Revenue (\$)
14 June 2022 (entire trading day)	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
15 June 2022 (entire trading day)	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
Subtotal	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
Opportunity cost*		[REDACTED]		[REDACTED]		[REDACTED]		[REDACTED]

Source: AEMC, based on information provided by SHL and AEMO.

Note: *The opportunity costs as estimated by the AEMC less claimed direct costs for the relevant units. Quantities (Q) and foregone revenue based on AEMO data.

3.4 Calculation of actual or potential revenue

In accordance with the guidelines, the Commission has deducted the amount of actual or potential revenue (including spot market revenue) earned during the relevant eligibility period(s) from SHL's claim.⁴⁶

SHL has provided information on its spot market revenue during the application of the APC in the administered price period. AEMO has also provided details of the spot market revenue that SHL has received in respect of the period over which the claim for compensation has been made.

The Commission has calculated the actual or potential revenue, in the eligibility periods in which SHL is eligible for compensation, to be [REDACTED], based on the information provided by SHL on its spot market revenue during the application of the APC in the APP.

3.5 Other adjustments

Financing costs

⁴⁶ Section 5.1.4 of the guidelines.

In accordance with the guidelines, the Commission may recognise reasonable financing costs with respect to the time between the event occurring and any compensation being awarded. The Commission may also have regard to the timing of relevant revenues had the compensation events not occurred. In determining such costs, the Commission can also take into account any unreasonable delays from the claimant in providing the necessary information. The Commission assesses any financing costs on a case-by-case basis.⁴⁷

SHL has not made a claim for financing costs.

Other sources of compensation

In determining the amount of compensation payable, the Commission may take into account the value of any other sources of compensation paid, to be paid, or under consideration to be paid, to the claimant where that compensation arises out of the same events and covers the same costs that are the subject of this compensation claim.⁴⁸

SHL and AEMO have provided information on other compensation received in relation to the administered price period for which this claim relates:

- directions compensation for its generators
- market suspension compensation from 2:05pm on 15 June 2022 onward during the eligibility period for which the claim relates.

The Commission has determined that there is a compelling reason to depart from the guidelines in relation to the assessment of compensation for periods where equivalent compensation has already been assessed. The Commission has not included periods that are the subject of a separate determination by AEMO or AEMO's independent expert of compensation payable to SHL. This has the effect of taking into other sources of compensation in a way that avoids double payment of compensation and the re-making of the existing compensation assessment, as explained in section 3.2.2 above.

SHL has also received additional directions compensation (under clause 3.15.7A) by way of compensation⁴⁹ for the costs of pumping water to one of its affected generating units claiming opportunity costs. Its pumping compensation claim has been assessed by AEMO's Independent Expert and awarded by AEMO. This additional pumping compensation relates to a separate unit that is not the subject of SHL's administered pricing compensation claim. The Commission has therefore determined that the directions compensation already awarded for this unit is not to be deducted from nor otherwise considered in the Commission's assessment of the total claimable amount for SHL's administered pricing compensation claim.

3.6 Conclusions

The Commission has determined SHL is eligible to be paid compensation by AEMO

The Commission has determined that:

- SHL is eligible to claim compensation in respect of its Colongra (NSW), Laverton (Vic), Valley Power (Vic), Lonsdale (SA), Angaston (SA), Port Stanvac (SA), Tumut3 (NSW), Upper Tumut (NSW) and Murray Hydro (NSW) power stations during the APP for the trading days

⁴⁷ See section 5.1.5 of the guidelines.

⁴⁸ See section 5.1.5 of the guidelines.

⁴⁹ For more information see https://aemo.com.au/-/media/files/electricity/nem/market_notices_and_events/market_event_reports/2022/final-report-hydro-pump-directions-between-14-and-23-june-2022-and-5-july-2022.pdf?la=en.

commencing on 14 June and 15 June 2022 as it has demonstrated it had incurred a net loss on these trading days.

- SHL is not eligible to claim compensation for the trading days commencing on 12 June and 13 June 2022 as its total costs do not exceed its total revenues from the spot market on those trading days.
- There is a compelling reason for the Commission to depart from the guidelines in relation to the assessment of compensation for periods where compensation has already been assessed on 14 and 15 June 2022.
- SHL notified the AEMC and AEMO of its intention to claim compensation in accordance with clause 3.14.6(h) and (i) of the NER.
- The information provided by SHL to support and substantiate its claim complies with the guidelines.
- The methodology for valuing SHL's opportunity costs is to utilise the VWAP over the two-week period immediately prior to the APP to value the quantum of forgone generation of each relevant generating unit, and then subtract each unit's direct costs.
- The opportunity costs claimed by SHL are consistent with the definition of opportunity costs outlined in the guidelines
 - SHL has demonstrated that its plant had scarce capacity or resources as a result of a relevant limitation, consistent with the guidelines
 - SHL has demonstrated that it was prevented from using that scarce capacity or resources more profitably at a later point due to the imposition of a price cap during a price limit event
 - SHL has calculated the value of the more profitable alternative opportunity however the Commission has elected to use an alternative methodology.
- The direct costs claimed by SHL are consistent with the categories of cost permitted in the guidelines.

SHL is entitled to receive total compensation of \$11,206,127 (exclusive of GST) in respect of its claim

The total amount of compensation, TCA, for this direct and opportunity cost claim is calculated in accordance with the formula set out at Figure 5.1 of the guidelines.

The Commission has determined SHL's TCA as follows:

- direct costs incurred in the eligibility period(s) in the amount of [REDACTED]
- plus opportunity costs incurred in the eligibility period(s) in the amount of [REDACTED]
- minus actual or potential revenue from the spot market in the amount of [REDACTED].

The Commission will write to AEMO to advise of the total amount of compensation payable for each relevant eligibility period by trading interval, exclusive of GST. AEMO will then recover the cost of compensation from market customers who purchased energy from the spot market in the relevant eligibility periods in the cost recovery region(s).⁵⁰

The NER provide the process and formulae for AEMO to recover the compensation payable from market customers in the cost recovery region(s).⁵¹

50 Clause 3.15.10 of the NER

51 Clause 3.15.10 of the NER

Clause 3.15.10(c) of the NER also requires AEMO to include in preliminary and final settlement statements separate details of any compensation amounts payable by or to market participants within 25 business days of AEMO being notified by the AEMC that compensation is to be paid under clause 3.14.6 of the NER.

3.7 Recovery of the AEMC's costs

Consistent with clause 3.14.6(v) of the NER, the AEMC will recover costs incurred by the AEMC in carrying out its functions in respect of assessing SHL's opportunity cost claim but not the costs incurred in assessing the direct cost component of SHL's claim.

The costs to be recovered from SHL in respect of its claim:

- include costs incurred by the AEMC in engaging external contractors to support the opportunity costs claim assessment
- exclude AEMC staff costs and staff on-costs (such as payroll, utilities, hardware) incurred in assessing SHL's claim
- exclude costs that are not directly attributable to SHL's opportunity costs claim; for example, external contractor costs for advice relating to opportunity cost claims in general.

The Commission will advise SHL of the costs to be recovered from SHL under clause 3.14.6(v) of the NER following publication of this decision.

See appendix B for further details on cost recovery.

A Background

Wholesale spot prices in the National Electricity Market (NEM) can vary within a range of between minus \$1,000 per MWh⁵² and \$15,500 per MWh.⁵³

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)⁵⁴ is exceeded, the administered price cap of \$600 per MWh and the administered floor price of -\$600 per MWh is applied to spot prices.⁵⁵

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

- the MPC was \$15,100/MWh⁵⁶
- the CPT was \$1,359,100; and⁵⁷
- the APC was \$300/MWh.⁵⁸

A.1 Administered pricing compensation

Clause 3.14.6 of the NER and the AEMC guidelines⁵⁹ set out a process for market participants to claim compensation for certain losses during an administered price 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 allows participants to claim administered pricing compensation if they incur a loss during price limit events, being periods in which the spot price is set by the APC during an administered price period.⁶⁰ The AEMC administers this compensation process. Prior to June 2022, there has only been one claim for compensation arising from an administered price period that occurred in January/February 2009.⁶¹

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

53 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.

54 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.

55 Clauses 3.14.1 and 11.155.2 of the NER.

56 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.

57 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.

58 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.

59 published by the AEMC under clause 3.14.6(e) of the NER.

60 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.

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

The administered pricing compensation process 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).

A.2 Market events in June 2022

On 12 June 2022, the cumulative price threshold (CPT) was exceeded for the Qld 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 Qld. On 13 June 2022, the CPT was exceeded in the NSW, Vic and SA regions (from 6:35pm in NSW, 10:00pm in SA and 10:05pm in Vic). The APC of \$300/MWh was therefore applied in each mainland NEM region.

APC application in these regions coincided with reductions in the amount of generation bid into the market, resulting in a requirement for AEMO to intervene to maintain system reliability. At 2:05pm on 15 June 2022, AEMO determined 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 of market suspension, spot prices were no longer set by the APC but rather, 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 SA, this occurred on 22 June 2022 and in NSW, Qld and Vic, 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.

B Administered pricing compensation process

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 guidelines.

Making a claim

The guidelines set out how participants can make a claim for compensation for direct costs and opportunity costs following the application of an APC. The AEMC is required to apply the 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,⁶²
 - 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 AEMC will publish a notice of receipt. The AEMC 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.

⁶² 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.

- 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 AEMC must be specified in the claim.
- The AEMC 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 decision 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 time frames.
- For **direct cost claims**, the following key steps apply:
 - a. Commencement of formal assessment (once sufficient information is received from claimant – see above)
 - b. Assessment of claim
 - c. Consultation with claimant
 - d. Final determination of compensation payable (45 business days after formal commencement)
 - e. AEMC notifies AEMO of final amount payable
 - f. AEMO includes details of amounts payable by or to market participants within 25 days of being notified by the AEMC
- For **opportunity cost** claims the following key steps apply.
 - a. Commencement of formal assessment (once sufficient information is received from claimant see above)
 - b. Assessment of claim
 - c. Publish claimant's proposed methodology and AEMC's draft methodology for public consultation (within 35 business days of formal commencement)
 - d. Close of consultation (minimum of 20 business days after publication of draft methodology)
 - e. Final determination of compensation payable (35 business days after close of submissions)
 - f. AEMC notifies AEMO of final amount payable
 - g. AEMO includes details of amounts payable by or to market participants within 25 days of being notified by the AEMC

Recovery of AEMC's costs of claim

The Commission may recover from a claimant any costs incurred by the AEMC in carrying out its functions in respect of its claim.⁶³ The AEMC may require the claimant to pay all or a proportion of those costs to the AEMC 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.

⁶³ Clause 3.14.6(v) of the NER.

The Commission has decided to recover costs incurred by the AEMC in engaging external contractors to support its functions in respect of assessing opportunity costs claims made in relation to the June 2022 administered price period.

Costs will be recovered from opportunity cost claims that proceed to formal commencement, with the cost recovery amount being calculated once the claim is closed, whether that is through the AEMC issuing a final decision or the claimant withdrawing its claim.

The Commission has decided at this stage not to recover costs from claimants for direct cost claims made in relation to the June 2022 administered price period.

C Chronology of SHL's compensation assessment process

The following table sets out the timing of the Commission's compensation assessment process for the Claimants' opportunity costs claims.

Table C.1: SHL's Compensation Claim Timeline

Date	Milestone
21 June 2022	Notice of claim received
26 October 2022	Supporting information received
February 2023	The AEMC requested and received further information from SHL
18 May 2023	AEMC brief to SHL on the APC compensation process
8 June 2023	Commencement of formal assessment
July 2023	The AEMC requested and received further information from SHL pertaining to its opportunity costs
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 the draft opportunity cost methodology
November 2023	The AEMC requested and received further information from SHL to finalise the compensation claim
30 November 2023	Extension to publish the final decision
20 December 2023	Draft decision provided to SHL
20 December 2023 - 22 March 2024	Consultation with the claimant on the draft decision
7 February 2024	Extension to publish the final decision
16 May 2024	Final decision published

Abbreviations and defined terms

AEC	Australian Energy Council
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
DOCM	Draft Opportunity Cost Methodology
EUAA	Energy Users Association of Australia
GST	Goods and services tax
Guidelines	AEMC, Compensation guidelines, Final guidelines, 21 October 2021
MWh	Mega watt hour
NEM	National Electricity Market
NEO	National Electricity Objective
NER	National Electricity Rules
NSW	New South Wales
OCGT	Open cycle gas turbine
Qld	Queensland
SA	South Australia
SHL	Snowy Hydro Limited
SRMC	Short run marginal cost
TCA	Total claimable amount
Vic	Victoria
VOM	Variable operation and maintenance
VWAP	Volume Weighted Average Price