TasNetworks Transmission Determination 2019 to 2024

April 2019

AUSTRALIAN ENERGY REGULATOR

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Shortened forms

Shortened form	Extended form
AEMC	Australian Energy Market Commission
AER	Australian Energy Regulator
CESS	capital expenditure sharing scheme
EBSS	efficiency benefit sharing scheme
MAR	maximum allowed revenue
MIC	market impact component
NER	National Electricity Rules
NSP	network service provider
NTSC	negotiated transmission service criteria
opex	operating expenditure
PTRM	post-tax revenue model
RAB	regulatory asset base
STPIS	service target performance incentive scheme
TNSP	transmission network service provider

Summary

The Australian Energy Regulator (AER) makes a transmission determination for each transmission network service provider (TNSP) in accordance with chapter 6A of the NER.[1]

This document is our transmission determination for TasNetworks for the regulatory control period 1 July 2019 to 30 June 2024. Our reasons are included in the AER's final decision on TasNetworks' transmission determination (April 2019) which should be read in conjunction with this document.

Our transmission determination for TasNetworks consists of:[2]

- a revenue determination in respect of the provision by TasNetworks of prescribed transmission services (section 1)
- a determination that specifies the pricing methodology that applies to TasNetworks (section 2)
- a determination that specifies pass through events that will apply to this determination in addition to those specified in the NER (section 3).

1 NER, cl. 6A.2.1.

2 NER, cll. 6A.2.2; 6A.7.3(a1).

1 Revenue

We calculate the amount of revenue that TasNetworks requires each year of the regulatory control period in accordance with a building block approach.[3] This is referred to as the *annual building block revenue requirement*. The annual building block revenue is then used to calculate the expected *maximum allowed revenue* (MAR) for each year of the 2019–24 regulatory control period.

The annual MAR that TasNetworks may earn from providing prescribed transmission services is subject to adjustments to account for factors such as inflation, approved pass through costs and annual performance rewards or penalties.

Our revenue determination specifies the following matters:[4]

- the amount of the estimated total revenue cap for the regulatory control period and the method of calculating that amount
- the annual building block revenue requirement for each regulatory year of the regulatory control period
- the amount of the MAR for each regulatory year of the regulatory control period or the method of calculating that amount
- the regulatory asset base (RAB) as at the commencement of the regulatory control period
- the methodology that will be used for the indexation of the RAB
- the values that are to be attributed to the performance incentive scheme parameters for the purposes of the application to TasNetworks of the service target performance incentive scheme (STPIS) that applies in respect of the regulatory control period
- the values that are to be attributed to the efficiency benefit sharing scheme parameters for the purposes of the application to TasNetworks of the efficiency benefit sharing scheme (EBSS) that applies in respect of the regulatory control period
- how the capital expenditure sharing scheme (CESS) is to apply to TasNetworks
- the commencement and length of the regulatory control period covered by this determination.

1.1 Method for calculating estimated total revenue cap

We determine an estimated total MAR of $736.1 million ($nominal) for TasNetworks for the 2019–24 regulatory control period as shown in Table 1. The estimated total MAR is

[3] NER, cl. 6A.5.4.

[4] NER, cl. 6A.4.2.

also known as the total revenue cap. It is the sum of the expected MAR for each regulatory year.[5]

Table 1 AER's final determination on TasNetworks' annual expected maximum allowed revenue ($million, nominal)

	2019–20	2020–21	2021–22	2022–23	2023–24	Total
Annual expected MAR (smoothed)	143.2	145.2	147.2	149.3	151.3	736.1
X factor (%) [a]	n/a [b]	1.00%	1.00%	1.00%	1.00%	n/a

Source: AER analysis.

(a) The X factors will be revised to reflect the annual return on debt update. Under the CPI–X framework, the X factor measures the real rate of change in annual expected revenue from one year to the next. A negative X factor represents a real increase in revenue. Conversely, a positive X factor represents a real decrease in revenue.

(b) TasNetworks is not required to apply an X factor for 2019–20 because we set the 2019–20 MAR in this transmission determination. The MAR for 2018–19 is around 16.87 per cent lower than the approved MAR for 2017–18 in real terms, or 14.85 per cent lower in nominal terms.

We determine the annual expected MAR by using the X factors to smooth the annual building block revenue requirement, as set out below.

1.2 Annual building block revenue requirement

We determine the annual building block revenue requirement for TasNetworks as shown in Table 2.

Table 2 AER's final determination on TasNetworks' annual building block revenue requirement ($million, nominal)

	2019–20	2020–21	2021–22	2022–23	2023–24	Total
Return on capital	80.1	80.7	80.8	80.6	79.8	402.0
Regulatory depreciation	16.5	22.4	25.2	26.4	31.1	121.7
Operating expenditure	30.8	31.6	32.6	33.5	34.5	163.0
Revenue adjustments	18.5	9.8	10.8	5.0	0.9	44.9
Net tax allowance	0.7	0.4	0.5	0.6	1.4	3.6
Annual building block revenue requirement (unsmoothed)	**146.6**	**144.9**	**149.8**	**146.2**	**147.7**	**735.3**

[5] NER, cl. 6A.5.3.

Source: AER analysis.

1.3 Method for calculating maximum allowed revenue

We use an expected inflation rate in our post-tax revenue model (PTRM) to calculate the expected MAR (as shown in Table 1) in nominal dollar terms. Therefore, the calculation of the actual annual MAR will require an adjustment for actual inflation. The MAR is also subject to adjustments for updating the return on debt annually, a revenue increment or decrement determined in accordance with the STPIS, and any approved pass through amounts. This section sets out the method of this annual adjustment process.

We determine that the method for calculating TasNetworks' MAR for each year of the 2019–24 regulatory control period will be the sum of its allowed revenue (AR) for that year and adjustments arising from the STPIS and any approved pass through amounts.

We determine the 2019–20 AR of $143.2 million for TasNetworks. TasNetworks then applies an annual adjustment to determine its AR for each subsequent year of the 2019–24 regulatory control period, based on the previous year's AR and using the CPI–X methodology. That is, the subsequent year's AR is determined by adjusting the previous year's AR for actual inflation and the X factor determined after the annual return on debt update:

$$\mathrm{AR}_t = \mathrm{AR}_{t-1} \times (1 + \Delta\mathrm{CPI}) \times (1 - \mathrm{X}_t)$$

where:

AR	=	the allowed revenue
t	=	time period/financial year (for *t* = 2 (2020–21), 3 (2021–22), 4 (2022–23), 5 (2023–24))
ΔCPI	=	the annual percentage change in the ABS Consumer price index all groups, weighted average of eight capital cities from December in year *t* – 2 to December in year *t* – 1
X	=	the smoothing factor determined in accordance with the PTRM as approved in the AER's final decision, and annually revised for the return on debt update in accordance with the formula specified in the rate of return instrument calculated for the relevant year.

The MAR is determined annually in accordance with the NER by adding to (or deducting from) the AR:

- the service target performance incentive scheme revenue increment (or revenue decrement)[6]
- any approved pass through amounts.[7]

The annual MAR is established according to the following formula:

MAR_t = (allowed revenue) + (performance incentive) + (pass through)

$$= \mathrm{AR}_t + \left(\left(\mathrm{AR}_{t-2} \times \frac{1}{2}\right) + \left(\mathrm{AR}_{t-1} \times \frac{1}{2}\right)\right) \times \mathrm{S}_{ct} + \mathrm{P}_t$$

where:

MAR	=	the maximum allowed revenue
AR	=	the allowed revenue
S	=	the revenue increment or decrement determined in accordance with the service target performance incentive scheme
P	=	the pass through amount (positive or negative) that the AER has determined in accordance with clauses 6A.7.2 and 6A.7.3 of the NER
t	=	time period/financial year (for *t* = 2 (2020–21), 3 (2021–22), 4 (2022–23), 5 (2023–24))
ct	=	time period/calendar year (for *t* = 2 (2019), 3 (2020), 4 (2021), 5 (2022)).

TasNetworks may also adjust the MAR for under or over-recovery amounts.[8] That is, if the revenue amounts earned from providing prescribed transmission services in previous regulatory years are higher or lower than the sum of the approved MAR for those years, the difference can be included in the subsequent year's MAR. In the case of an under-recovery, the amount is added to the subsequent year's MAR. In the case of an over-recovery, the amount is subtracted from the subsequent year's MAR.

Table 3 sets out the timing of the annual calculation of the AR and performance incentive.

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6 NER, cl. 6A.7.4.

7 NER, cll. 6A.7.2 and 6A.7.3.

8 NER, cl. 6A.23.3(e)(5).

Table 3: Timing of the calculation of allowed revenues and the performance incentive for TasNetworks

t	Allowed revenue (financial year)	*ct*	Performance incentive (calendar year)
2	1 July 2020–30 June 2021	2	1 January 2019–31 December 2019
3	1 July 2021–30 June 2022	3	1 January 2020–31 December 2020
4	1 July 2022–30 June 2023	4	1 January 2021–31 December 2021
5	1 July 2023–30 June 2024	5	1 January 2022–31 December 2022

Note: The performance incentive for 1 January 2018–31 December 2018 is to be applied to the AR determined for 2019–20 (AR_1).

1.4 Regulatory asset base

We determine an opening RAB value of $1445.3 million as at the commencement of the 2019–24 regulatory control period for TasNetworks.

1.5 Method for indexation of the regulatory asset base

The method for indexing TasNetworks' RAB for each year of the 2019–24 regulatory control period will be the same as that used to escalate its AR for that relevant year—that is, to apply the annual percentage change in the published ABS CPI all groups, weighted average of eight capital cities.[9] For TasNetworks, this will be the December quarter CPI. This method will be used as part of the roll forward of TasNetworks' opening RAB for the purposes of the AER's transmission revenue determination for the regulatory control period commencing on 1 July 2024.

1.6 Performance incentive scheme parameters

All components of version 5 of the STPIS will apply to TasNetworks for the 2019–24 regulatory control period. The parameters applicable to TasNetworks are set out in the tables below. Our final decision calculated the performance targets for TasNetworks using its latest performance data including data for 2018.

Table 4 Final decision — transmission service component caps, floors and targets for 2018/19 – 2022/23

Average circuit outage rate	Distribution	Cap	Floor	Target
Average circuit outage rate				
Lines event rate – fault	Weibull	7.5%	26.5%	16.9%

[9] ABS, *Catalogue number 6401.0, Consumer price index*, Australia.

Transformer event rate – fault	Weibull	6.3%	10.1%	8.4%
Reactive plant outage rate - fault	Uniform (1st on AIC)	2.1%	39.5%	17.9%
Lines outage rate - forced	Triangular	3.0%	17.7%	10.7%
Transformer outage rate - forced	Pearson	7.4%	19.8%	12.3%
Reactive plant outage rate - forced	Exponential	1.7%	99.1%	33.1%
Loss of supply events				
> (x) system minutes	Poisson	0	6	3
> (y) system minutes	Poisson	0	2	1
Average outage duration (minutes)	Lognorm	12.7	559.2	149.0
Proper operation of equipment				
Failure of protection system	Poisson	0	4	2
Material failure of SCADA	Poisson	1	6	3
Incorrect operational isolation of primary or secondary equipment	IntUniform	4	6	5

Source: AER analysis.

Table 5 Final decision — transmission MIC parameter values for 2018/19 – 2022/23

Calendar year	adjusted performance count
Target (draft decision, place holder)	1969
Cap for unplanned outages	343
Dollar per dispatch interval ($2018-19)	$710

Source: AER analysis

Table 6 Final decision — transmission network capability priority projects for 2018/19 – 2022/23 ($2018–19)

Priority projects ranking assigned by TasNetworks	Project	Description	Improvement target	Capex $	Opex $	Total $
1	Weather Station for Burnie-Smithton 110 kV transmission corridor	Install a new weather station near Smithton to enable dynamic rating of Burnie Smithton and Burnie–Port Latta–Smithton 110 kV transmission circuits	Dynamic thermal ratings to the Burnie–Smithton and Burnie–Port Latta–Smithton 110 kV transmission circuits, resulting in an expected average 26 MVA	371,438	1,858	373,294

			increase to line thermal capacity.			
2	Lightning Withstand Capability Improvement on Norwood–Scottsdale–Derby 100 kV Transmission Corridor	Improve footing resistance to the earth at selected towers on the Norwood–Scottsdale–Derby 110 kV transmission circuits to improve power transfer capacity and circuit availability.	With improved footing resistance, Norwood–Scottsdale 110 kV circuits will be able to withstand 98% of lightning strikes.	814,273	-	814,273
3	Port Latta 110 kV double tee connection	1) Rearrange the 110 kV network connection at Port Latta Substation to double tee from Burnie-Smithton circuits instead of existing loop in and loop out arrangement from one of these circuits. (2) Revise the protection and communication according to the proposed network arrangement.	The proposed works to rearrange 110 kV network at Port Latta would allow increased transfer capability enabling the transmission line to operate at dynamic line ratings.	860,076	43,004	903,080
4	Transmission Line Ground Clearances Improvement Program	This project aims to improve ground clearances at identified sites on the 110 kV and 220 kV transmission lines by ground profiling, conductor tensioning, waist extension and raising tower heights.	Improved ground clearances to re-establish transmission circuit operation to its design temperature; thereby increasing transmission capacity, decreasing safety and environmental risks and meeting transmission circuit clearance compliance.	3,053,524	-	3,053,524
Total				**5,099,310**	**44,861**	**5,144,171**

Source: AER analysis

1.7 Efficiency benefit sharing scheme parameters

We will continue to apply version two of the EBSS to TasNetworks in the 2019–24 regulatory control period. The values for the efficiency benefit sharing scheme (EBSS) parameters that are to apply to TasNetworks in the 2019–24 period, subject to adjustments required by the EBSS, are set out in Table 7.

Table 7 AER's decision on TasNetworks' forecast opex for the EBSS ($million, 2018–19)

	2017–18	2018–19	2019–20	2020–21	2021–22	2022–23	2023–24
Forecast total opex	48.0	47.4	30.1	30.2	30.3	30.5	30.6
Less debt raising costs	– 1.1	– 1.1	–1.0	–1.0	–1.0	–1.0	–1.0
Total opex for the EBSS target	46.9	46.4	29.0	29.2	29.3	29.4	29.6

Source: TasNetworks, Post Tax Revenue Model (PTRM) PTRM Distribution, 31 January 2018; TasNetworks, Distribution Operating Expenditure Model, 31 January 2018; AER, Final Decision – PTRM, April 2017; AER analysis.

Note: Numbers may not add up to total due to rounding.

In calculating EBSS carryover amounts, the AER will exclude the following costs from the EBSS:

- debt raising costs
- network support costs
- network capability incentive projects.

In addition to these excluded cost categories we will also:

- adjust forecast opex to add (subtract) any approved revenue increments (decrements) made after the 2019–24 regulatory determination. This may include approved pass through amounts
- adjust actual opex to add capitalised opex that has been excluded from the RAB
- exclude categories of opex not forecast using a single year revealed cost approach for the regulatory control period beginning in 2024 where doing so better achieves the requirements of clause 6A.6.5 of the NER.

When calculating actual opex under the EBSS we will adjust reported actual opex for the 2019–24 period to reverse any movements in provisions.

1.8 Application of the capital expenditure sharing scheme

We will apply version 1 of the CESS as set out in the capital expenditure incentives guideline to TasNetworks' 2019−24 regulatory control period.[10] The guideline provides for the exclusion from the CESS of capex the service provider incurs in delivering a priority project approved under the network capability component of the STPIS.[11]

1.9 Commencement and length of the regulatory control period

The regulatory control period will be five years, commencing on 1 July 2019 and ending on 30 June 2024.

1.10 Depreciation for establishing the regulatory asset base as at the commencement of the next regulatory control period

The depreciation approach to be applied to establish TasNetworks' RAB at the commencement of the 2024–29 regulatory control period will be based on the depreciation schedules (straight-line) using forecast capital expenditure at the asset class level approved for the 2019–24 regulatory control period.

[10] AER, *Capex incentive guideline*, November 2013, pp. 5–9; NER, cl. 6A.6.5A(e).

[11] AER, *Capex incentive guideline*, November 2013, p. 6.

2 Pricing methodology

The pricing methodology that will apply to TasNetworks for the period of this determination is set out in Attachment A to the final decision.

The role of TasNetworks' pricing methodology is to answer the question 'who should pay how much'[12] in order for TasNetworks to recover its costs. TasNetworks' pricing methodology provides a 'formula, process or approach'[13] 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 users[14]
- determines the structure of prices that a transmission business may charge for each category of prescribed transmission services.[15]

TasNetworks' pricing methodology relates to prescribed transmission services only.

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

[13] NER, cl. 6A.24.1(b).

[14] NER, cl. 6A.24.1(b)(1).

[15] NER, cl. 6A.24.1(b)(2).

3 Pass through events

Our final decision is to approve TasNetworks' nominated transmission pass through events and associated definitions:

- Insurance cap event
- Terrorism event
- Natural disaster event.[16]

These will apply to TasNetworks throughout the regulatory control period in addition to the pass through events which are prescribed by the NER. These include events dealing with regulatory change, service standards, tax change, insurance, inertia and fault level shortfalls.[17]

Table 3-1 Approved nominated pass through events

Event	Definition
Insurance Cap Event	An insurance cap event occurs if: 1. TasNetworks makes a claim or claims and receives the benefit of a payment or payments under a relevant insurance policy; 2. TasNetworks incurs costs beyond the relevant policy limit; and 3. the costs beyond the relevant policy limit materially increase the costs to TasNetworks in providing direct control services or prescribed transmission services. For this insurance cap event: a relevant insurance policy is an insurance policy held during the 2019–24 regulatory control period or a previous regulatory control period in which TasNetworks was registered as a NSP for the purposes of s.11 of the NEL. Note: In making a determination on an insurance cap event, the AER will have regard to, amongst other things: i. the relevant insurance policy for the event; ii. the level of insurance that an efficient and prudent NSP would obtain in respect of the event; and iii. any assessment by the AER of TasNetworks' insurance in making its transmission and distribution determination for the relevant period.
Terrorism Event	A terrorism event occurs if: An act (including, but not limited to, the use of force or violence or the threat of force or violence) of any person or group of persons (whether acting alone or on behalf of or in connection with any organisation or government), which from its nature or context is done for, or in connection with, political, religious, ideological, ethnic or similar purposes or reasons (including the

[16] For definitions of the nominated pass through events see: AER *Draft Decision, TasNetworks transmission determination 2019 to 2024*, September 2018, Attachment 12, pp. 12–7 to 12–8 and AER *Draft Decision, TasNetworks distribution determination 2019 to 2024*, September 2018, Attachment 14, pp. 14–7 to 14–8

[17] NER, cl. 6A.7.3(a1)(1)–(7). Each of these prescribed events is defined in Chapter 10 (Glossary).

Event	Definition
	intention to influence or intimidate any government and/or put the public, or any section of the public, in fear) and which increases the costs to TasNetworks in providing direct control services or prescribed transmission services. Note: In assessing a terrorism event pass through application, the AER will have regard to, amongst other things: i. whether TasNetworks has insurance against the event; ii. the level of insurance that an efficient and prudent NSP would obtain in respect of the event; and iii. whether a declaration has been made by a relevant government authority that a terrorism event has occurred.
Natural disaster event	Natural disaster event means: Any natural disaster including but not limited to fire, flood, or earthquake that occurs during the 2019–24 regulatory control period and that increases the costs to TasNetworks in providing direct control services or prescribed transmission services, provided the fire, flood or other event was not a consequence of the acts or omissions of the service provider. Note: In assessing a natural disaster event pass through application, the AER will have regard to, amongst other things: i. whether TasNetworks has insurance against the event; and ii. the level of insurance that an efficient and prudent NSP would obtain in respect of the event.