Don Harwin MLC
Minister for Resources, Minister for Energy and Utilities,
Minister for the Arts, Vice-President of the Executive Council

Electricity Supply Act 1995

NSW Electricity Transmission Reliability and Performance Standard 2017

I, Don Harwin, Minister for Energy and Utilities, hereby issue the *NSW Electricity Transmission Reliability and Performance Standard 2017* set out in Schedule 1 to apply from 1 July 2018.

The *NSW Electricity Transmission Reliability and Performance Standard 2017* is issued:

(a) for the purposes of clause 3 of the transmission operator's licence issued to NSW Electricity Network Operations Pty Ltd (TransGrid)(ACN 609 169 959) under the *Electricity Supply Act 1995.*

(b) pursuant to clause 7 (2)(b) of the *Electricity Supply (Safety and Network Management) Regulation 2014*, to notify the transmission network operator, TransGrid that the *NSW Electricity Transmission Reliability and Performance Standard 2017* must be included in the content of TransGrid's safety management system.

Signed by:

The Hon Don Harwin MLC

Minister for Energy and Utilities

Date: 1.6.17

Schedule 1

NSW Electricity Transmission Reliability and Performance Standard 2017

1. Status of this standard

(a) This standard is a reliability and performance standard issued by the Minister for the purposes of clause 3(a) of the Licence.

(b) This standard may be cited as the Transmission Reliability and Performance Standard 2016 No. 1.

2. Interpretation

(a) In this standard, where the terms below are italicised they have the corresponding meanings set out below.

Expected unserved energy means the expected amount of energy that cannot be supplied, taking into account the probability and expected impact (including expected outage duration and forecast load) of the following:

(i) failure of a single *system element*;

(ii) double transformer failure, or failure of equivalent *system elements*; and

(iii) double line failure, or failure of equivalent *system elements*.

Inner Sydney means the inner metropolitan transmission system, which is that part of the *transmission system* constituted by:

(i) cables 41 and 42;

(ii) the 330/132kV substations at Rookwood Road, Beaconsfield, Haymarket, Sydney North and Sydney South;

(iii) any future associated 330kV cables and 330/132kV substations; and

(iv) any of Ausgrid's 132k transmission network that links any of the above.

Level of redundancy means:

(i) for category 1 bulk supply points, a supply interruption may occur following the outage of a single system element;

(ii) for category 2 bulk supply points, a non-zero amount of load must be supplied following the outage of a single system element; and

(iii) for category 3 bulk supply points, a non-zero amount of load must be supplied following the outage of a single system element. In addition, for Inner Sydney, a non-zero amount of load must be supplied following the simultaneous outage of a single 330 kV cable and any 132 kV feeder or 330/132 kV transformer.

Licence means the Transmission Operator's Licence under the *Electricity Supply Act 1995* granted to NSW Electricity Networks Operations Pty Limited (ACN 609 169 959) as trustee for the NSW Electricity Networks Operations Trust dated 7 December 2015, or a licence that replaces it.

Licence Holder has the same meaning as under the *Licence*.

Minister has the same meaning as under the *Licence*.

RIT-T means the *Regulatory investment test for transmission and application guidelines 2010* published by the Australian Energy Regulator, or any replacement of that document from time to time.

System element means:

(i) a transmission circuit (a line or a cable);

(ii) a transformer;

(iii) a component of physical infrastructure other than a transmission circuit or transformer; or

(iv) network support arrangements, backup supply capability, or other measure that provides supply capacity.

Transmission system has the same meaning as under the *Licence*.

~~***Tribunal*** has the same meaning as under the *Electricity Supply Act 1995*.~~

(b) Headings and notes which appear in this standard are intend as an aide to usage only, and do not form part of this standard.

(c) References to clauses in this standard are references to clauses of this standard, unless this standard expressly provides otherwise.

3. Requirement to design for a specified *level of redundancy* for each bulk supply point

Subject to clause 5(a) below, the *Licence Holder* must ensure that the *transmission system* is designed such that, for each bulk supply point listed in the table in clause 8, the *transmission system* achieves the *level of redundancy* category specified for that bulk supply point in the table in clause 8.

4. Requirement to design for a level of expected unserved energy for each bulk supply point

Subject to clause 6(a) below, the *Licence Holder* must ensure that the *transmission system* is designed such that the annual *expected unserved energy* in respect of a bulk supply point listed in the table in clause 8 does not exceed the allowance for *expected unserved energy* specified for that bulk supply point in the table in clause 8.

5. Flexibility in planning for the level of redundancy

(a) The *Licence Holder* is not required to comply with clause 3 above in respect of a bulk supply point listed in the table in clause 8 provided that:

(i) the *Licence Holder* has developed and submitted to the *Tribunal* a plan regarding measures for altering the reliability of the supply capacity of the bulk supply point;

(ii) that plan provides a greater net-benefit, using the cost-benefit methodology defined in the *RIT-T*, than the net-benefit of complying with clause 3 above; and

(iii) the *Tribunal* has advised the *Licence Holder* in writing that it is satisfied that the plan submitted under clause 5(a)(i) above would, if implemented, be likely to provide a greater net-benefit than would be provided by the *Licence Holder* complying with clause 3 above in relation to the bulk supply point.

(b) The *Licence Holder* must implement the plan within a time specified by the *Tribunal* to the *Licence Holder*, and such implementation must be to the reasonable satisfaction of the *Tribunal*.

(c) For the avoidance of any doubt:

(i) the *Licence Holder* may submit, from time to time, a proposed replacement for a plan referred to in clause 5(a); and

(ii) clause 5(a) applies to such a plan in the same way that it would apply to the first plan submitted under that clause in relation to a bulk supply point.

(d) Where the *Tribunal* has expressed satisfaction in writing under clause 5(a)(iii) about a plan that relates to a bulk supply point or bulk supply points listed in the table in clause 8, the *Licence Holder* may advise the *Tribunal* in writing that it has elected not to implement the plan. If the *Licence Holder* so advises the *Tribunal* of such an election:

(i) the *Licence Holder* is not required to implement the plan in question, despite clause 5(b);

(ii) despite clause 5(a), the *Licence Holder* must comply with clause 3 in respect of the bulk supply point or bulk supply points to which the plan in question relates; and

(iii) the *Licence Holder's* election not to implement the plan may not be reversed, unless the Tribunal provides its written consent for the reversal.

6. Flexibility in planning for the level of expected unserved energy

(a) The *Licence Holder* is not required to comply with clause 4 above in respect of a bulk supply point listed in the table in clause 8 provided that:

(i) the *Licence Holder* has developed and submitted to the *Tribunal* a plan regarding measures for altering the reliability of the supply capacity of the bulk supply point;

(ii) that plan provides a greater net-benefit, using the cost-benefit methodology defined in the *RIT-T*, than the net-benefit of complying with clause 4 above; and

(iii) the Tribunal has advised the *Licence Holder* in writing that it is satisfied that the plan submitted under clause 6(a)(i) above would, if implemented:

(A) be likely to provide a greater net-benefit than would be provided by the *Licence Holder* complying with clause 4 above in relation to the bulk supply point; and

(B) not result in a material reduction in the level of *expected unserved energy* at any bulk supply point.

(b) The *Licence Holder* must implement the plan within a time specified by the *Tribunal* to the *Licence Holder*, and such implementation must be to the reasonable satisfaction of the *Tribunal*.

(c) For the avoidance of any doubt:

(i) the *Licence Holder* may submit, from time to time, a proposed replacement for a plan referred to in clause 6(a); and

(ii) clause 6(a) applies to such a plan in the same way that it would apply to the first plan submitted under that clause in relation to a bulk supply point.

(d) Where the *Tribunal* has expressed satisfaction in writing under clause 6(a)(iii) about a plan that relates to a bulk supply point or bulk supply points listed in the table in clause 8, the *Licence Holder* may advise the *Tribunal* in writing that it has elected not to implement the plan. If the *Licence Holder* so advises the *Tribunal* of such an election:

(i) the *Licence Holder* is not required to implement the plan in question, despite clause 6(b);

(ii) despite clause 6(a), the *Licence Holder* must comply with clause 4 in respect of the bulk supply point or bulk supply points to which the plan in question relates; and

(iii) the *Licence Holder's* election not to implement the plan may not be reversed, unless the *Tribunal* provides its written consent for the reversal.

7. Requirement to provide information to the Tribunal

(a) The *Licence Holder* must comply with any request notified to the *Licence Holder* by the *Tribunal* for information that the *Tribunal* reasonably considers to be necessary or convenient for the *Tribunal* in monitoring the *Licence Holder's* compliance with this standard.

(b) The *Licence Holder* must comply with a request under clause 7(a) within a reasonable timeframe notified to the *Licence Holder* by the *Tribunal*.

(c) If reasonably requested to do so by the *Tribunal*, the *Licence Holder* must commission an audit of its compliance with this standard (or specified aspects of this standard). Such an audit must be conducted:

(i) by an auditor approved by the *Tribunal* in writing;

(ii) at the expense of the *Licence Holder*; and

(iii) such that a report on the audit by the auditor is provided to the *Tribunal* within a reasonable timeframe notified to the *Licence Holder* by the *Tribunal*.

(d) At least 90 days before entering into any contract for the construction of a new bulk supply point intended to form part of the *transmission* system (or within a different timeframe proposed by the *Licence Holder* and agreed to in writing by the *Tribunal*), the *Licence Holder* must submit a proposal regarding the new bulk supply point to the *Tribunal*. The proposal must:

(i) propose a *level of redundancy* category that this standard should specify for the new bulk supply point;

(ii) propose a level of *expected unserved energy* that this standard should specify for the new bulk supply point; and

(iii) set out reasons justifying the *level of redundancy* category and level of *expected unserved energy* proposed.

8. Table of values

	Redundancy category	Unserved energy allowance, maximum minutes per year at average demand
1. Inner Sydney		
Beaconsfield West 132 kV	3	0.6[a]
Haymarket 132 kV	3	
Rookwood Road 132 kV	3	
Sydney North 132 kV	3	
Sydney South 132 kV	3	
2.Other bulk supply points		
Albury 132 kV	2	14
ANM 132 kV	2	6
Armidale 66 kV	2	7
Beryl 66 kV	2	5
Boambee South 132 kV	2	18
Canberra 132 kV and Williamsdale 132 kV	2	3
Coffs Harbour 66 kV	2	10
Coleambally 132 kV	2	32
Cooma 66 kV	2	28
Cooma 132 kV	2	11
Cowra 66 kV	2	25
Dapto 132 kV	2	4
Darlington Point 132 kV	2	4
Deniliquin 66 kV	2	19
Finley 66 kV	2	12
Forbes 66 kV	2	19
Gadara (132 kV & 11 kV)	2	13
Glen Innes 66 kV	2	43
Griffith 33 kV	2	12
Gunnedah 66 kV	2	19
Holroyd 132 kV	2	24
Ingleburn 66 kV	2	5
Inverell 66 kV	2	40
Kempsey 33 kV	2	24
Koolkhan 66 kV	2	19

Liddell 330 kV	2	2
Lismore 132 kV	2	4
Liverpool 132 kV	2	5
Macarthur 132 kV and 66 kV	2	3
Macksville 132 kV	2	23
Manildra 132 kV	2	6
Moree 66 kV	2	5
Mount Piper 66 kV	2	19
Munmorah 132 kV	2	20
Murrumburrah 66 kV	2	19
Muswellbrook 132 kV	2	3
Nambucca 66 kV	2	65
Narrabri 66 kV	2	5
Newcastle 132 kV	2	2
Orange North 132 kV / Orange 132 kV and	2	7
Panorama 66 kV	2	5
Parkes 132 kV	2	9
Parkes 66 kV	2	51
Port Macquarie 33 kV	2	14
Queanbeyan 66 kV	2	4
Raleigh 132 kV	2	32
Regentville 132 kV	2	13
Stroud 132 kV	2	21
Sydney East 132 kV	2	2
Sydney West 132 kV	2	1
Tamworth 66 kV	2	4
Taree 66 kV and 33 kV	2	15
Tenterfield 22 kV	2	79
Tomago 132 Note 3	2	13
Tomago 330 kV	2	14
Tuggerah 132 kV	2	13
Tumut 66 kV	2	13
Vales Pt 132 kV	2	3
Vineyard 132 kV	2	1
Wagga 66 kV	2	33
Wagga North 132 kV	2	5
Wallerawang 132 kV	2	26
Wallerawang 66 kV	2	31

Waratah West 132 kV	2	3
Wellington 132 kV	2	6
Yanco 33 kV	2	41
Balranald 22 kV	1	115
Broken Hill 22 kV and Broken Hill 220 kV	1	10
Casino 132 kV	1	7
Dorrigo 132 kV	1	41
Hawks Nest 132 kV	1	42
Herons Creek	1	17
Ilford 132 kV	1	14
Marulan 132 kV	1	10
Molong 66 kV	1	46
Morven 132 kV	1	33
Mudgee 132 kV	1	14
Munyang 33 kV	1	14
Murrumbateman 132 kV	1	49
Snowy Adit 132 kV	1	52
Wagga North 66 kV	1	42
Wellington Town	1	21
Yass 66 kV	1	22

[a] Applies across all the Inner Sydney