



FINAL DECISION
TransGrid transmission
determination
2015–16 to 2017–18

Attachment 12 – Pricing
methodology

April 2015

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Note

This attachment forms part of the AER's final decision on TransGrid's revenue proposal 2015–18. It should be read with other parts of the final decision.

The final decision includes the following documents:

Overview

Attachment 1 – maximum allowed revenue

Attachment 2 – regulatory asset base

Attachment 3 – rate of return

Attachment 4 – value of imputation credits

Attachment 5 – regulatory depreciation

Attachment 6 – capital expenditure

Attachment 7 – operating expenditure

Attachment 8 – corporate income tax

Attachment 9 – efficiency benefit sharing scheme

Attachment 10 – capital expenditure sharing scheme

Attachment 11 – service target performance incentive scheme

Attachment 12 – pricing methodology

Attachment 13 – pass through events

Attachment 14 – negotiated services

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Shortened forms

Shortened form	Extended form
AARR	aggregate annual revenue requirement
AEMC	Australian Energy Market Commission
AEMO	Australian Energy Market Operator
AER	Australian Energy Regulator
ASRR	annual service revenue requirement
augex	augmentation expenditure
capex	capital expenditure
CCP	Consumer Challenge Panel
CESS	capital expenditure sharing scheme
CPI	consumer price index
DRP	debt risk premium
EBSS	efficiency benefit sharing scheme
ERP	equity risk premium
MAR	maximum allowed revenue
MRP	market risk premium
NEL	national electricity law
NEM	national electricity market
NEO	national electricity objective
NER	national electricity rules
NSP	network service provider

Shortened form	Extended form
NTSC	negotiated transmission service criteria
opex	operating expenditure
PPI	partial performance indicators
PTRM	post-tax revenue model
RAB	regulatory asset base
RBA	Reserve Bank of Australia
repex	replacement expenditure
RFM	roll forward model
RIN	regulatory information notice
RPP	revenue and pricing principles
SLCAPM	Sharpe-Lintner capital asset pricing model
STPIS	service target performance incentive scheme
TNSP	transmission network service provider
TUoS	transmission use of system
WACC	weighted average cost of capital

12 Pricing methodology

This attachment is our final determination on TransGrid's revised pricing methodology for the 2015–18 regulatory control period. It includes our assessment of both TransGrid's proposed intra- and inter-regional transmission charging arrangements.

A pricing methodology must be specified as part of our transmission determination¹ and answers the question 'who should pay how much'² in order for a transmission business to recover its costs. To do this, it must provide a 'methodology, formula, process or approach'³ that when applied:

- allocates the aggregate annual revenue requirement to the categories of prescribed transmission services that a transmission business provides and to the connection points of network users⁴
- determines the structure of prices that a transmission business may charge for each category of prescribed transmission services.⁵

A pricing methodology relates to prescribed transmission services only. For negotiated services, TransGrid must comply with other requirements which are discussed in attachment 14.

12.1 Final decision

We approve TransGrid's revised pricing methodology for the 2015–18 regulatory control period. It includes amendments to aspects of TransGrid's initial proposal which were not accepted in our draft decision. Taking them into account, we consider TransGrid's revised pricing methodology gives effect to the pricing principles in the National Electricity Rules and complies with the requirements set out in the pricing methodology guidelines.⁶

In this final decision document, we have also set out our approval of TransGrid's approach to addressing inter-regional transmission charging arrangements.⁷

¹ NER, cl. 6A.2.2(4).

² AEMC, *Rule determination: National Electricity Amendment (Pricing of Prescribed Transmission Services) Rule 2006 No. 22*, 21 December 2006, p. 1.

³ NER, cl. 6A.24.1(b).

⁴ NER, cl. 6A.24.1(b)(1).

⁵ NER, cl. 6A.24.1(b)(2).

⁶ NER, cl. 6A.24.1(c).

⁷ Our approval is made under clause 6A.14.3(g) with reference to transitional clause 11.64.3 of the NER: AEMC Rule Determination National Electricity Amendment (Inter-regional transmission charging) Rule 2013, 28 February 2013.

12.2 TransGrid’s revised proposal

Our draft decision did not accept aspects of TransGrid's initial proposal. Its revised pricing methodology sought to address those aspects. It also included a proposal for addressing a rule change introducing inter–regional transmission charging arrangements.

On each aspect of its pricing methodology, TransGrid's revised pricing methodology either put forward an alternative proposal or accepted our draft decision. Table 12.1 sets out the approach TransGrid's revised pricing methodology took on each aspect of its initial proposal which our draft decision did not accept.

Table 12.1 Comparison of initial and revised pricing methodology

Initial proposal	Revised pricing methodology	Approach
For locational TUoS services, using a 20 day peak period cost allocation method	Alternative approach proposed.	TransGrid's revised pricing methodology proposes to apply the 12 month 'element peak' approach, instead of the 20 day cost allocation method.
For non–locational TUoS services, basing prices on maximum demand and applying a side constraint equal to CPI+3 per cent	Alternative approach proposed.	TransGrid's revised pricing methodology proposes to base non–locational prices on maximum demand with no side constraint.
The ability to amend aspects of TransGrid's approved pricing methodology during the regulatory control period	Alternative approach proposed.	TransGrid proposed to use the modified cost reflective network pricing methodology for all of the 2015–18 period.
The ability to negotiate a fixed price with its transmission network customers.	Draft decision accepted.	TransGrid's revised pricing methodology did not include these arrangements.
The introduction of MVA pricing	Draft decision accepted.	TransGrid's revised pricing methodology did not include these arrangements.

Source: AER analysis.

Additionally, TransGrid's revised pricing methodology included an attachment which addresses a recent rule change but which did not form part of its initial proposal. This supplement outlined how TransGrid proposes to calculate the modified load export charge. It is a new charge for inter–regional transmission charging arrangements which TransGrid is required to levy from 1 July 2015.

12.3 AER’s assessment approach

We must approve a proposed pricing methodology if we are satisfied that it:

- gives effect to, and complies with, the pricing principles for prescribed transmission services

- complies with the requirements of, and contains or is accompanied by information, as required by the pricing methodology guidelines.

Our assessment approach was guided by these requirements. In particular, we evaluated whether the amendments in TransGrid's revised pricing methodology, made in response to our draft decision, give effect to the pricing principles and comply with the pricing methodology guidelines.

12.4 Reasons for final decision

Our final decision is that TransGrid's revised pricing methodology meets the requirements in the NER and the pricing methodology guidelines. We reached this decision by assessing how TransGrid's revised pricing methodology addresses the aspects of its initial proposal which we did not accept in the draft decision.

In relation to inter–regional arrangements, we consider whether the attachment to TransGrid's revised pricing methodology complied with clause 6A.24.1(b) of the NER. We also based our assessment on the requirements set out in section 2.6(a)–(g) of our pricing methodology guidelines relating to inter-regional charges (ref).

12.4.1 Locational TUoS services

We accept the proposed approach in TransGrid's revised pricing methodology for recovering the locational component of transmission use of system (TUoS) services. Unlike the method put forward in its initial pricing methodology, TransGrid's proposed '12 month' approach is one of the two permissible charging structures in the pricing methodology guidelines.

12.4.1.1 Regulatory requirements

The charging structure for the locational component of TUoS services must comply with the NER and pricing methodology guidelines. The NER sets out the high level requirements. The guidelines clarify the pricing structures which the AER considers to be permissible.

More specifically, the NER states that the price charged for the locational component of TUoS services must be based on demand.⁸ In practice, this requires the use of a software program called T–PRICE. It allocates costs to customer connection points on the basis of demand, by modelling electricity flows along a transmission business's network.

The NER also requires transmission businesses to have regard to certain operating conditions when allocating costs on the basis of demand. Specifically, 'times of greatest utilisation of the transmission network for which network investment may be

⁸ NER, cl. 6A.23.4(e).

contemplated'.⁹ In this way, customers which impose greater stress on the network at peak times have more costs allocated to their connection point.

Our pricing methodology guidelines elaborate on these NER requirements. This is by setting out two permissible pricing structures, which the AER considers to comply with the NER. These are a 12 month and a 10 day peak method.¹⁰ The 12 month method is sometimes referred to as the 'element peak approach' because it takes local system conditions into account. The 10 day method does not consider local conditions so it is often referred to as the 'system peak approach'. We can also approve alternative methods proposed by transmission businesses, subject to meeting certain requirements.¹¹

12.4.1.2 Initial pricing methodology

TransGrid's initial pricing methodology proposal put forward an alternative pricing structure for locational TUoS services, which can be described as a 20 day peak method. It was similar to the 10 day peak method permissible in the AER's pricing methodology guidelines except that TransGrid sought to expand the time period over which demand is assessed at a connection point, from 10 to 20 days.

As an alternative pricing structure, TransGrid was required to show that applying the proposed 20 day peak method:

- gave effect to the pricing principles in the NER
- improved on the permitted pricing structures in the pricing methodology guidelines
- contributed to the national electricity objective.¹²

Our draft decision accepted that these requirements may be met, but that further consultation was required.¹³ This was in light of stakeholder submissions. Most notably, ElectraNet submitted that the 'merits of the proposed change do not appear to have been adequately demonstrated to support an informed decision on this proposal by the AER or consumers at this stage'.¹⁴ We therefore did not accept the 20 day peak method in our draft decision noting that further consultation was required and allowing TransGrid to provide more information.

12.4.1.3 Revised pricing methodology

For the locational component of TUoS services, TransGrid's revised pricing methodology applies the 12 month approach for allocating costs on the basis of

⁹ NER, cl. 6A.23.4(e).

¹⁰ AER, *Draft decision: TransGrid transmission determination 2014–15 and 2017–18*, November 2014, p 12–10.

¹¹ AER, *Pricing methodology guidelines*, July 2014, section 2.2(e).

¹² AER, *Pricing methodology guidelines*, July 2014, section 2.2(e).

¹³ AER, *Draft decision: TransGrid transmission determination 2014–15 and 2017–18*, November 2014, p 12–10.

¹⁴ ElectraNet, *Submission on TransGrid's proposed pricing methodology*, 7 August 2014, p. 2.

demand.¹⁵ This is a permissible pricing structure under the pricing methodology guidelines.¹⁶ It is proposed in place of TransGrid's initially proposed 20 day peak method. This means TransGrid did not seek to provide further justification for its 20 day peak method or respond directly to stakeholder concerns. Such matters can be raised as part of any guideline review process outside of a reset determination.

As a permissible pricing structure, our final decision is to accept TransGrid's proposed 12 month peak approach. It derives the locational price for TUoS services using the demand negotiated in a customer's connection agreement.¹⁷ Alternatively, if the customer's maximum demand has exceeded its contracted agreed maximum, then TransGrid will use 'the transmission customer's maximum demand in the previous 12 months'.¹⁸ This is also the same approach TransGrid applied in its 2009–14 regulatory control period.

12.4.2 Non-locational TUoS and common services

We accept TransGrid's revised proposal to recover the cost of the non-locational component of TUoS services according to customer demand. TransGrid also proposed to set the price of common transmission services in the same manner. We approve that approach as well.

12.4.2.1 Regulatory requirements

The NER requires that the prices for the non-locational component of TUoS services must be recovered on a 'postage stamp basis'.¹⁹ It requires the price of common transmission services to be recovered in this manner too. The NER defines 'postage stamp basis' as:

A system of charging Network Users for transmission service or distribution service in which the price per unit is the same regardless of how much energy is used by the Network User or the location in the transmission network or distribution network of the Network User.

The pricing methodology guidelines expand on this requirement. This is by specifying the pricing structures which the AER considers to comply with the NER and hence be approved as an acceptable approach to postage stamp pricing. Two 'permitted' approaches are specified:

- either contract agreed maximum demand or historical energy or
- maximum demand only

¹⁵ TransGrid, *Revised pricing methodology proposal: 2015–16 to 2018–19*, 13 January 2015, p. 13.

¹⁶ AER, *Pricing methodology guidelines*, July 2014, section 2.2(c).

¹⁷ AER, *Pricing methodology guidelines*, July 2014, section 2.2(c)(1).

¹⁸ AER, *Pricing methodology guidelines*, July 2014, section 2.2(c)(1).

¹⁹ NER, cl. 6A.24.4(d) and (j).

Transmission businesses may propose alternative approaches. The AER, however, will only approve an alternative approach if it is consistent with the pricing principles in the NER, improves on the permitted pricing structures in the guidelines, and contributes to the national electricity objective.²⁰

12.4.2.2 Initial pricing methodology

TransGrid initially proposed a maximum demand based postage stamp pricing structure with a 'CPI+3 percent' side constraint.

The proposal to set prices on the basis of maximum demand is permitted in the pricing methodology guidelines.²¹ However, we did not approve the methodology on the basis that the addition of the side constraint did not comply with the definition of postage stamp pricing.²² Our reasoning was that the side constraint would lead to some customers being charged a higher (or lower) price than other customers.

TransGrid acknowledged this outcome in its initial proposal. It stated that 'if the application of the price constraint would result in a revenue shortfall, this shortfall may be recovered by adjusting upward the charges that would otherwise apply in respect of non-locational TUoS services'.²³ The result would be that 'the postage stamp charge will therefore be reduced at the relevant connection point(s) on a transitional basis, and a compensating increase will apply at the remaining connection points'.²⁴

We concluded in our draft decision that basing prices on maximum demand, with a side constraint, did not comply with the NER.²⁵ In order for TransGrid to recover its revenue requirement, some customers would incur a higher price than others. This is not consistent with postage stamp pricing, where all customers are charged the *same* price regardless of their energy usage or location.

12.4.2.3 Revised pricing methodology

TransGrid's revised postage stamp pricing structure for non-locational TUoS and common transmission services removes the side constraint but is otherwise the same as the proposal put forward in its initial pricing methodology.

In the absence of a side constraint, TransGrid's revised proposal bases prices on demand only. This is different to both its initial proposal and the way in which TransGrid has calculated non-locational TUoS and common transmission service prices in the 2009–14 period. Specifically:

²⁰ AER, *Pricing methodology guidelines*, July 2014, section 2.3(e).

²¹ AER, *Pricing methodology guidelines*, July 2014, section 2.3(b)(1).

²² AER, *Draft decision: TransGrid transmission determination 2014–15 and 2017–18*, November 2014, p 12–14.

²³ TransGrid, *Proposed pricing methodology*, 2 June 2014, p. 18.

²⁴ TransGrid, *Proposed pricing methodology*, 2 June 2014, p. 19.

²⁵ AER, *Draft decision: TransGrid transmission determination 2014–15 and 2017–18*, November 2014, p 12–14.

- in TransGrid's initial proposal it sought to calculate prices on the basis of demand, subject to a side constraint (see section 12.4.2.2 above)
- in the 2009–14 period TransGrid based prices on either contract agreed maximum demand or historical energy.

The NER requires prices for non–locational TUoS and common transmission services to be postage stamped. In the absence of a side constraint, basing prices on maximum demand meets that requirement. The pricing methodology guidelines specify the NER compliant postage stamp pricing structures, of which basing prices on maximum demand is recognised as permissible.²⁶ We received submissions on this aspect of TransGrid's revised pricing methodology and in light of these, further considered if TransGrid's proposed arrangements are consistent with the national electricity objective (NEO). This requires us to consider if our approval of using maximum demand to derive postage stamp prices would:

promote efficient investment in, and efficient operation and use of, electricity services for the long term interests of consumers of electricity with respect to -

- (a) price, quality, safety, reliability and security of supply of electricity; and
- (b) the reliability, safety and security of the national electricity system.

The effect of the change to move to maximum demand only and away from energy needs to be considered. As noted, in the 2009–14 regulatory control period TransGrid calculated the price of non–locational TUoS and common transmission services using either maximum demand or energy. Of these, the measure it applied at a connection point depended on what was the lowest pricing outcome. In this way, if the charge at a connection point was highest when maximum demand was applied then TransGrid would use energy to set the price. Conversely if energy resulted in a higher charge then maximum demand would be used.

The effect of TransGrid's revised proposal would be to remove the availability of energy based prices for non–locational TUoS and common transmission services. This means customers at connection points which had access to energy based prices in the 2009–14 regulatory control period would no longer have that access and would be charged on the basis of their maximum demand. No scope for energy based prices would be available, as previously existed. This may lead to some customers paying more, and others less.

In assessing whether this outcome is consistent with the NEO we have considered stakeholder submissions. Norske Skog Albury Mill, a large energy user in NSW, provided support for TransGrid implementing 'universal demand based pricing for the postage stamped elements'.²⁷ The Major Energy Users (MEU) has also made submissions to the AER on this subject. It provided longitudinal analysis showing that

²⁶ AER, *Pricing methodology guidelines*, July 2014, section 2.3(b)(2).

²⁷ Norske Skog Albury Mill, Submission on TransGrid's revised proposal, February 2015, p. 10.

TransGrid's approach to postage stamp pricing in 2009–14 has been biased against customers with a high load factor.²⁸

The MEU's longitudinal analysis showed that '[u]sing the same exit point (New Norfolk) and costing transmission for two users with the same demand but different load factors (80 per cent and 30 per cent), the high load factor user pays a considerable premium for transmission services'.²⁹ It observed this premium to be in the range of 25 to 35 percent.³⁰

In considering the results of the MEU's longitudinal analysis, we referred to the AEMC's Power of Choice report. It noted the inefficiencies associated with a low load factor. In particular, customers with a low ratio of average demand to peak demand leads to increased costs in developing new generation and network infrastructure, to service incremental peak demand.³¹ The AEMC noted that these 'costs are ultimately passed on to customers and can contribute to substantial increases in end user bills'.³²

Taking these considerations into account, we conclude that TransGrid's proposed postage stamp structure for non–locational and common transmission services is likely to meet or contribute to the aims set out in the NEO. This is because moving to prices based on demand is a more cost reflective approach.

Therefore, this will 'promote efficient investment in, and efficient operation and use of, electricity services for the long term interests of consumers'. In light of the MEU's longitudinal analysis this is likely to be achieved through removal of the premium that customers with a high load factor currently pay under TransGrid's 2009–14 postage stamp pricing approach.

12.4.2.4 Modified cost reflective network pricing

We approve TransGrid's proposed use of the modified version of the cost reflective network pricing methodology. Under the NER, it is a permissible method for allocating costs relating to the locational component of TUoS services.³³

12.4.2.5 Regulatory requirements

A pricing methodology must allocate a transmission business's revenue requirement to the connection points of network users.³⁴ For a proportion of shared network services, referred to as the non-locational component of TUoS services, the NER requires

²⁸ In electrical engineering, load factor is a measure of a connection point's load profile. It is calculated by dividing a customer's peak load by its average load in a specified time period.

²⁹ Major Energy Users, *Submission on TasNetworks regulatory proposal*, August 2014, p. 74.

³⁰ Major Energy Users, *Submission on TasNetworks regulatory proposal*, August 2014, p. 74.

³¹ AEMC, *Final report: Power of choice review: Giving consumers options in the way they use electricity*, 30 November 2012, p. 10.

³² AEMC, *Final report: Power of choice review: Giving consumers options in the way they use electricity*, 30 November 2012, p. 10.

³³ NER, cl. S6A.3.2 and S6A.3.3.

³⁴ NER, cl. 6A.24.1(b).

transmission businesses to conduct this allocation using either a *standard* or *modified* cost reflective network pricing methodology.³⁵

At a high level, both the standard and modified cost reflective network pricing methodologies comprise of running T-PRICE software. This program allocates revenue to a transmission business' connection points by modelling the flow of electricity along its network. The difference between the methodologies is that when allocating revenue, the standard version does not discount for the level of network utilisation at a connection point whereas the modified version does take that factor into account.³⁶

12.4.2.5.1 Initial pricing methodology

TransGrid's initial pricing methodology provided that it will apply the *standard* cost reflective network pricing methodology.³⁷ Notwithstanding this, it sought the option to switch to the *modified* cost reflective network pricing methodology within the 2015–18 regulatory control period. TransGrid stated that it would exercise this option if it determines that the switch would provide better price signals.³⁸

In effect, TransGrid did not want to commit to either the standard or modified cost reflective network methodologies. We understood that this was so TransGrid could have additional time to assess the benefits of each.³⁹ We, however, considered this to be non-compliant with the NER.

The NER stipulates that a pricing methodology as approved by us and as included in a transmission determination *must* apply for the duration of the regulatory control period and may not be amended during the regulatory control period.⁴⁰ We considered that switching methodology at any time during the regulatory control period would be effectively an amendment to the approved pricing methodology.⁴¹

Additionally, we would have concerns about TransGrid making unilateral decisions to alter its pricing methodology without us making a determination and, potentially, in the absence of effective consultation with stakeholders. The proposal also removed the certainty for customers that prices will be determined in a particular way for the duration of the regulatory period.

We thus considered this aspect of TransGrid's initial pricing methodology non-compliant with the regulatory requirements. To be approved at the final decision stage, we required certainty as to the methodology (standard or modified) TransGrid will use throughout the 2015–18 regulatory control period.

³⁵ NER, cl. S6A.3.2 and S6A.3.3.

³⁶ NER, cl. S6A.3.2 and S6A.3.3.

³⁷ TransGrid, *Proposed pricing methodology*, 2 June 2014, p. 11.

³⁸ TransGrid, *Proposed pricing methodology*, 2 June 2014, p. 12.

³⁹ TransGrid, *Proposed pricing methodology*, 2 June 2014, p. 18.

⁴⁰ NER, cl. 6A.24.1(e) and (f); see chapter 10 for the definition of "pricing methodology": For a [TNSP], means the pricing methodology approved by the AER for that [TNSP] and including in a transmission determination as referred to in rule 6A.24.

⁴¹ A TNSP may amend its pricing methodology but only in very limited circumstances under clause 6A.15.

12.4.2.5.2 Revised pricing methodology

TransGrid's revised pricing methodology specifies that it will apply the modified version of cost reflective network pricing.⁴² This is permissible under the NER. This is for the duration of the 2015–18 regulatory control period. We therefore approve TransGrid's revised approach.

12.4.3 Inter-regional transmission charging arrangements

We approve TransGrid's proposed arrangements for the introduction of inter-regional transmission charging in the national electricity market.

These arrangements were included in an attachment to TransGrid's revised pricing methodology to address a rule change which requires that its pricing methodology include an updated method for the calculation of both intra and inter-regional transmission charges.⁴³ This was not addressed in TransGrid's initial proposal.

12.4.3.1 Regulatory requirements

In February 2013, the AEMC made a rule change introducing inter-regional transmission charging arrangements. Those arrangements required us to amend our pricing methodology guidelines, which we did in July 2014.

Following this, certain transmission businesses are required to amend their pricing methodologies to give effect to the new rule and comply with our guidelines.

Specifically, the rule change applies to the coordinating network service provider for a region. That is, Powerlink, TransGrid, the Australian Energy Market Operator (AEMO), TasNetworks and ElectraNet. Each of them is required to amend their pricing methodologies and submit them for AER approval by no later than 27 February 2015. TransGrid's initial proposal was submitted on 2 June 2014, and it was not required to address inter-regional charging in that proposal. It submitted its revised proposal on 13 January 2015 at which time it was able to also submit its amendments to address inter-regional charging in addition to its revised pricing methodology.

Clause 6A.24.1(b) sets out the new requirements for inter-regional charging.⁴⁴ In addition to complying with other obligations under Chapter 6A of the NER, the clause provides that a coordinating network service provider's pricing methodology must provide for:

- (1) the allocation of the aggregate annual revenue requirement for their region(s)

⁴² TransGrid, *Revised pricing methodology proposal: 2015–16 to 2018–19*, 13 January 2015, p. 12.

⁴³ AEMC Rule Determination National Electricity Amendment (Inter-regional transmission charging) Rule 2013, 28 February 2013.

⁴⁴ These new requirements are to take effect as of 1 July 2015: National Electricity Amendment (Inter-regional Transmission Charging) Rule 2013 No.1.

(2) the calculation of the modified load export charge consistent with clause 6A.29A.2

(3) the allocation of billing of modified load export charges:

(i) receivable by other coordinating network service providers in interconnected regions

(ii) payable to other coordinating network service providers in interconnected regions

to each transmission network service provider within its region under clause 6A.29A.5; and

(4) the allocation of proceedings from auctions or a portion of settlements residue receivable by or payable to the transmission network service provider in its region as referred to in clause 6A.23.3(b)(1).

The AER's pricing methodology guidelines provides guidance on this provision,⁴⁵ as well as other related provisions introduced under the rule change including new rule 6A.29A. It sets out the arrangements for the calculation, billing and payment of modified load export charges.

12.4.3.2 Revised pricing methodology

TransGrid's revised pricing methodology included:

- information required under the NER and the AER's pricing methodology guidelines
- a description of how the modified load export charge will be calculated

We observed that TransGrid's proposed approach to the introduction of inter-regional transmission charging arrangements complies with the NER and the pricing methodology guidelines. Additionally, TransGrid's description of how the modified load export charge will be calculated gives effect to the methodology set out in clause 6A.29A.2 of the NER.

⁴⁵ AER, *Pricing methodology guidelines*, July 2014, section 2.6.

Table 12.2 Assessment against the NER and the guidelines

Requirement	Summary of requirement	Assessment
<p>NER, clause 6A.24.1(b)</p> <p>Clause 2.6(a) of the pricing methodology guidelines</p>	<p>Where a TNSP is the co-ordinating network service provider for a region its pricing methodology is required to detail how it will derive the AARR for prescribed transmission services in that region, including any allocation of the AARR in an interconnected region as agreed between TNSPs in accordance with clause 6A.29.3 of the NER.</p>	<p>The introduction to attachment 1 of the proposed pricing methodology complies with this requirement. It states that TransGrid will calculate the AARR for the NSW region.</p>
<p>NER, clause 6A.29.A.2</p> <p>Clause 2.6(b) of the pricing methodology guidelines</p>	<p>Where a TNSP is the co-ordinating network service provider for one or more regions, it is required to detail how it will calculate the modified load export charge payable to it by the co-ordinating network service provider for each interconnected region, in accordance with clause 6A.29A.2 of the NER</p>	<p>Attachment 1 of the proposed pricing methodology complies with this requirement.</p>
<p>Clause 2.6(c) of the pricing methodology guidelines</p>	<p>Where there is more than one transmission business in a region, the co-ordinating network service provider must provide details in its pricing methodology regarding how it will allocate any amounts receivable by or payment to other transmission businesses in accordance with clause 6A.29A.5 of the NER</p>	<p>Attachment 1 (section 5) of TransGrid’s proposed pricing methodology complies with this requirement.</p>
<p>Clause 2.6(d) of the pricing methodology guidelines</p>	<p>When allocating any amounts receivable by or payable to other transmission businesses as per clause 6A.29A.5 of the NER, a co-ordinating network service provider is required to specify in its pricing methodology that the allocation of those amounts will be conducted according to intra–regional, rather than inter–regional, network utilisation</p>	<p>Attachment 1 (section 5) of the proposed pricing methodology complies with this requirement.</p>
<p>Clause 2.6(e) of the pricing methodology guidelines</p>	<p>If a TNSP has appointed a co-ordinating network service provider in its region, then that co-ordinating network service provider must specify the timetable for provision of all necessary data to it for the calculation of the inter– and intra–regional transmission charges</p>	<p>Attachment 1 (section 3) of the proposed pricing methodology complies with this requirement.</p>
<p>Clause 2.6(f) of the pricing methodology guidelines</p>	<p>Where a TNSP is a co-ordinating network service provider in its region, it must undertake in its pricing methodology to publish details of modified load export charges that are to apply for the following financial year on its website and in accordance</p>	<p>The introduction in attachment 1 of the proposed pricing methodology complies with this requirement.</p>

Requirement	Summary of requirement	Assessment
	with the timeframes specified in the NER	
Clause 2.6(g) of the pricing methodology guidelines	Where a TNSP is a co-ordinating network service provider in its region, it is required to specify in its pricing methodology that the 'regulatory year' for which it will run its modified load export charge cost reflective network pricing methodology (MLEC CRNP) is the previous financial year completed at the time at which the MLEC CRNP is being calculated.	Step 4 of the MLEC process complies with this requirement.

Source: NER; AER *Pricing Methodology Guidelines*, July 2014

Table 12.3 Description of the modified load export charge

Step	Proposed approach	Assessment
One	<p>The AARR will be calculated as described in section 5 of TransGrid's revised pricing methodology.</p> <p>The allocation of the AARR to each of the transmission service categories will be calculated as described in Section X6 of TransGrid's revised pricing methodology. This will determine the ASRR to be recovered from prescribed TUOS services.</p> <p>The calculations in Step 1 are the same as for calculating intra-regional transmission prices.</p>	<p>Proposed approach is consistent with how the NER requires the modified load export charge to be calculated.</p> <p>The modified load export charge is an adjustment to the annual service revenue requirement (ASRR) for TUOS.</p> <p>To make that adjustment, the AARR has to be calculated—this being the MAR plus or minus the cost of pass throughs decisions, STPIS outcomes, contingent projects, among other things.</p> <p>TransGrid stated that in calculating the AARR it will follow its pre-existing approach outlined in other parts of its revised pricing methodology.</p>
Two	<p>As required by clause 6A.29A.2(a)(1) of the NER, the modified load export charge is to be calculated as 50 per cent of the ASRR for prescribed TUOS services.</p>	<p>Proposed approach is consistent with how the NER requires the modified load export charge to be calculated.</p> <p>Clause 6A.29A.1(a)(1) of the NER states that: 'A coordinating network service provider for a region must calculate the modified load export charge payable to it by the coordinating network service provider for each interconnected region in respect of the following financial year, by...calculating the amount that is 50 per cent of the annual service revenue requirement for prescribed TUOS services for that financial year in the calculating coordinating network service provider's region'.</p> <p>The approach TransGrid put forward complies with that requirement.</p>

Step	Proposed approach	Assessment
Three	<p>The amount determined in Step 2 is the TUOS revenue to be recovered on a locational basis and is adjusted in accordance with clause 6A.29A.2(a)(2) of the Rules by:</p> <ul style="list-style-type: none"> subtracting estimated inter-regional settlements residue auction proceeds; subtracting a portion of the settlements residue as referred to in clause 6A.23.3(b)(1); including any adjustments as required by 6A.29A.3. 	<p>Proposed approach is consistent with how the NER requires the modified load export charge to be calculated.</p> <p>Clause 6A.29A.1(a)(2) of the NER states that the amount determined in step two must be adjusted 'by subtracting any amount estimated to be received by transmission network service providers in the calculating coordinating network service provider's region as proceeds from auctions or a portion of settlement residue'.</p> <p>The adjustments referred to in 6A.29.3 relate to a true mechanism TransGrid is required to apply to their estimates for inter-regional settlement residues, following the availability of actual proceeds.</p>
Four	<p>Clause 6A.29A.2(b)(3) requires the adjusted amount from Step 3 to be allocated to connection points of transmission customers in the adjacent region(s) and to the calculating CNSP's interconnected region(s) as if they were connected as transmission customers. This allocation will be made on a proportionate use of transmission system assets. Consistent with the requirements of clause 6A.29A.2(b)(3), TransGrid will only use the MLEC CRNP methodology for estimating the proportionate use of the relevant transmission system assets.</p> <p>The CRNP methodology requires three sets of input data:</p> <ul style="list-style-type: none"> an electrical (load flow) model of the network; a cost model of the network; and a set of load/generation patterns. <p>Appendix B of TransGrid's Pricing Methodology describes the CRNP methodology in more detail.</p> <p>The key requirements for MLEC CRNP are:</p> <ul style="list-style-type: none"> the modified load export charge to be determined using standard CRNP approach. all transmission elements are to be included. all half hour periods in the previous full financial year are to 	<p>Proposed approach is consistent with how the NER requires the modified load export charge to be calculated.</p> <p>TransGrid's description of this step reproduces clause 6A.29.2(b)(3) of the NER and restates that the only permitted method for allocating costs on 'proportionate use of transmission system assets' is the modified cost reflective network pricing (CRNP) method.</p> <p>The MLEC CRNP methodology requirements are correct. It is defined in chapter 10 of the NER as determined using: 'the standard CRNP approach'; all 'transmission system' assets'; every 'trading interval'; and 'peak usage'.</p> <p>The time period specified is also correct—the 'previous regulatory year'.</p>

Step	Proposed approach	Assessment
	<p>be used.</p> <ul style="list-style-type: none"> • peak usage of assets must be used. <p>For each regulatory year TransGrid will calculate the modified load export charge using the MLEC CRNP approach. The calculation will use generation and load data from the previous financial year completed at the time the MLEC CRNP is being calculated.</p>	
Five	<p>Clause 6A.29A.2(a)(4) requires the modified load export charge to be recovered from Co-ordinating Network Service Providers in interconnected regions to be the amount allocated to connection points to neighbouring regions as determined in Step 4.</p>	<p>Proposed approach is consistent with how the NER requires the modified load export charge to be calculated.</p>

Source: NER; AER *Pricing Methodology Guidelines*, July 2014.

12.4.4 Assessment against the pricing principles

Our final decision is that TransGrid's revised pricing methodology gives effect to the pricing principles in the NER. The pricing principles are intended to provide scope for transmission businesses to develop pricing arrangements that address the circumstances in which they operate their network.⁴⁶ Our review is therefore based on a high level principles based assessment.

12.4.4.1 Calculation and allocation of the aggregate annual revenue requirement

We assessed TransGrid's method for calculating and allocating its aggregate annual revenue requirement, and consider that this aspect of TransGrid's proposed pricing methodology meets the NER requirements.

The aggregate annual revenue requirement is the 'maximum allowed revenue' adjusted:

- in accordance with clause 6A.3.2 of the NER, for a number of factors such as cost pass throughs, service target performance incentive scheme outcomes, and contingent projects
- by subtracting the operating and maintenance costs expected to be incurred in the provision of prescribed common transmission services.

⁴⁶ AEMC, *Rule Determination: National Electricity Amendment (Pricing of Prescribed Transmission Services) Rule 2006 No 22*, 21 December 2006, pp. 27–8.

The next table summarises our review of how TransGrid proposed pricing methodology calculates and allocates the business's aggregate annual revenue requirement.

Table 12.4 TransGrid's proposed calculation and allocation of the AARR, and the NER requirements

NER requirements	Assessment
Requirement for the AARR to be calculated as defined in the NER—clause 6A.22.1.	Section 6 of TransGrid's revised pricing methodology complies with this requirement.
Requirement for the AARR to be allocated to each category of prescribed transmission services in accordance with attributable cost share for each such category of service—clause 6A.23.2(a).	Appendix C of TransGrid's revised pricing methodology complies with this requirement.
Requirement for every portion of the AARR to be allocated and for the same portion of AARR not to be allocated more than once—clause 6A.23.2(c).	Section 6 of TransGrid's revised pricing methodology complies with this requirement.
Subject to clause 11.6.11 of the NER, requirement for adjusting attributable cost share and priority ordering approach to asset costs that would otherwise be attributable to the provision of more than one category of prescribed transmission services—clause 6A.23.2(d)	Appendix C of TransGrid's revised pricing methodology complies with this requirement.

Source: NER; AER *Pricing Methodology Guidelines*, July 2014 Allocation of the ASRR to transmission network connection points.

Table 12.5 TransGrid's proposed pricing structure and NER requirements

NER requirements	AER assessment
Requirement for separate prices for each category of prescribed transmission services—clause 6A.23.4(b)	Section 8 of TransGrid's revised pricing methodology complies with this requirement.
Requirement for fixed annual amount prices for prescribed entry services and prescribed exit services—clause 6A.23.4(c)	Section 8.1 of TransGrid's revised pricing methodology complies with this requirement.
Requirement for postage stamped prices for prescribed common transmission services—clause 6A.23.4(d)	We accept that TransGrid's revised pricing methodology complies with this requirement for the reasons given in section 12.4.2.
Requirement for prices for locational component of prescribed TUOS services to be based on demand at times of greatest use of the transmission network and for which network investment is most likely to be contemplated—clause 6A.23.4(e)	We accept that TransGrid's revised pricing methodology complies with aspects of this requirement for the reasons given in section 12.4.1.
Requirement for prices for the locational component of ASRR for prescribed TUOS services not to change by more than 2 per cent per year compared with the load weighted average prices for this component for the relevant region—clause 6A.23.4 to clause 6A.23.4(f)	Section 8.2 of TransGrid's revised pricing methodology complies with this requirement.
Requirement for prices for the adjusted non-locational component of prescribed TUOS services to be on a postage stamp basis—clause 6A.23.4(j)	We accept that TransGrid's revised pricing methodology complies with this requirement for the reasons given in section 12.4.2..

Source: NER; AER *Pricing Methodology Guidelines*, July 2014.

12.4.5 Assessment against the pricing methodology guidelines

We are satisfied that the proposed pricing methodology complies with the information requirements in the pricing methodology guidelines. Key features of the proposal include:

- acknowledging that there are multiple transmission business in its region (NSW)
- calculating the locational component of prescribed TUoS services costs using a cost reflective network pricing methodology
- basing the locational prescribed TUoS services price on an agreed nominated demand and the average half hourly demand
- basing the non-locational component of prescribed TUoS services and prescribed common transmission services on a postage stamp pricing structure
- using the priority ordering approach under clause 6A.23.2(d) of the NER to implement priority ordering
- describing how asset costs that may be attributable to both prescribed entry services and prescribed exit services will be allocated at a connection point
- describing billing arrangements as in clause 6A.27 of the NER

- describing prudential requirements as in clause 6A.28 of the NER
- including hypothetical examples
- describing how TransGrid intends to monitor and develop records of its compliance with its approved pricing methodology.