

Final decision

Proposed amended pricing methodologies –
System strength pricing

January 2023

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Inquiries about this publication should be addressed to:

Australian Energy Regulator
GPO Box 3131
Canberra ACT 2601
Tel: 1300 585 165

AER reference: AER22005979

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1 Overview

We, the Australian Energy Regulator (AER), work to make all Australian energy consumers better off, now and in the future. We regulate energy networks in all jurisdictions except Western Australia. Our work is guided by the National Electricity Objective which promotes efficient investment in, and operation and use of, electricity services in the long term interests of consumers.¹

On 21 October 2021, the Australian Energy Market Commission (AEMC) made a final rule relating to efficient management of system strength on the power system (AEMC final rule).^{2,3} A key aspect of this rule change is providing connecting parties a choice between remediating their system strength impact or paying the transmission network service provider (TNSP; transmission network) a charge for system strength services.

1.1 Pricing methodology guidelines

As the AEMC final rule required,⁴ we modified our pricing methodology guidelines on 25 August 2022⁵ to specify or clarify:

- the permitted methodologies for determining the system strength unit price (SSUP; unit price) component of the system strength charge
- principles for determining forecast annual system strength revenue and estimated actual annual system strength revenue.

Our pricing methodology guidelines have different requirements for two groups of transmission networks:

- transmission networks who are system strength service providers (SSSPs; system strength providers): Powerlink, Transgrid, AEMO, ElectraNet and TasNetworks in this final decision.
- transmission networks who are not system strength providers (non-system strength providers): Ausgrid and AusNet Services in this final decision.

System strength providers are responsible for calculating the unit price for each system strength node in their region and for levying the system strength charge on each system strength connection point in their region. Non-system strength providers pass through the system strength charges (levied by the system strength provider) to system strength connection points on their network.

¹ NEL, s. 7.

² AEMC, *Rule determination: Efficient management of system strength*, 21 October 2021.

³ System strength is a quality of the power system reflecting a combination of fault current provision and the overall stability of the voltage waveform.

⁴ NER, cl. 11.143.4 and 6A.25.2(h) and (i).

⁵ The pricing methodology guidelines are available on our website: www.aer.gov.au/networks-pipelines/guidelines-schemes-models-reviews/pricing-methodology-guidelines-2022-system-strength-pricing

The pricing methodology guidelines therefore have more extensive requirements for system strength providers compared to non-system strength providers.⁶

1.2 Proposed amended pricing methodologies

The applicable TNSPs⁷ and AEMO submitted their proposed amended pricing methodologies by 30 November 2022, as the AEMC final rule required.⁸ These are the pricing methodologies we previously approved to apply for their current regulatory control periods but amended to incorporate (only) the system strength requirements of the AEMC final rule.

1.3 Final decision

Our final decision is to approve the proposed amended pricing methodologies, with several edits agreed to with the relevant transmission networks.⁹ This is because they give effect to, and are consistent with, the pricing principles for prescribed transmission services in the NER, and comply with the requirements of the pricing methodology guidelines.¹⁰

Appendix C contains the amendments we made to certain proposed amended pricing methodologies to ensure accuracy and consistency with the requirements in the NER and the pricing methodology guidelines.

1.4 Note on acronyms and short forms

In this final decision, we include both an acronym and a short form in parenthesis after the first use of certain terms. We include the acronym to indicate consistency with terms defined in the Rules and associated determination documents. However, we generally use the short form in this final decision for readability.

⁶ See paragraphs 2.1(k) and 2.1(l) of the pricing methodology guidelines for the requirements for system strength providers and non-system strength providers, respectively.

⁷ Under clause 11.143.1 of the NER, the applicable TNSPs are TransGrid, ElectraNet, AusNet Services, Powerlink, TasNetworks and Ausgrid.

⁸ NER, cl. 11.143.5(a), (b) and (c).

⁹ NER, cl. 11.143.5(f).

¹⁰ NER, cl. 11.143(5)(d), 6A.14.3(g) and 6A.24.1(c); AER, *Electricity transmission network service providers: Pricing methodology guidelines*, 25 August 2022.

2 System strength providers

2.1 Final decision

Our final decision is to approve the proposed amended pricing methodologies of the system strength providers, with several edits agreed to with the relevant transmission networks.¹¹ This is because they give effect to, and are consistent with, the pricing principles for prescribed transmission services in the NER, and comply with the requirements of the pricing methodology guidelines.¹²

Appendix C contains the amendments we made to certain proposed amended pricing methodologies to ensure accuracy and consistency with the requirements in the NER and the pricing methodology guidelines. The relevant transmission networks have agreed to these amendments.¹³

2.2 Proposed amended pricing methodologies

The system strength providers' proposed amended pricing methodologies specified or clarified aspects of system strength pricing, including:

- the arrangements for paying the system strength charge such as billing frequency and applicable time periods.
- that system strength providers will use the long run average cost methodology, using a 10-year forecast period, to determine unit prices.
- the basis for indexing the unit price.
- principles for determining forecast annual system strength revenue and estimated actual annual system strength revenue.

The system strength amendments in the proposed amended pricing methodologies are identical across all of the system strength providers, in particular the method to calculate unit prices. Differences are only minor and not substantive. We previously signalled our support for a common approach to system strength pricing.¹⁴

2.3 Assessment approach

We must approve a proposed amended pricing methodology if satisfied it:

- gives effect to, and complies with, the pricing principles for prescribed transmission services
- complies with requirements of the pricing methodology guidelines.¹⁵

¹¹ NER, cl. 11.143.5(f).

¹² NER, cl. 6A.23.3 and 6A.24.1(c); AER, *Electricity transmission network service providers: Pricing methodology guidelines*, 25 August 2022.

¹³ NER, cl. 11.143.5(f).

¹⁴ AER, *Explanatory statement: Final decision: Pricing methodology guidelines: System strength pricing*, 25 August 2022, p. 20.

¹⁵ NER, cll. 11.143(5)(d), 6A.14.3(g), 6A.24.1(c); AER, *Electricity transmission network service providers: Pricing methodology guidelines*, 25 August 2022.

These requirements guided our assessment of the proposed amended pricing methodologies of the system strength providers.

In this assessment we focus on amendments relevant to the AEMC final rule. We previously assessed and approved other aspects of the proposed amended pricing methodologies—that is, not related to system strength pricing—in the relevant transmission determinations.

2.4 Reasons for final decision

Table A.1 to Table A.5 in appendix A set out which sections of the proposed amended pricing methodologies we consider demonstrate compliance with the pricing principles for prescribed transmission services, the system strength requirements of the NER¹⁶ and our pricing methodology guidelines.

Consistent with other sections of the pricing methodologies, the majority of the system strength amendments largely reflect the relevant provisions in the NER and/or the pricing methodology guidelines.

The one aspect of the system strength amendments that required further development on the requirements of the pricing methodology guidelines relates to the method for calculating unit prices. Section 2.4.1 sets out in greater detail our consideration of the method for calculating unit prices. Section 2.4.2 sets out our consideration of AEMO's proposed basis for indexing unit prices.

2.4.1 Permitted methodologies for unit prices

As required by the pricing methodology guidelines,¹⁷ the system strength providers proposed to calculate unit prices based on the long run average cost of providing system strength services using a forecast period of 10 years. More specifically, the proposed amended pricing methodologies calculate unit prices as the ratio between:

- The total long run capital and operating costs of providing an efficient quantity of system strength at a system strength node over a period of 10 years,¹⁸ and
- The total system strength hosting capacity¹⁹ provided by that system strength node over a period of 10 years

¹⁶ NER, cll. 6A.23.5(c) and 6A.24.1(b)(5).

¹⁷ AER, *Electricity transmission network service providers: Pricing methodology guidelines*, 25 August 2022, paragraph 2.7(a)(1) and (2).

¹⁸ The capital and operating costs used to calculate unit prices will not necessarily equate to the capital and operating expenditures that are inputs to the maximum allowed revenues we determine through our building block determinations. As we discuss in section 2.4.1.1, the former may include forecast decreases in the costs of providing system strength services (due to technological changes, for example) in the 10-year calculation period. On the other hand, the latter factors in our ex ante assessment of expenditure requirements—including to meet relevant system strength obligations—for an upcoming 5-year regulatory control period. There may be overlap between the two cost concepts where the unit price calculation includes actual (previously incurred) costs of providing system strength services, and those costs are consistent with the expenditure amounts nominally captured in the regulatory asset base.

¹⁹ The system strength providers defined “Total system strength hosting capacity” as “the quantity of system strength provided by a system strength node to supply an efficient quantity of system strength to connection points in each year for a period of [10] years”.

We consider the form of this calculation is not controversial because it reflects the basic definition of long run average costs: total long run costs divided by total long run quantities.

We assess the definitions of the numerator and denominator in the equation for long run average cost in the sub-sections below.

2.4.1.1 Unit price calculation—Numerator

We consider the definition of the numerator in the unit price calculation is appropriate.

The system strength providers defined long run costs as “the costs of providing system strength capacity at a system strength node, having regard to the actual and forward-looking costs of providing the required capacity at that node. Specifically:

- The long run costs include [system strength provider’s] actual costs of providing system strength capacity where the forward-looking costs are higher than [system strength provider’s] actual costs; and
- The long run costs include the forward-looking costs of providing system strength capacity where these costs are lower than [system strength provider’s] actual costs.”

In the first scenario, the system strength provider would use its actual (incurred) costs in the numerator if they are lower than forecasts of costs to provide system strength services. For example, assume the system strength provider already invested in synchronous condensers to provide system strength services at a node and the annualised costs are \$10 million. The system strength provider would use the \$10 million figure if forward-looking costs are forecast to increase to \$15 million per year for that node.²⁰

In the second scenario, there may be a technological development that lowers forward-looking costs to \$7 million per year for that node. In that case, the system strength provider would use the \$7 million figure in the numerator, rather than the \$10 million figure. Case 2 in the example calculations of the system strength providers’ proposed amended pricing methodologies provides a detailed illustration of this scenario.

We consider the system strength providers’ specification of the numerator is appropriate as it would reflect conditions in the “market” for system strength services.

In the first scenario, the system strength provider’s unit price for the node effectively signals it is the efficient provider of system strength services in the market in most cases. We consider this is consistent with the AEMC’s statement that the amending rules are intended to promote efficient outcomes by harnessing the transmission network’s economies of scale and scope.²¹ Most transmission network users would procure system strength services from the system strength provider rather than self-remediating (though some customers may find self-remediation more cost effective in particular circumstances).

²⁰ Forward-looking costs may exceed actual costs if there is a real increase in input costs, such as labour and materials, for example.

²¹ AEMC, *Rule determination: National electricity amendment (efficient management of system strength on the power system) rule 2021*, 21 October 2021, pp. 35–38.

In scenario 2, the system strength provider is signalling that a drop in the costs of system strength services has occurred in the market, which its unit price would reflect.

2.4.1.2 Unit price calculation—Denominator

We consider the definition of the denominator in the unit price calculation is appropriate.

The denominator is “the quantity of system strength provided by a system strength node to supply an efficient quantity of system strength to connection points in each year for a period of [10] years”.

Consider a node where the system strength capacity is 100 MVA, but the demand is 60MVA. The system strength providers propose to use the 60MVA figure in the denominator.

We consider this is consistent with the concept of the denominator for the calculation of average costs—that is, the total quantity demanded as we noted in section 2.4.1.

2.4.2 AEMO’s method for indexing the unit price

We amended the basis for indexing the unit price in AEMO’s proposed amended pricing methodology, as agreed with AEMO.²²

The guidelines required AEMO to propose the basis for indexing the unit price (if the unit price is updated for indexation annually) because the AER does not make a revenue determination for AEMO.²³

AEMO proposed to “use an estimate of the average annual rate of inflation expected over a five-year period based on the approach adopted in AER’s 2020 Inflation Review and the forecast from the Reserve Bank of Australia’s August or November Statement on Monetary Policy.”²⁴

Consistent with the indexation methods of other system strength providers, we consider annual indexation of unit prices should be based on actual inflation, rather than forecasts. As we do not make a revenue determination for AEMO, we consider our transmission determination for AusNet Services captures the inflation conditions applicable to Victoria (and AEMO).

We have amended AEMO’s basis for indexation to reflect this.²⁵

²² AEMO, *Response to information request #004 – Proposed inflation in the proposed amended pricing methodology*, 5 January 2023.

²³ AER, *Electricity transmission network service providers: Pricing methodology guidelines*, 25 August 2022, paragraph 2.7(b)(2).

²⁴ AEMO, *Proposed amended pricing methodology – System strength pricing*, 9 December 2022, p.16.

²⁵ AEMO, *Proposed amended pricing methodology – System strength pricing*, 11 January 2023, p.16.

3 Non-system strength providers

3.1 Final decision

Our final decision is to approve the proposed amended pricing methodologies of the non-system strength providers (Ausgrid and AusNet Services).²⁶ This is because they give effect to, and are consistent with, the pricing principles for prescribed transmission services in the NER, and comply with the requirements of the pricing methodology guidelines.²⁷

3.2 Proposed amended pricing methodologies

Ausgrid's proposed amended pricing methodology clarified it will recover, on a pass through basis, the annual system strength charge determined by Transgrid for the system strength connection point from the relevant Transmission Network User.²⁸ Ausgrid also stated it will replicate as far as reasonably practical, the amount, structure and timing of the annual system strength charge, in accordance with the charging information provided and billed by Transgrid.²⁹

AusNet Service's proposed amended pricing methodology clarified it has no role in recovering system strength charges from Transmission Network Users and AEMO performs this function in Victoria.³⁰

Ausgrid's and AusNet Services' proposed amended pricing methodologies also included amendments that provide background consequent to the AEMC final rule.

3.3 Assessment approach

We must approve a proposed amended pricing methodology if satisfied it:

- gives effect to, and complies with, the pricing principles for prescribed transmission services
- complies with the requirements of the pricing methodology guidelines.³¹

These requirements guided our assessment of the proposed amended pricing methodologies of the system strength providers.

In this assessment we focus on amendments relevant to the AEMC final rule. We previously assessed and approved other aspects of the proposed amended pricing methodologies—that is, not related to system strength pricing—in the relevant transmission determination.

²⁶ As noted in appendix C, we made minor amendments to AusNet Services' proposed amended pricing methodology to reflect the start date of the regulatory control period in which the pricing methodology applies.

²⁷ NER, cl. 11.143(5)(d), 6A.14.3(g) and 6A.24.1(c); AER, *Electricity transmission network service providers: Pricing methodology guidelines*, 25 August 2022.

²⁸ Ausgrid, *Proposed amended pricing methodology – System strength pricing*, 14 November 2022, p. 14.

²⁹ Ausgrid, *Proposed amended pricing methodology – System strength pricing*, 14 November 2022, p. 15.

³⁰ AusNet Services, *Proposed amended pricing methodology – System strength pricing*, 25 November 2022, p. 16.

³¹ NER, cl. 11.143(5)(d), 6A.14.3(g) and 6A.24.1(c); AER, *Electricity transmission network service providers: Pricing methodology guidelines*, 25 August 2022.

3.4 Reasons for final decision

3.4.1 Ausgrid

The NER and the guidelines require non-system strength providers to pass through to system strength connection points on its network the system strength charges levied by the system strength provider (Transgrid in NSW).³² Non-system strength providers, such as Ausgrid, must also replicate the amount, structure and timing of the system strength charge, or explain any differences.³³

We consider Ausgrid's proposed amended pricing methodology fulfills these requirements.³⁴

Table B.1 in appendix B sets out which sections of Ausgrid's proposed amended pricing methodologies we consider demonstrate compliance with the system strength requirements in our pricing methodology guidelines.

3.4.2 AusNet Services

The guidelines state that the information requirements for non-system strength providers do not apply to AusNet Services.³⁵ This is because AEMO is responsible for providing system strength services and recovering associated revenues under the Victorian arrangements. AusNet Services does not have any functions in this regard.

Nevertheless, the AEMC final rule requires AusNet Services to submit a proposed amended pricing methodology.³⁶ As we stated previously, we consider it is useful for AusNet Services' proposed amended pricing methodology to help stakeholders understand who is responsible for system strength charges in Victoria.³⁷

We consider AusNet Services' proposed amended pricing methodology fulfils this purpose.³⁸

³² NER, cl. 6A.23.6(b); AER, *Electricity transmission network service providers: Pricing methodology guidelines*, 25 August 2022, clause 2.1(l)(1).

³³ AER, *Electricity transmission network service providers: Pricing methodology guidelines*, 25 August 2022, clause 2.1(l)(2)(A).

³⁴ Ausgrid, *Proposed amended pricing methodology – System strength pricing*, 14 November 2022, pp. 14–15.

³⁵ AER, *Electricity transmission network service providers: Pricing methodology guidelines*, 25 August 2022, clause 2.1(l)(3).

³⁶ NER clause 11.143.5(a) and the definition of 'applicable TNSP' in clause 11.143.1.

³⁷ AER, *Explanatory statement: Final decision: Pricing methodology guidelines: System strength pricing*, 25 August 2022, p. 18.

³⁸ AusNet Services, *Proposed amended pricing methodology – System strength pricing*, 25 November 2022, p. 16.

Appendix A System strength providers

Table A.1 to Table A.5 set out the sections of the system strength providers' proposed amended pricing methodologies that comply with the requirements of the guidelines (and the NER where stated).

Table A.1 Transgrid's proposed amendments for system strength pricing

Guideline requirements	AER assessment
Confirm that a System Strength Transmission Service User for a system strength connection point will pay an annual system strength charge in equal monthly instalments from the time referred to in paragraph (2)—clause 2.1(k)(1) and NER clause 6A.23.5(c).	Sections 7.5.1 and 8.1 of Transgrid's proposed amended pricing methodology comply with this requirement.
Explain the time at which the system strength charge will commence to be payable by a System Strength Transmission Service User—clause 2.1(k)(2).	Section 7.5.1 of Transgrid's proposed amended pricing methodology complies with this requirement.
Confirm that the monthly instalments for the system strength charge will be calculated on a pro rata basis for the remaining months of the regulatory year if the obligation to pay the system strength charge commences part way through a regulatory year—clause 2.1(k)(3) and NER clause 6A.23.5(d).	Section 7.5.1 of Transgrid's proposed amended pricing methodology complies with this requirement.
Explain the methodologies to determine the unit price for each system strength node on its transmission network for the system strength charging period, including its methodology to forecast long run average costs of providing system strength transmission services—clause 2.1(k)(4).	Section 7.5.2 of Transgrid's proposed amended pricing methodology complies with this requirement.
Set out whether the unit price will be updated for indexation for each regulatory year in the system strength charging period and, if so, the basis for indexation—clause 2.1(k)(5).	Section 7.5.2 of Transgrid's proposed amended pricing methodology complies with this requirement.
Explain how the methodologies and prices referred to in paragraphs (4) to (5) comply with the requirements in section 2.7(a) and (b) of the guidelines and clause 6A.23.5 of the NER—clause 2.1(k)(6).	Section 7.5.2 of Transgrid's proposed amended pricing methodology complies with this requirement.
Explain how it will calculate the adjustments required under clause 6A.23.3A(b) of the NER, including the methodologies it will apply to determine forecast annual system strength revenue and estimated actual annual system strength revenue—clause 2.1(k)(7) and NER clause 6A.23.3A(b).	Section 7.4 of Transgrid's proposed amended pricing methodology complies with this requirement.
Explain how the methodologies referred to in paragraph (7) give effect to, and are consistent with, clause 6A.23.3A of the NER and the principles in section 2.8 of the guidelines—clause 2.1(k)(8) and NER clause 6A.23.3A.	Section 7.4 of Transgrid's proposed amended pricing methodology complies with this requirement.
The unit price must be based on a forecast of its long run average costs of providing system strength transmission services at the relevant system strength node—clause 2.7(a)(1).	Section 7.5.2 and appendix D of Transgrid's proposed amended pricing methodology comply with this requirement.
The unit price must use a period of at least 10 years when forecasting long run costs—clause 2.7(a)(2).	Section 7.5.2 and appendix D of Transgrid's proposed amended pricing methodology comply with this requirement.
The unit price must set a price on a dollars per MVA per year basis—clause 2.7(a)(3) and NER clause 6A.23.4(h).	Section 7.5.2 and appendix D of Transgrid's proposed amended pricing methodology comply with this requirement.
The unit price must be fixed for the system strength charging period, except where updated for indexation in accordance	Section 7.5.1 of Transgrid's proposed amended pricing methodology complies with this requirement.

Guideline requirements	AER assessment
with paragraph (b)—clause 2.7(a)(4) and NER clause 6A.23.5(f).	
The system strength provider must set a unit price for each system strength node on its transmission network—clause 2.7(a)(5) and NER clause 6A.24.1(5).	Section 7.5.2 of Transgrid’s proposed amended pricing methodology complies with this requirement.
If the unit price is updated for indexation for each regulatory year in the system strength charging period, the basis for indexation must be consistent with the approach for inflation indexation of the TNSP’s maximum allowed revenue under its revenue determination—clause 2.7(b).	Section 7.5.2 of Transgrid’s proposed amended pricing methodology complies with this requirement.
Principles for determining forecast annual system strength revenue and estimated actual annual system strength revenue—clause 2.8.	Section 7.4 of Transgrid’s proposed amended pricing methodology complies with this requirement.
Subtract expected system strength payments from the maximum allowed revenue to derive the aggregate annual revenue requirement—NER clause 6A.22.1 (2)(ii)	Section 5.1 of Transgrid’s proposed amended pricing methodology complies with this requirement.
The annual service revenue requirements for prescribed common services is to be adjusted by system strength service payments—NER clause 6A.23.3(h)(1).	Section 7.4 of Transgrid’s proposed amended pricing methodology complies with this requirement.
The TNSP will have separate prices for system strength transmission services—NER clause 6A.23.4(6).	Section 7 of Transgrid’s proposed amended pricing methodology complies with this requirement.
The TNSP must calculate the system strength charge in accordance with NER clause 6A.23.5(e).	Section 7.5.1 of Transgrid’s proposed amended pricing methodology complies with this requirement.

Table A.2 ElectraNet’s proposed amendments for system strength pricing

Guideline requirements	AER assessment
Confirm that a System Strength Transmission Service User for a system strength connection point will pay an annual system strength charge in equal monthly instalments from the time referred to in paragraph (2)—clause 2.1(k)(1) and NER clause 6A.23.5(c).	Sections 6.12.1 and 7.1 of ElectraNet’s proposed amended pricing methodology comply with this requirement.
Explain the time at which the system strength charge will commence to be payable by a System Strength Transmission Service User—clause 2.1(k)(2).	Section 6.12.1 of ElectraNet’s proposed amended pricing methodology complies with this requirement.
Confirm that the monthly instalments for the system strength charge will be calculated on a pro rata basis for the remaining months of the regulatory year if the obligation to pay the system strength charge commences part way through a regulatory year—clause 2.1(k)(3) and NER clause 6A.23.5(d).	Section 6.12.1 of ElectraNet’s proposed amended pricing methodology complies with this requirement.
Explain the methodologies to determine the unit price for each system strength node on its transmission network for the system strength charging period, including its methodology to forecast long run average costs of providing system strength transmission services—clause 2.1(k)(4).	Section 6.12.2 of ElectraNet’s proposed amended pricing methodology complies with this requirement.
Set out whether the unit price will be updated for indexation for each regulatory year in the system strength charging period and, if so, the basis for indexation—clause 2.1(k)(5).	Section 6.12.2 of ElectraNet’s proposed amended pricing methodology complies with this requirement.
Explain how the methodologies and prices referred to in paragraphs (4) to (5) comply with the requirements in section 2.7(a) and (b) of the guidelines and clause 6A.23.5 of the NER—clause 2.1(k)(6).	Section 6.12.2 of ElectraNet’s proposed amended pricing methodology complies with this requirement.

Guideline requirements	AER assessment
Explain how it will calculate the adjustments required under clause 6A.23.3A(b) of the NER, including the methodologies it will apply to determine forecast annual system strength revenue and estimated actual annual system strength revenue—clause 2.1(k)(7) and NER clause 6A.23.3A(b).	Section 6.11.4 of ElectraNet’s proposed amended pricing methodology complies with this requirement.
Explain how the methodologies referred to in paragraph (7) give effect to, and are consistent with, clause 6A.23.3A of the NER and the principles in section 2.8 of the guidelines—clause 2.1(k)(8) and NER clause 6A.23.3A.	Section 6.11.4 of ElectraNet’s proposed amended pricing methodology complies with this requirement.
The unit price must be based on a forecast of its long run average costs of providing system strength transmission services at the relevant system strength node—clause 2.7(a)(1).	Section 6.12.2 and appendix G of ElectraNet’s proposed amended pricing methodology comply with this requirement.
The unit price must use a period of at least 10 years when forecasting long run costs—clause 2.7(a)(2).	Section 6.12.2 and appendix G of ElectraNet’s proposed amended pricing methodology comply with this requirement.
The unit price must set a price on a dollars per MVA per year basis—clause 2.7(a)(3) and NER clause 6A.23.4(h).	Section 6.12.2 and appendix G of ElectraNet’s proposed amended pricing methodology comply with this requirement.
The unit price must be fixed for the system strength charging period, except where updated for indexation in accordance with paragraph (b)—clause 2.7(a)(4) and NER clause 6A.23.5(f).	Section 6.12.1 of ElectraNet’s proposed amended pricing methodology complies with this requirement.
The system strength provider must set a unit price for each system strength node on its transmission network—clause 2.7(a)(5) and NER clause 6A.24.1(5).	Section 6.12.2 of ElectraNet’s proposed amended pricing methodology complies with this requirement.
If the unit price is updated for indexation for each regulatory year in the system strength charging period, the basis for indexation must be consistent with the approach for inflation indexation of the TNSP’s maximum allowed revenue under its revenue determination—clause 2.7(b).	Section 6.12.2 of ElectraNet’s proposed amended pricing methodology complies with this requirement.
Principles for determining forecast annual system strength revenue and estimated actual annual system strength revenue—clause 2.8.	Section 6.11.4 of ElectraNet’s proposed amended pricing methodology complies with this requirement.
Subtract expected system strength payments from the maximum allowed revenue to derive the aggregate annual revenue requirement—NER clause 6A.22.1 (2)(ii)	Section 6.3 of ElectraNet’s proposed amended pricing methodology complies with this requirement.
The annual service revenue requirements for prescribed common services is to be adjusted by system strength service payments and annual system strength revenue—NER clauses 6A.23.3(h) and (h1).	Section 6.11.4 of ElectraNet’s proposed amended pricing methodology complies with this requirement.
The TNSP will have separate prices for system strength transmission services—NER clause 6A.23.4(6).	Section 6.12.2 of ElectraNet’s proposed amended pricing methodology complies with this requirement.
The TNSP must calculate the system strength charge in accordance with NER clause 6A.23.5(e).	Section 6.12.1 of ElectraNet’s proposed amended pricing methodology complies with this requirement.

Table A.3 Powerlink’s proposed amendments for system strength pricing

Guideline requirements	AER assessment
Confirm that a System Strength Transmission Service User for a system strength connection point will pay an annual system strength charge in equal monthly instalments from	Sections 6.10.1 and 7.1 of Powerlink’s proposed amended pricing methodology comply with this requirement.

Guideline requirements	AER assessment
<p>the time referred to in paragraph (2)—clause 2.1(k)(1) and NER clause 6A.23.5(c).</p>	
<p>Explain the time at which the system strength charge will commence to be payable by a System Strength Transmission Service User—clause 2.1(k)(2).</p>	<p>Section 6.10.1 of Powerlink’s proposed amended pricing methodology complies with this requirement.</p>
<p>Confirm that the monthly instalments for the system strength charge will be calculated on a pro rata basis for the remaining months of the regulatory year if the obligation to pay the system strength charge commences part way through a regulatory year—clause 2.1(k)(3) and NER clause 6A.23.5(d).</p>	<p>Section 6.10.1 of Powerlink’s proposed amended pricing methodology complies with this requirement.</p>
<p>Explain the methodologies to determine the unit price for each system strength node on its transmission network for the system strength charging period, including its methodology to forecast long run average costs of providing system strength transmission services—clause 2.1(k)(4).</p>	<p>Section 6.10.2 of Powerlink’s proposed amended pricing methodology complies with this requirement.</p>
<p>Set out whether the unit price will be updated for indexation for each regulatory year in the system strength charging period and, if so, the basis for indexation—clause 2.1(k)(5).</p>	<p>Section 6.10.2 of Powerlink’s proposed amended pricing methodology complies with this requirement.</p>
<p>Explain how the methodologies and prices referred to in paragraphs (4) to (5) comply with the requirements in section 2.7(a) and (b) of the guidelines and clause 6A.23.5 of the NER—clause 2.1(k)(6).</p>	<p>Section 6.10.2 of Powerlink’s proposed amended pricing methodology complies with this requirement.</p>
<p>Explain how it will calculate the adjustments required under clause 6A.23.3A(b) of the NER, including the methodologies it will apply to determine forecast annual system strength revenue and estimated actual annual system strength revenue—clause 2.1(k)(7) and NER clause 6A.23.3A(b).</p>	<p>Section 6.9.4 of Powerlink’s proposed amended pricing methodology complies with this requirement.</p>
<p>Explain how the methodologies referred to in paragraph (7) give effect to, and are consistent with, clause 6A.23.3A of the NER and the principles in section 2.8 of the guidelines—clause 2.1(k)(8) and NER clause 6A.23.3A.</p>	<p>Section 6.9.4 of Powerlink’s proposed amended pricing methodology complies with this requirement.</p>
<p>The unit price must be based on a forecast of its long run average costs of providing system strength transmission services at the relevant system strength node—clause 2.7(a)(1).</p>	<p>Section 6.10.2 and appendix F of Powerlink’s proposed amended pricing methodology comply with this requirement.</p>
<p>The unit price must use a period of at least 10 years when forecasting long run costs—clause 2.7(a)(2).</p>	<p>Section 6.10.2 and appendix F of Powerlink’s proposed amended pricing methodology comply with this requirement.</p>
<p>The unit price must set a price on a dollars per MVA per year basis—clause 2.7(a)(3) and NER clause 6A.23.4(h).</p>	<p>Section 6.10.2 and appendix F of Powerlink’s proposed amended pricing methodology comply with this requirement.</p>
<p>The unit price must be fixed for the system strength charging period, except where updated for indexation in accordance with paragraph (b)—clause 2.7(a)(4) and NER clause 6A.23.5(f).</p>	<p>Section 6.10.1 of Powerlink’s proposed amended pricing methodology complies with this requirement.</p>
<p>The system strength provider must set a unit price for each system strength node on its transmission network—clause 2.7(a)(5) and NER clause 6A.24.1(5).</p>	<p>Section 6.10.2 of Powerlink’s proposed amended pricing methodology complies with this requirement.</p>
<p>If the unit price is updated for indexation for each regulatory year in the system strength charging period, the basis for indexation must be consistent with the approach for inflation indexation of the TNSP’s maximum allowed revenue under its revenue determination—clause 2.7(b).</p>	<p>Section 6.10.2 of Powerlink’s proposed amended pricing methodology complies with this requirement.</p>
<p>Principles for determining forecast annual system strength revenue and estimated actual annual system strength revenue—clause 2.8.</p>	<p>Section 6.9.4 of Powerlink’s proposed amended pricing methodology complies with this requirement.</p>

Guideline requirements	AER assessment
Subtract expected system strength payments from the maximum allowed revenue to derive the aggregate annual revenue requirement—NER clause 6A.22.1 (2)(ii)	Section 6.3 of Powerlink’s proposed amended pricing methodology complies with this requirement.
The annual service revenue requirements for prescribed common services is to be adjusted by system strength service payments and annual system strength revenue—NER clauses 6A.23.3(h) and (h1).	Section 6.9.4 of Powerlink’s proposed amended pricing methodology complies with this requirement.
The TNSP will have separate prices for system strength transmission services—NER clause 6A.23.4(6).	Section 6.10.1 of Powerlink’s proposed amended pricing methodology complies with this requirement.
The TNSP must calculate the system strength charge in accordance with NER clause 6A.23.5(e).	Section 6.10 of Powerlink’s proposed amended pricing methodology complies with this requirement.

Table A.4 TasNetworks’ proposed amendments for system strength pricing

Guideline requirements	AER assessment
Confirm that a System Strength Transmission Service User for a system strength connection point will pay an annual system strength charge in equal monthly instalments from the time referred to in paragraph (2)—clause 2.1(k)(1) and NER clause 6A.23.5(c).	Sections 6.12.1 and 7.2 of TasNetworks’ proposed amended pricing methodology comply with this requirement.
Explain the time at which the system strength charge will commence to be payable by a System Strength Transmission Service User—clause 2.1(k)(2).	Section 6.12.1 of TasNetworks’ proposed amended pricing methodology complies with this requirement.
Confirm that the monthly instalments for the system strength charge will be calculated on a pro rata basis for the remaining months of the regulatory year if the obligation to pay the system strength charge commences part way through a regulatory year—clause 2.1(k)(3) and NER clause 6A.23.5(d).	Section 6.12.1 of TasNetworks’ proposed amended pricing methodology complies with this requirement.
Explain the methodologies to determine the unit price for each system strength node on its transmission network for the system strength charging period, including its methodology to forecast long run average costs of providing system strength transmission services—clause 2.1(k)(4).	Section 6.12.2 of TasNetworks’ proposed amended pricing methodology complies with this requirement.
Set out whether the unit price will be updated for indexation for each regulatory year in the system strength charging period and, if so, the basis for indexation—clause 2.1(k)(5).	Section 6.12.2 of TasNetworks’ proposed amended pricing methodology complies with this requirement.
Explain how the methodologies and prices referred to in paragraphs (4) to (5) comply with the requirements in section 2.7(a) and (b) of the guidelines and clause 6A.23.5 of the NER—clause 2.1(k)(6).	Section 6.12.2 of TasNetworks’ proposed amended pricing methodology complies with this requirement.
Explain how it will calculate the adjustments required under clause 6A.23.3A(b) of the NER, including the methodologies it will apply to determine forecast annual system strength revenue and estimated actual annual system strength revenue—clause 2.1(k)(7) and NER clause 6A.23.3A(b).	Section 6.11.4 of TasNetworks’ proposed amended pricing methodology complies with this requirement.
Explain how the methodologies referred to in paragraph (7) give effect to, and are consistent with, clause 6A.23.3A of the NER and the principles in section 2.8 of the guidelines—clause 2.1(k)(8) and NER clause 6A.23.3A.	Section 6.11.4 of TasNetworks’ proposed amended pricing methodology complies with this requirement.
The unit price must be based on a forecast of its long run average costs of providing system strength transmission services at the relevant system strength node—clause 2.7(a)(1).	Section 6.12.2 and appendix G of TasNetworks’ proposed amended pricing methodology comply with this requirement.

Guideline requirements	AER assessment
The unit price must use a period of at least 10 years when forecasting long run costs—clause 2.7(a)(2).	Section 6.12.2 and appendix G of TasNetworks’ proposed amended pricing methodology comply with this requirement.
The unit price must set a price on a dollars per MVA per year basis—clause 2.7(a)(3) and NER clause 6A.23.4(h).	Section 6.12.2 and appendix G of TasNetworks’ proposed amended pricing methodology comply with this requirement.
The unit price must be fixed for the system strength charging period, except where updated for indexation in accordance with paragraph (b)—clause 2.7(a)(4) and NER clause 6A.23.5(f).	Section 6.12.1 of TasNetworks’ proposed amended pricing methodology complies with this requirement.
The system strength provider must set a unit price for each system strength node on its transmission network—clause 2.7(a)(5) and NER clause 6A.24.1(5).	Section 6.12.2 of TasNetworks’ proposed amended pricing methodology complies with this requirement.
If the unit price is updated for indexation for each regulatory year in the system strength charging period, the basis for indexation must be consistent with the approach for inflation indexation of the TNSP’s maximum allowed revenue under its revenue determination—clause 2.7(b).	Section 6.12.2 of TasNetworks’ proposed amended pricing methodology complies with this requirement.
Principles for determining forecast annual system strength revenue and estimated actual annual system strength revenue—clause 2.8.	Section 6.11.4 of TasNetworks’ proposed amended pricing methodology complies with this requirement.
Subtract expected system strength payments from the maximum allowed revenue to derive the aggregate annual revenue requirement—NER clause 6A.22.1 (2)(ii)	Section 6.3 of TasNetworks’ proposed amended pricing methodology complies with this requirement.
The annual service revenue requirements for prescribed common services is to be adjusted by system strength service payments and annual system strength revenue—NER clauses 6A.23.3(h) and (h1).	Section 6.11.4 of TasNetworks’ proposed amended pricing methodology complies with this requirement.
The TNSP will have separate prices for system strength transmission services—NER clause 6A.23.4(6).	Section 6.12.2 of TasNetworks’ proposed amended pricing methodology complies with this requirement.
The TNSP must calculate the system strength charge in accordance with NER clause 6A.23.5(e).	Section 6.12.1 of TasNetworks’ proposed amended pricing methodology complies with this requirement.

Table A.5 AEMO’s proposed amendments for system strength pricing

Guideline requirements	AER assessment
Confirm that a System Strength Transmission Service User for a system strength connection point will pay an annual system strength charge in equal monthly instalments from the time referred to in paragraph (2)—clause 2.1(k)(1) and NER clause 6A.23.5(c).	Sections 3.5.4.2 and 6.3 of AEMO’s proposed amended pricing methodology comply with this requirement.
Explain the time at which the system strength charge will commence to be payable by a System Strength Transmission Service User—clause 2.1(k)(2).	Section 3.5.4.2 of AEMO’s proposed amended pricing methodology complies with this requirement.
Confirm that the monthly instalments for the system strength charge will be calculated on a pro rata basis for the remaining months of the regulatory year if the obligation to pay the system strength charge commences part way through a regulatory year—clause 2.1(k)(3) and NER clause 6A.23.5(d).	Section 3.5.4.2 of AEMO’s proposed amended pricing methodology complies with this requirement.
Explain the methodologies to determine the unit price for each system strength node on its transmission network for the system strength charging period, including its	Section 3.5.4.1 of AEMO’s proposed amended pricing methodology complies with this requirement.

Guideline requirements	AER assessment
methodology to forecast long run average costs of providing system strength transmission services—clause 2.1(k)(4).	
Set out whether the unit price will be updated for indexation for each regulatory year in the system strength charging period and, if so, the basis for indexation—clause 2.1(k)(5).	Section 3.5.4.1.2 of AEMO's proposed amended pricing methodology complies with this requirement.
Explain how the methodologies and prices referred to in paragraphs (4) to (5) comply with the requirements in section 2.7(a) and (b) of the guidelines and clause 6A.23.5 of the NER—clause 2.1(k)(6).	Section 3.5.4.1 of AEMO's proposed amended pricing methodology complies with this requirement.
Explain how it will calculate the adjustments required under clause 6A.23.3A(b) of the NER, including the methodologies it will apply to determine forecast annual system strength revenue and estimated actual annual system strength revenue—clause 2.1(k)(7) and NER clause 6A.23.3A(b).	Section 3.3.4 of AEMO's proposed amended pricing methodology complies with this requirement.
Explain how the methodologies referred to in paragraph (7) give effect to, and are consistent with, clause 6A.23.3A of the NER and the principles in section 2.8 of the guidelines—clause 2.1(k)(8) and NER clause 6A.23.3A.	Section 3.3.4 of AEMO's proposed amended pricing methodology complies with this requirement.
The unit price must be based on a forecast of its long run average costs of providing system strength transmission services at the relevant system strength node—clause 2.7(a)(1).	Section 3.5.4.1 and appendix D of AEMO's proposed amended pricing methodology comply with this requirement.
The unit price must use a period of at least 10 years when forecasting long run costs—clause 2.7(a)(2).	Section 3.5.4.1 and appendix D of AEMO's proposed amended pricing methodology comply with this requirement.
The unit price must set a price on a dollars per MVA per year basis—clause 2.7(a)(3) and NER clause 6A.23.4(h).	Section 3.5.4.1 and appendix D of AEMO's proposed amended pricing methodology comply with this requirement.
The unit price must be fixed for the system strength charging period, except where updated for indexation in accordance with paragraph (b)—clause 2.7(a)(4) and NER clause 6A.23.5(f).	Section 3.5.4.2 of AEMO's proposed amended pricing methodology complies with this requirement.
The system strength provider must set a unit price for each system strength node on its transmission network—clause 2.7(a)(5) and NER clause 6A.24.1(5).	Section 3.5.4.1 of AEMO's proposed amended pricing methodology complies with this requirement.
If the unit price is updated for indexation for each regulatory year in the system strength charging period, the basis for indexation must be consistent with the approach for inflation indexation of the TNSP's maximum allowed revenue under its revenue determination—clause 2.7(b).	Section 3.5.4.1.2 of AEMO's proposed amended pricing methodology complies with this requirement.
Principles for determining forecast annual system strength revenue and estimated actual annual system strength revenue—clause 2.8.	Section 3.3.4 of AEMO's proposed amended pricing methodology complies with this requirement.
The annual service revenue requirements for prescribed common services is to be adjusted by system strength service payments and annual system strength revenue—NER clauses 6A.23.3(h) and (h1).	Section 3.3.4 of AEMO's proposed amended pricing methodology complies with this requirement.
The TNSP will have separate prices for system strength transmission services—NER clause 6A.23.4(6).	Section 1.3.4 of AEMO's proposed amended pricing methodology complies with this requirement.
The TNSP must calculate the system strength charge in accordance with NER clause 6A.23.5(e).	Section 3.5.4.2 of AEMO's proposed amended pricing methodology complies with this requirement.

Appendix B Non-system strength providers

Table B.1 sets out the sections of the non-system strength providers' proposed amended pricing methodologies that comply with the requirements of the guidelines (and the NER where stated).

Table B.1 Ausgrid's proposed amendments for system strength pricing

Guideline requirements	AER assessment
<p>Explain how the non-system strength provider will set charges applicable to each system strength connection point on its transmission network to recover on a pass through basis the annual system strength charge determined by the relevant System Strength Service Provider—clause 2.7(l)(1) and NER clause 6A.23.6(b).</p>	<p>Sections 1.4, 2.2 and 3.9 of Ausgrid's proposed amended pricing methodology comply with this requirement.</p>
<p>Explain how the charges referred to in paragraph (1) comply with the requirements of clause 6A.23.6 of the NER, including how the amount, structure and timing of the charges replicates as far as reasonably practical the amount, structure and timing of the corresponding system strength charge billed by the System Strength Service Provider—clause 2.7(l)(2)(A) and NER clause 6A.23.6.</p>	<p>Section 3.9 of Ausgrid's proposed amended pricing methodology complies with this requirement.</p>
<p>Explain the reasons for any differences between the amount, structure and timing of the charges referred to in paragraph (1) and the amount, structure and timing of the corresponding system strength charge billed to the TNSP by the System Strength Service Provider—clause 2.7(l)(2)(B) and NER clause 6A.23.6.</p>	<p>Section 3.9 of Ausgrid's proposed amended pricing methodology complies with this requirement.</p>

Appendix C AER amendments to proposed amended pricing methodologies

Table C.1 AER amendments

TNSP	Section (page)	Amendment
AEMO	Various	Amended “1 July 2023” to “1 July 2022” to reflect the start date of the regulatory control period in which the pricing methodology applies.
AEMO	3.3.4 (page 11)	Additional text included to be consistent with the proposed amended pricing methodologies of the other system strength providers.
AEMO	3.5.4.2 (page 17)	To be consistent with the definition of “system strength charging period” in clause 6A.23.5(b) of the NER, amend as follows: “The system strength charging period is from 1 July 2023 until 30 June 2027 2028...”
AEMO	3.5.4.1.2 (page 16)	Amend the basis of indexation from: “AEMO will use an estimate of the average annual rate of inflation expected over a five-year period based on the approach adopted in AER’s 2020 Inflation Review and the forecast from the Reserve Bank of Australia’s August or November Statement on Monetary Policy.” to: “The SSUP will be indexed annually by the same inflation series the AER uses to index the maximum allowed revenue under the revenue determination of AusNet Services from one year to the next, as it captures inflation conditions applicable to Victoria.”
AusNet Services	Various	Amended “1 July 2023” to “1 April 2022” to reflect the start date of the regulatory control period in which the pricing methodology applies.
Transgrid	7.5.2 (page 23)	Remove “forward looking” from the definition of SSUP: “SSUP = The total forward-looking long run capital and operating...”

Glossary

Term	Definition
AEMC	Australian Energy Market Commission
AEMO	Australian Energy Market Operator
AER	Australian Energy Regulator
NER	National Electricity Rules
NSW	New South Wales
SSSP	System strength service provider
SSUP	System strength unit price
TNSP	Transmission network service provider
