



TransGrid transmission determination 2015-2018

April 2015

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Shortened forms

Shortened form	Extended form
AER	Australian Energy Regulator
AR	Annual revenue
CESS	Capital expenditure sharing scheme
EBSS	Efficiency benefit sharing scheme
MAR	Maximum allowed revenue
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) must make a transmission determination for each transmission network service provider (TNSP) in accordance with chapter 6A of the National Electricity Rules (NER).¹

This document is our transmission determination for TransGrid for the regulatory control period 1 July 2015 to 30 June 2018. Our reasons are included in the AER's final decision on TransGrid's transmission determination (April 2015) which is to be read in conjunction with this document.

Our transmission determination for TransGrid consists of:²

- A revenue determination in respect of the provision by TransGrid of prescribed transmission services (section 1)
- A determination relating to TransGrid's negotiating framework (section 2)
- A determination that specifies the negotiated transmission service criteria (NTSC) that apply to TransGrid (section 3)
- A determination that specifies the pricing methodology that applies to TransGrid (section 4)
- A determination that specifies pass through events that will apply to this determination in addition to those specified in the NER (section 5).

¹ NER, clause 6A.2.1.

² NER, clause 6A.2.2; 6A.7.3(a1).

1 Revenue

We are required to calculate the amount of revenue that TransGrid 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 2015–18 regulatory control period. The annual MAR that TransGrid 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 or 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.
- Appropriate methodology 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 TransGrid 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 TransGrid of the efficiency benefit sharing scheme (EBSS) that applies in respect of the regulatory control period.
- How any capital expenditure sharing scheme or small-scale incentive scheme is to apply to TransGrid.
- The commencement and length of the regulatory control period.
- Whether depreciation for establishing the regulatory asset base as at the commencement of the following regulatory control period is to be based on actual or forecast capital expenditure.

³ NER, clause 6A.5.4.

⁴ NER, clause 6A.4.2

1.1 Method for calculating estimated total revenue cap

We determine an estimated total MAR of \$2188.9 million (\$ nominal) for TransGrid for the 2015–18 regulatory control period (or \$3034.3 million for the 2014–18 period, including the 2014–15 transitional year) as shown in Table 1. The estimated total MAR is 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 TransGrid's annual expected maximum allowed revenue (\$ million, nominal)

	2014–15	2015–16	2016–17	2017–18	Total 2014–18	Total 2015–18
Annual expected MAR (smoothed)	845.4	734.7	729.6	724.6	3034.3	2188.9
X factor (%)	n/a	15.11% ^a	3.00% ^b	3.00% ^b	n/a	n/a

Source: AER analysis.

(a) Applying the X factor for 2015–16 and the actual CPI of 1.72 per cent in accordance with the annual revenue adjustment formula set out in section 1.3 of this transmission determination, the MAR for 2015–16 is \$729.9 million.

(b) The X factor will be revised to reflect the annual return on debt update.

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 TransGrid as shown in Table 2.

⁵ NER, clause 6A.5.3.

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

	2014–15	2015–16	2016–17	2017–18	Total
Return on capital	415.7	421.2	435.4	444.0	1716.3
Regulatory depreciation	98.3	113.3	127.7	111.8	451.0
Operating expenditure	174.2	177.1	186.2	183.5	720.9
Efficiency benefit sharing scheme (carryover amounts)	21.6	13.9	16.1	12.7	64.2
Net tax allowance	17.1	18.8	32.6	33.0	101.5
Annual building block revenue requirement (unsmoothed)	726.9	744.2	797.9	784.9	3054.0

Source: AER analysis.

1.3 Method for calculating maximum allowed revenue

We use a forecast inflation rate in our post-tax revenue model (PTRM) to calculate the expected MAR (as shown in Table 3) 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, 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 TransGrid's MAR for each year of the 2014–18 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 AR of \$845.4 million for TransGrid for 2014–15. TransGrid then applies an annual adjustment to determine its AR for each subsequent year of the 2014–18 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:

$$AR_t = AR_{t-1} \times (1 + \Delta CPI) \times (1 - X_t)$$

where:

AR = the allowed revenue

t = time period/financial year (for t = 2, (2015–16), 3 (2016–17), 4 (2017–18))

ΔCPI = the annual percentage change in the Australian Bureau of Statistics' (ABS) consumer price index (CPI) all groups, weighted average of eight capital cities from December in year $t - 2$ to December in year $t - 1$ ⁶

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 return on debt appendix I of attachment 3 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)⁷
- any approved pass through amounts.⁸

sets out the timing of the annual calculation of the AR and performance incentive:

$\text{MAR}_t = (\text{allowed revenue}) + (\text{performance incentive}) + (\text{pass through})$

$$= \text{AR}_t + \left(\frac{(\text{AR}_{t-1} + \text{AR}_{t-2})}{2} \times S_{ct} \right) + P_t$$

where:

MAR = the maximum allowed revenue

AR = the allowed revenue

S = the revenue increment or decrement determined in accordance with the STPIS

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 $t = 2$ (2015–16), 3 (2016–17), 4 (2017–18))

⁶ In the transmission determination for TransGrid's 2009–14 regulatory control period, the CPI required for the annual MAR adjustment process reflects the March quarter CPI, which is typically published by the ABS in late April each year. For this transmission determination we require TransGrid to use the December quarter of the previous calendar year CPI for the annual MAR adjustment for its next regulatory control period. December quarter CPI is typically released by the ABS towards the end of January of the following year. As the same set of CPI will be used for the RAB roll forward at the next reset for TransGrid in 2018, this change will allow us to update the actual CPI for RAB roll forward purposes well before the publication date of the AER's final decision at the next reset. We note that there will be an overlapping issue of the March quarter CPI when the transition to the December quarter CPI occurs (this will be in the year 2014–15 for the TNSP). This is because the CPI for March quarter 2014 will be reflected in both 2013–14 and 2014–15. However, we consider this is only a transitional issue and does not have a material impact on the revenue to be recovered by the TNSP.

⁷ NER, clauses 6A.7.4.

⁸ NER, clauses 6A.7.2 and 6A.7.3.

ct = time period/calendar year (for $t = 2$ (2014), 3 (2015), 4 (2016)).

Under the NER, a TNSP may also adjust the MAR for under or over recovery amounts.⁹ That is, the revenue amounts recovered higher or lower than the approved MAR for each year would be included in the subsequent year's MAR. In the case of an under-recovery, the amount would be added to the future year's MAR. In the case of an over-recovery, the amount would be subtracted from the future year's MAR.

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

t	Allowed revenue (financial year)	ct	Performance incentive (calendar year)
2	1 July 2015–30 June 2016	2	1 January 2014–31 December 2014
3	1 July 2016–30 June 2017	3	1 January 2015–31 December 2015
4	1 July 2017–30 June 2018	4	1 January 2016–31 December 2016

Note: The performance incentive for 1 January 2013–31 December 2013 is to be applied to the AR determined for 2014–15 (the placeholder determination).

1.4 Regulatory asset base

We determine an opening RAB value of \$6241.5 million as at the commencement of the 2015–18 regulatory control period for TransGrid. This is based on an opening RAB value of \$6075.8 million as at 1 July 2014.

1.5 Method for indexation of the regulatory asset base

We determine that the method for indexing TransGrid's RAB for each year of the 2014–18 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.¹⁰ For TransGrid, this will be the December quarter CPI. This method will be used as part of the roll forward of TransGrid's opening RAB for the purposes of the AER's transmission revenue determination for the regulatory control period commencing on 1 July 2018.

1.6 Performance incentive scheme parameters

The AER has determined the values for the performance targets, caps, collars and weightings for each of the parameters for the service component of the service target

⁹ NER, clauses 6A.23.3(c)(2)(iii) and 6A.24.4(c).

¹⁰ ABS, *Catalogue number 6401.0, Consumer price index*, Australia.

performance incentive scheme (STPIS) applicable to TransGrid for the 2015–18 regulatory control period.¹¹ These are shown in Table 4.

Table 4 AER's final decision on TransGrid's parameter values and weightings for the service component of the STPIS

	Collar	Target	Cap	Weighting (% of MAR)
Average circuit outage rate				
Line outage – fault	22.26%	17.86%	12.38%	0.2
Transformer outage – fault	19.01%	14.92%	10.26%	0.2
Reactive plant – fault	22.73%	15.54%	9.54%	0.1
Line outage – forced outage	25.49%	14.98%	1.34%	0.0
Transformer outage – forced outage	24.15%	20.25%	15.56%	0.0
Reactive plant – forced outage	28.55%	20.39%	6.55%	0.0
Loss of supply event frequency				
>0.05 system minutes	4	3	2	0.15
>0.25 system minutes	2	1	0	0.15
Average outage duration				
Average outage duration	266.53	144.49	67.97	0.2
Proper operation of equipment¹²				
Failure of protection system	n/a	n/a	n/a	0.0
Material failure of SCADA	n/a	n/a	n/a	0.0
Incorrect operational isolation of primary or secondary equipment	n/a	n/a	n/a	0.0

Sources: TransGrid, *Revenue proposal 2014/15–2018/19*, p. 226; AER analysis.

¹¹ AER, *Final – Service target performance incentive scheme*, September 2014.

¹² TransGrid noted the proper operation of equipment parameter was introduced as a reporting-only parameter. As a result, it did not propose values for these sub-parameters, but it will commence reporting against these sub-parameter from July 2015. As we are not applying any weighting on these sub-parameters, we accept the approach proposed by TransGrid.

TransGrid's market impact parameter performance targets that will apply within the 2015–18 regulatory control period will be published annually as part of our service standards compliance reporting process.

The AER has determined that the priority projects and improvement targets shown in Table 5 will apply to TransGrid during the 2015–18 regulatory control period.

Table 5 AER's final decision on TransGrid's network capability priority projects (\$ 000s, 2013–14)

Ranking	Project	Description	Improvement target	Capex	Opex	Total
1	Current Transformer Secondary Ratios - Queensland – New South Wales Interconnector	Changes to current transformer secondary ratios on 8C, 8E, 8L and 8M lines.	Full use of line thermal capacity of 1200MVA for 8C and 8E 330kV Armidale - Dumaresq circuits and 8L and 8M Dumaresq - Bulli Creek circuits during system normal conditions.	0	55	55
2	Terminal Equipment Upgrades - 67 & 68 Murray – Dederang Switchbays	Replace wave traps, disconnectors and change CT ratios and protection settings on 67 & 68 line switchbays at Murray.	Terminal equipment ratings that allow the use of dynamic rating capacity of 1486MVA for 67 & 68 Lines.	360	0	360
3	Protection & Metering Upgrades - 993 Line Protection & Metering Upgrade	Replace the secondary systems panel for 993 Line at Wagga 330 substation.	Full use of contingent capacity of 122 MVA for 993 Line.	90	0	90
4	Dynamic Line Ratings & Transmission Line Upgrading - 83 Liddell – Muswellbrook,	Install dynamic line ratings based on real time ambient temperatures and wind speeds on	Improved rating information based on real time ambient temperature and wind speed for	1,100	0	1,100

Ranking	Project	Description	Improvement target	Capex	Opex	Total
	84 Liddell – Tamworth 330, 85 & 86 Tamworth 330 – Armidale & 88 Muswellbrook – Tamworth 330 330kV Lines	83, 84, 85, 86 and 88 Lines.	these lines, which will allow increased line ratings of approximately 20% at times of favourable conditions.			
5	Protection & Metering Upgrades - 99P Line Protection & Metering Upgrade	Change to CT ratios at Gadara. (The change to CT ratios at Tumut will be undertaken as part of the secondary systems replacement project at Tumut.)	Full use of contingent capacity of 128 MVA for 99P Line.	0	50	50
6	Dynamic Line Ratings & Transmission Line Upgrading - 65 Murray – Upper Tumut & 66 Murray – Lower Tumut 330kV Lines	Install dynamic line ratings based on real time ambient temperatures and wind speeds on 65 and 66 Lines.	Improved rating information based on real time ambient temperature and wind speed for these lines, which will allow increased line ratings of approximately 20% at times of favourable conditions.	400	0	400
7	Control Schemes - Extension of Directlink Tripping Scheme	Extend the Directlink emergency tripping scheme to include the transformers at Lismore 330kV substation, 872B bay at Armidale and 872A, 872B and 892A bays at	Full use of line capacity of the Directlink Interconnector during outages of the Lismore transformers, 872B bay at Armidale or 872A, 872B and 892A bays at	600	0	600

Ranking	Project	Description	Improvement target	Capex	Opex	Total
		Coffs Harbour.	Coffs Harbour			
8	Protection Changes - 976 Line Configuration & Protection Changes	Install disconnecter at Yass substation and change protection settings at Canberra, Yass and Queanbeyan.	Reduced likelihood of loss of supply to Queanbeyan for a second contingency. This includes a reduction in recall times for 976/1 and 976/2 Lines.	110	0	110
9	Terminal Equipment Upgrades - 94E Mt Piper 132 – Wallerawang 132 Switchbays	Replace interplant connections and change current transformer secondary ratios on the 94E Line switchbay at Wallerawang 132.	Full use of contingent capacity of 373 MVA for 94E Line.	50	0	50
10	Dynamic Line Ratings & Transmission Line Upgrading - Northern 132kV System	Install dynamic line ratings based on real time ambient temperatures and wind speeds on 967, 96R, 96T and 966 Lines.	Improved rating information based on real time ambient temperature and wind speed for these lines, which will allow increased line ratings of approximately 20% at times of favourable conditions.	1,000	0	1,000
11	Dynamic Line Ratings & Transmission Line Upgrading - Snowy – Yass & Canberra 330kV Lines	Install dynamic line ratings based on real time ambient temperatures and wind speeds on 01,2,3 and 07 Lines.	Improved rating information based on real time ambient temperature and wind speed for these lines, which will allow increased line	1,400	0	1,400

Ranking	Project	Description	Improvement target	Capex	Opex	Total
			ratings of approximately 20% at times of favourable conditions.			
12	Control Schemes - Northern Reactive Plant Control Scheme	The installation of a reactive equipment controller with the capability to control reactive equipment at Armidale 330kV Substation. The installation of emergency overvoltage and under voltage controls on reactive equipment at Armidale 330kV Substation and Dumaresq 330kV Switching Station.	Operating of automatic reactive equipment control at Armidale Substation. Operation of emergency voltage control of QNI reactive equipment at Armidale and Dumaresq Substations.	524	0	524
13	Dynamic Line Ratings & Transmission Line Upgrading - 4 & 5 Yass – Marulan, 9 Yass – Canberra, 61 Yass – Bannaby & 39 Bannaby – Sydney West 330kV Lines	Install dynamic line ratings based on real time ambient temperatures and wind speeds on 4,5,9,61 and 39 Lines. Increase the height of transmission line conductor on 61 Line to achieve a maximum operating temperature of 100 degrees Celsius.	Improved rating information based on real time ambient temperature and wind speed for these lines, which will allow increased line ratings of approximately 20% at times of favourable conditions. The increase in maximum operating temperature of 61 Line is expected to	2,600	0	2,600

Ranking	Project	Description	Improvement target	Capex	Opex	Total
			achieve an increase in contingency rating of this line of 137 MVA.			
14	Dynamic Line Ratings & Transmission Line Up-rating - 969 Tamworth 330 – Gunnedah 132kV Line	Install dynamic line ratings based on real time ambient temperatures and wind speeds on 969 Line.	Improved rating information based on real time ambient temperature and wind speed for this line, which will allow increased line ratings of approximately 20% at times of favourable conditions.	300	0	300
15	Terminal Equipment Upgrades - 81 & 82 Liddell – Newcastle & Tomago Lines	Replace interplant connections on 81 & 82 Line switchbays at Liddell and Newcastle, and replace wave traps and change current transformer secondary ratios at Liddell.	Full use of contingent capacity of 1646 MVA for 81 & 82 Lines.	600	0	600
16	Capacitor Banks - Beryl Capacitor Bank	Install a new capacitor bank at Beryl 132kV Substation.	The installation of a capacitor bank at Beryl substation would increase the total capacity available to the area by 6 MW in 2016. This additional capacity will reduce with load growth over time	1,900	0	1,900

Ranking	Project	Description	Improvement target	Capex	Opex	Total
			due to voltage constraints.			
17	Travelling Wave Fault Location - Snowy Lines	Install travelling wave fault locators on Snowy lines.	Commissioning of the travelling wave fault locators on the above lines.	2,211	0	2,211
18	Travelling Wave Fault Location - North Western 132kV System	Install travelling wave fault locators on the above lines.	Commissioning of the travelling wave fault locators on the above lines.	877	0	877
19	Travelling Wave Fault Location - Northern 330kV Lines	Install travelling wave fault locators on the above lines.	Commissioning of the travelling wave fault locators on the above lines.	1,895	0	1,895
20	Travelling Wave Fault Location - Far North Coast 330kV and 132kV System	Install travelling wave fault locators on the above lines.	Commissioning of the travelling wave fault locators on the above lines.	890	0	890
21	Quality of Supply - Point-on-Wave Switching for 132kV Capacitor Banks	Replace standard circuit breakers with point-on-wave circuit breakers.	Installation of point-on-wave switching on 3 capacitor banks.	631	0	631
22	Quality of Supply - Point-on-Wave Switching for 66kV & Below Capacitor Banks	Replace standard circuit breakers with point-on-wave circuit breakers.	Installation of point-on-wave switching on 24 capacitor banks.	4,500	0	4,500
23	Research Projects - Behaviour of Residential Solar During System Events	Install high speed monitors on connection points with significant penetration of residential solar installations, and fault recorders at locations representative of	Installation and commissioning of high speed monitors and fault recorders at various representative connection points.	1,850	0	1,850

Ranking	Project	Description	Improvement target	Capex	Opex	Total
		various load types.				
24	Travelling Wave Fault Location - Southern 330kV Network	Install travelling wave fault locators on 63 and 51 Lines.	Commissioning of the travelling wave fault locators on the above lines.	1,347	0	1,347
25	Travelling Wave Fault Location - Western 220kV Network	Install travelling wave fault locators on the western 220kV network.	Commissioning of the travelling wave fault locators on the above lines.	877	0	877
26	Remote Information - Remote Interrogation of Protection Relays	Install remote interrogation of protection relays at 13 substations and commission production servers.	Remote interrogation of protection relay information from 13 substations operational.	1,000	0	1,000
27	Communications - Communications to Albury, ANM & Hume Substations	Installation of suitable bandwidth communications for SCADA to Albury, ANM and Hume substations.	Commissioning of the communication link to Albury, ANM and Hume substations.	4,200	0	4,200
28	Research Projects - Energy Storage	Install a pilot energy storage device in the Sydney area.	Installation and commissioning of an energy storage device to trial the concept.	4,900	0	4,900
Total				36,215	105	36,317

Source: TransGrid, *Network Capability Incentive Parameter Action Plan 2014/15 – 2017/18*, pp. 9-10.

1.7 Efficiency benefit sharing scheme parameters

The AER has determined the values for the efficiency benefit sharing scheme (EBSS) parameters that are to apply to TransGrid in the 2014–18 period, subject to adjustments required by the EBSS. These values are set out in Table 6.

Table 6 AER's decision on TransGrid's forecast opex for the EBSS (\$ million, 2013–14)

	2014-15	2015-16	2016-17	2017-18
Forecast opex for EBSS purposes	153.5	152.8	157.6	151.4

Note: Excludes forecast debt raising costs, and defined benefits superannuation contributions.

Source: AER analysis.

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

- debt raising costs
- network support costs
- opex on network capability incentive projects
- employer contributions for defined benefits superannuation.

In addition to these excluded cost categories we will also:

- adjust forecast opex to add (subtract) any approved revenue increments (decrements) made after the initial 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 2018 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 2014–18 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 TransGrid in the 2015–18 regulatory control period.¹³ 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.¹⁴

¹³ AER, *Capex incentive guideline*, November 2013, pp. 5–9.

¹⁴ AER, *Capex incentive guideline*, November 2013, p. 6.

1.9 Commencement and length of the regulatory control period

The regulatory control period will be three years, commencing on 1 July 2015 and ending on 30 June 2018.

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

We determine that the forecast depreciation approach (that is, based on forecast capex) will apply to the 2014–18 period and is to be used to establish the RAB at the commencement of the regulatory control period from 1 July 2018 for TransGrid.

2 Negotiating framework

Our determination on TransGrid's negotiating framework accepts in full the framework prepared by TransGrid.

TransGrid must comply with its negotiating framework and its NTSC (see section 3 of this determination) when it is negotiating the terms and conditions of access for negotiated transmission services to be provided to a person.¹⁵

TransGrid's negotiating framework sets out the procedure to be followed during negotiations between TransGrid and any person who wishes to receive a negotiated transmission service from TransGrid, as to the terms and conditions of access for provision of the service.¹⁶

The negotiating framework in Attachment A to this determination must be adopted by TransGrid for the regulatory control period covered by this determination.

¹⁵ NER, clause 6A.9.2(a); 6A.9.3. TransGrid must also comply with chapters 4, 5 and 6A of the NER.

¹⁶ NER, clause 6A.9.5(a).

3 Negotiated transmission service criteria (NTSC)

Our determination on TransGrid's NTSC accepts in full the NTSC proposed by TransGrid.

TransGrid must comply with its negotiating framework (see section 2 of this determination) and its NTSC when it is negotiating the terms and conditions of access for negotiated transmission services to be provided to a person.¹⁷

TransGrid's NTSC sets out the criteria that are to be applied:¹⁸

- by TransGrid in negotiating:
 - the terms and conditions of access for negotiated transmission services, including the prices that are to be charged for the provision of those services by TransGrid for the regulatory control period
 - any access charges which are negotiated by TransGrid during the regulatory control period
- by a commercial arbitrator in resolving any dispute, between TransGrid and a person who wishes to receive a negotiated transmission service, in relation to:
 - the terms and conditions of access for the negotiated transmission service, including the price that is to be charged for the provision of that service by TransGrid
 - any access charges that are to be paid to or by TransGrid.

The following NTSC will apply to TransGrid for the regulatory control period covered by this determination.

National Electricity Objective

1. The terms and conditions of access for a negotiated transmission service, including the price that is to be charged for the provision of that service and any access charges, should promote the achievement of the National Electricity Objective.

¹⁷ NER, clause 6A.9.2(a); 6A.9.3. TransGrid must also comply with chapters 4, 5 and 6A of the NER.

¹⁸ NER, clause 6A.9.4

Criteria for terms and conditions of access

Terms and conditions of access

2. The terms and conditions of access for a negotiated transmission service must be fair, reasonable and consistent with the safe and reliable operation of the power system in accordance with the NER.
3. The terms and conditions of access for negotiated transmission services, particularly any exclusions and limitations of liability and indemnities, must not be unreasonably onerous. Relevant considerations include the allocation of risk between the TNSP and the other party, the price for the negotiated transmission service and the cost to the TNSP of providing the negotiated service.
4. The terms and conditions of access for a negotiated transmission service must take into account the need for the service to be provided in a manner that does not adversely affect the safe and reliable operation of the power system in accordance with the NER.

Price of services

5. The price of a negotiated transmission service must reflect the cost that the TNSP has incurred or incurs in providing that service, and must be determined in accordance with the principles and policies set out in the Cost Allocation Methodology.
6. Subject to criteria 7 and 8, the price for a negotiated transmission service must be at least equal to the avoided cost of providing that service but no more than the cost of providing it on a stand-alone basis.
7. If the negotiated transmission service is a shared transmission service that:
 - (a) exceeds any network performance requirements which it is required to meet under any relevant electricity legislation; or
 - (b) exceeds the network performance requirements set out in schedule 5.1a and 5.1 of the NER
8. then the difference between the price for that service and the price for the shared transmission service which meets network performance requirements must reflect the TNSP's incremental cost of providing that service (as appropriate).
9. For shared transmission services, the difference in price between a negotiated transmission service that does not meet or exceed network performance requirements and a service that meets those requirements should reflect the TNSP's avoided costs. Schedule 5.1a and 5.1 of the NER or any relevant electricity legislation must be considered in determining whether any network service performance requirements have not been met or exceeded.
10. The price for a negotiated transmission service must be the same for all Transmission Network Users. The exception is if there is a material difference in the costs of providing the negotiated transmission service to different Transmission Network Users or classes of Transmission Network Users.

11. The price for a negotiated transmission service must be subject to adjustment over time to the extent that the assets used to provide that service are subsequently used to provide services to another person. In such cases the adjustment must reflect the extent to which the costs of that asset are being recovered through charges to that other person.
12. The price for a negotiated transmission service must be such as to enable the TNSP to recover the efficient costs of complying with all regulatory obligations associated with the provision of the negotiated transmission service.

Criteria for access charges

Access charges

13. Any access charges must be based on the costs reasonably incurred by the TNSP in providing Transmission Network User access. This includes the compensation for forgone revenue referred to in clause 5.4A(h) to (j) of the NER and the costs that are likely to be incurred by a person referred to in clause 5.4A(h) to (j) of the NER (as appropriate).

4 Pricing methodology

Our determination on TransGrid's pricing methodology accepts in full the pricing methodology in TransGrid's revised proposal (Attachment B to this determination).

The role of TransGrid's pricing methodology is to answer the question 'who should pay how much'¹⁹ in order for TransGrid to recover its costs. TransGrid's pricing methodology provides a 'formula, process or approach'²⁰ 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 users²¹
- determines the structure of prices that a transmission business may charge for each category of prescribed transmission services.²²

TransGrid's pricing methodology relates to prescribed transmission services only.

¹⁹ AEMC, *Rule determination: National Electricity Amendment (Pricing of Prescribed Transmission Services) Rule 2006 No. 22*, 21 December 2006, p. 1.

²⁰ NER, 6A.24.1(b).

²¹ NER, clause 6A.24.1(b)(1).

²² NER, clause 6A.24.1(b)(2).

5 Pass through events

A pass through event is one which entails TransGrid incurring materially lower or higher costs in providing prescribed transmission services than it would have incurred but for that event (a negative or positive change event, respectively).²³ Where a pass through event occurs TransGrid may seek our approval to, or we may require TransGrid to, pass those costs through to its users.²⁴

Under the NER any of the following is a pass through event for this transmission determination:²⁵

- a regulatory change event
- a service standard event
- a tax change event
- an insurance event
- any other event specified in this transmission determination as a pass through event for this determination.

The first four of these pass through events are prescribed by, and defined in, the NER.²⁶

In addition, we have accepted the following pass through events nominated by TransGrid.

Pass through event	Definition
Terrorism event	<p>A terrorism event occurs if:</p> <p>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 intention to influence or intimidate any government and/or put the public, or any section of the public, in fear) and which materially increases the costs to TransGrid in providing prescribed transmission services.</p> <p>Note: In assessing a terrorism event pass through application, the AER will have regard to, amongst other things:</p> <p>i. whether TransGrid has insurance against the event, including coverage from the Australian Reinsurance Pool,</p>

²³ NER, Chapter 10 Glossary

²⁴ NER, clause 6A.7.3(a), (b);

²⁵ NER, clause 6A.7.3(1a).

²⁶ NER, Chapter 10 Glossary

Pass through event	Definition
Insurance cap event	<p>ii. the level of insurance that an efficient and prudent NSP would obtain in respect of the event, and</p> <p>iii. whether a declaration has been made by a relevant government authority that a terrorism event has occurred.</p> <p>An insurance cap event occurs if:</p> <ol style="list-style-type: none"> 1. TransGrid makes a claim or claims and receives the benefit of a payment or payments under a relevant insurance policy; 2. TransGrid incurs costs beyond the relevant policy limit: and 3. the costs beyond the relevant policy limit materially increase the costs to TransGrid in providing prescribed transmission services. <p>For this insurance cap event:</p> <ol style="list-style-type: none"> 4. the relevant policy limit is the greater of: <ol style="list-style-type: none"> a. TransGrid's actual policy limit at the time of the event that gives, or would have given rise to a claim; and b. subject to paragraph c, the policy limit that is explicitly or implicitly commensurate with the allowance for insurance premiums that is included in the forecast operating expenditure allowance approved in the AER's final decision for the regulatory control period c. the policy limit in paragraph b will not be taken as the greater policy limit if that policy limit at the time of the event that gives rise to a claim, was not available to TransGrid for reasons beyond its control. 5. a relevant insurance policy is an insurance policy held during the 2015–18 regulatory control period or a previous regulatory control period in which TransGrid was regulated. <p>Note for avoidance of doubt, in assessing an insurance cap event cost pass through application under Rule 6A7.3, the AER will have regard to, amongst other things:</p> <ol style="list-style-type: none"> i. the insurance policy for the event; and ii. the level of insurance that an efficient and prudent TNSP would obtain in respect of the event.
Insurer's credit risk event	<p>An insurer's credit risk event occurs if:</p> <p>A nominated insurer of TransGrid becomes insolvent, and as a result, in respect of an existing, or potential, claim for a risk that was insured by the insolvent insurer, TransGrid:</p> <ol style="list-style-type: none"> 1. is subject to a materially higher or lower claim limit or a materially higher or lower deductible than would have otherwise applied under the insolvent insurer's policy; or 2. incurs additional costs associated with self-funding an insurance claim, which would otherwise have been covered by the insolvent insurer. <p>Note: In assessing an insurer's credit risk event pass through application, the AER will have regard to, amongst</p>

Pass through event	Definition
	<p>other things:</p> <ul style="list-style-type: none"><li data-bbox="810 286 1359 376">i. TransGrid's attempts to mitigate and prevent the event from occurring by reviewing and considering the insurer's track record, size, credit rating and reputation, and<li data-bbox="810 389 1343 501">ii. in the event that a claim would have been made after the insurance provider became insolvent, whether TransGrid had reasonable opportunity to insure the risk with a different provider.