

3 February 2012

Australian Energy Regulator  
GPO Box 520  
Melbourne VIC 3001

Dear Sir,

### **Performance Incentive Scheme Report for 2011 Calendar Year**

Herewith I submit ElectraNet's annual Service Targets Performance Incentive Scheme (STPIS) report for the 2011 calendar year, which has been prepared in accordance with the applicable guidelines and revenue determination.

Clause 3.3(d) of the First Proposed Service Target Performance Incentive Scheme of January 2007 dictates that the timetable for the annual review will be decided on an annual basis by agreement between the AER and the relevant TNSP and will have due regard to the scheme and the TNSP's pricing obligations under the National Electricity Rules (the Rules).

ElectraNet is required to report actual performance for the period 1 January to 31 December 2011 against the performance measures determined by the AER in ElectraNet's revenue cap decision 2008-2013 and the subsequent Market Impact Parameter (MIP) decision of December 2010 and to provide:

- A list of events that ElectraNet believes should be excluded from the performance measures for the period, and for each event a description of the event and its impact, quantification of the impact and the reasons for the exclusion request; and
- The calculation of the financial incentive as per the revenue cap decision applying to the period.

These requirements are satisfied in the attached templates.

The STPIS is based on service standard measures that are common to all TNSPs. However, the ACCC recognised in its November 2003 decision on service standards that there must be flexibility in how these performance measures are implemented for each TNSP. In particular, the importance of

measuring performance consistently over time was emphasised. The STPIS is based on the assumption that performance measurement will be consistent with the way in which historical performance was derived for target setting.

On 11 March 2010, the Australian Energy Market Commission approved the addition of clause 11.32 of the Electricity Rules which enabled the early application of a MIP.

On 1 October 2010, ElectraNet Pty Ltd (ElectraNet) applied to the AER for the early application of the MIP. Subsequently the AER approved the early application of the MIP to ElectraNet commencing on 1 January 2011 with a target of 1862 dispatch intervals.

Separate templates have been provided with this report covering the conventional STPIS parameters and the MIP respectively.

### **Discussion of specific exclusions**

#### **Major project outages of more than 14 days**

In 2004 ElectraNet applied for the exclusion of major line outages for the rebuilding of the Para - Waterloo 132kV transmission line. The ACCC's auditor Sinclair Knight Merz (SKM) recommended that the ACCC accept ElectraNet's exclusion as it was consistent with the definitions used for target setting for the STPIS. However, the ACCC decided that, as the work was included in the revenue cap it should not be excluded from the performance incentive, but that it would be appropriate that the time associated with the event be capped at 14 days in aggregate in calculating ElectraNet's transmission circuit availability figure. The AER subsequently incorporated this cap into the STPIS that has applied to ElectraNet since 1 July 2008.

During the 2011 ElectraNet managed a number of significant projects which each exceeded the 14 day cap provision. The treatment of these capped exclusions is detailed in the attached template.

#### **Third party events – non customer**

In 2009 ElectraNet sought to exclude a number of access related outages requested by third parties to facilitate road widening and high vehicle transport that occurred in the 2008 calendar year. ElectraNet maintained that these outages were clearly of a third party nature and satisfied the exclusion requirement in the definitions. The auditor, Parsons Brinckerhoff (PB), maintained that these outages did not satisfy the definition as the third party concerned was not a customer of ElectraNet subject to a transmission connection agreement (TCA). The AER subsequently granted these exclusions and stated that such outages would be assessed on a case by case basis in the future. ElectraNet has sought no exclusions of this kind for the 2011 calendar year.

#### **Third party events – customer**

For the 2009 and 2010 calendar years ElectraNet sought and received exclusions for a number of transmission line outages that were required to enable access by third parties to the transmission network. These works were:

- Required solely due to the obligations under clauses 5.2.3.(d)(1) and 6A.1.3 of the Rules and clause 4 of the Electricity Transmission Licence for ElectraNet to grant access to third parties to the transmission network;
- Conducted in accordance with TCA's between the customers and ElectraNet which were established following a customer access request;

- Minimised and coordinated in accordance with clauses 3.2 and 3.3 of the Electricity Transmission Code so as to reduce any consequent transmission service interruptions or restrictions.

These third party requested outages, which are excluded under the definitions, are listed in the attached templates.

The attachment lists all outages which are excluded by definition from the parameters and which the AER has nonetheless required us to report and request exclusions for.

### **Force majeure events**

#### Tuesday 8 November 2011 - Davenport - Leigh Creek 132kV line

On Tuesday 8 November 2011 at 21:50, the Davenport - Leigh Creek 132kV line tripped and locked out after an extreme weather event passed through the northern end of the line. The subsequent patrol of the line identified the cause of the outage to be the full or partial failure of 6 steel lattice towers approximately 500 kilometres North of Adelaide.

To restore partial supply to Neuroodla Leigh Creek Coalfield and Leigh Creek South were disconnected from the 132kV line via line taps 160 kilometres South of Leigh Creek near the Neuroodla substation.

Local generation at Leigh Creek South returned local supply approximately 2 hours after the event. Approximately 0.5MW of load was lost at Neuroodla for 168 minutes, 1.26MW for 120 minutes at Leigh Creek South and 1.76MW for 10,709 minutes at Leigh Creek Coalfield. Normal supply was returned to all connection points on 16 November following the replacement of the damaged towers.

The event was unforeseeable and its impact extraordinary. Structure failures in service are rare and, absent negligence on the part of the TNSP, would satisfy any reasonable definition of force majeure.

ElectraNet could not have prevented the event but worked to effectively reduce the impact of the event by reconfiguration of the network and the use of all available resources to maintain supply to customers where possible and to expedite the replacement of the structures.

#### Saturday 17 December 2011 - Bungama - Baroota 132kV line

On Saturday 17 December 2011 at 20:37 the Bungama - Baroota 132kV line tripped due to an extreme weather event which resulted in the failure of several transmission structures. Under normal conditions supply can be back fed from Bungama via the Murraytown - Baroota 33kV line owned by ETSA Utilities however the supply changeover could not be achieved as that line had a number of poles destroyed in the same extreme weather event. Approximately 3.5MW of load was lost for 998 minutes until the Murraytown - Baroota 33kV line was re-instated by ETSA Utilities. Normal supply to the transmission connection point via the transmission network was returned on 21 December 2011 at 08:12 following the installation of new transmission structures.

The event was unforeseeable and its impact extraordinary. As noted above the destruction of transmission structures is rare. ElectraNet could not have prevented the event but worked to effectively reduce its impact.

To have two extreme weather events during the period result in the failure of multiple structures is extremely rare.

## Monday 3 October 2011 - Snowtown Windfarm

On Monday 3 October 2011 at 23:51 the Snowtown – Snowtown Windfarm 33kV line tripped following the sabotage of communication cables at the Bungama Substation. The outage of the connection point resulted in the Snowtown Windfarm being disconnected from the transmission network and the accumulation of 106 affected dispatch intervals until the communication cables at Bungama were reinstated at 11:49 the following morning.

The sabotage of the cable is unique and such an event has not been experienced by ElectraNet before. The substation was entered over a security fence and the communication cable was the only asset interfered with. It appears that an axe or similar device was used to sever communication from the substation.

No interruptions occurred at ElectraNet's prescribed substations as backup protection schemes operated to maintain system security. When negotiating the connection agreement for the Snowtown substation the proponent sought a simple T connection rather than a meshed configuration (which is ElectraNet's preferred arrangement for this class of connection). The connection agreement notes that due to the connection configuration chosen for the negotiated substation, if the radio system fails for any reason the facility would be immediately disconnected from the existing transmission line and the protection for the existing transmission line would revert to distance protection.

ElectraNet's preferred configuration would not have resulted in disconnection of the windfarm. Given the nature of this incident and standard of service negotiated by the affected party, ElectraNet believes it has taken all reasonable measures within its power to prevent the occurrence of such an event.

### Calculation of Incentive

ElectraNet's actual performance against the conventional STPIS parameters and the MIP respectively are shown in the attached AER Templates (Attachments 1 and 2) that summarise actual performance against each performance measure, including calculation of the S factors and the applicable revenue bonus/ penalty for the 2011 calendar year.

Calculations are presented with and without exclusions as required by the guideline and consistent with previous discussions with your officers.

### Audit of Performance

Full access to all relevant systems and reports to support this application will be made available to the auditor.

Please do not hesitate to contact Bill Jackson on (08) 8404 7969 should you require clarification of any of the information provided in this report.

Yours sincerely,



Simon Appleby  
**Senior Manager Regulatory Affairs**

**ATTACHMENT 1 – AER PROFORMA FOR CALCULATION OF S FACTOR AND INCENTIVE  
CONVENTIONAL PARAMETERS**

## TEMPLATE EXPLANATION



This template must be used by the TNSP to report service performance information for the previous calendar year.

Yellow worksheets (**'Inputs - Performance'** and **'Inputs - Exclusions'**) are for inputs, including performance and exclusion information. The TNSP only needs to enter data on these worksheets.

Purple worksheets **'S1' to 'S6'** are the s-factor results based on the performance inputs from the 'Inputs - Performance' worksheet.

Blue worksheet **'Revenue Calculation'** quantifies the appropriate revenue to be applied to the s-factor results adjusted for CPI.

Red worksheet **'Outcomes'** shows the total performance, s-factor and financial incentive results based on the TNSP's performance in 'Inputs-Performance' and 'Revenue Calculation' worksheets.

Orange worksheet **'Exclusion Definitions'** are the defined exclusions for each TNSP which should form the basis of exclusion requests under 'Inputs-Exclusions' worksheet.

## ElectraNet - SERVICE STANDARDS PERFORMANCE

Performance Inputs							
S	Performance parameter	Collar	Target	Cap	Revenue at Risk	Performance (Without exclusions)	Performance (With exclusions)
S1	Total transmission circuit availability	99.10%	99.47%	99.63%	0.30%	99.010000%	99.579682%
S2	Critical circuit availability – peak	98.52%	99.24%	99.51%	0.20%	97.800000%	98.683852%
S3	Critical circuit availability – non-peak (zero weighting)	98.88%	99.62%	99.95%	0.00%	98.000872%	99.187752%
S4	Loss of supply event frequency ( >0.05 system minutes )	11	8	6	0.10%	10	7
S5	Loss of supply event frequency ( >0.2 system minutes )	6	4	2	0.20%	4	1
S6	Average outage duration (minutes)	119	78	38	0.20%	705	256

Revenue Determination Inputs	
TNSP:	ElectraNet
STPIS version:	January, 2007
Regulatory Determination	2008/09 - 2012/13
Base Year Allowed Revenue	\$ 229,990,000
Base Year	2008–09
X-factor	-5.93%
Commencement of regulatory year	01-Jul-08

Other inputs	
Assessment Period	2011
Financial year to affect revenue:	2012/13
Date prepared:	
Revision date:	

Other Inputs						
Annual revenue adjusted for C	Mar-08	Mar-09	Mar-10	Mar-11	Mar-12	Mar-13
CPI	162.2	166.2	171.0	176.7		

### NOTE:

Pink cells - Performance without exclusions input cells

Orange cells - Performance with exclusions input cells

Green cells - Other inputs

Blue cells - Inputs sourced from the revenue determination

Performance is based on a calendar year or the proportion of a calendar year that applies in each regulatory period.







		Event 2509 - Dorrien 33kV bus and 132/33/11kV TF2	On Wednesday 10 August 2011 at 0622, the Dorrien 33kV bus and 132/33/11kV TF2 tripped after ElectraNet received a direct intertrip signal from ETSA Utilities protection for an EU fault.	10/08/2011	6:22	10/08/2011	9:10	Dorrien 33kV bus and 132/33/11kV TF2	168	1	3rd Party	Direct intertrip from ETSA Utilities protection for their fault
		Event 2514 - Middleback asset	On Sunday 28 August 2011 at 0548 the 132/33kV TF 1 at Middleback substation tripped due to a One Steel asset blowing up. There was no load at the time of the event. This event has been classified as a 3rd Party event.	28/08/2011	5:48	28/08/2011	9:43	Middleback One Steel	235	1	3rd Party	ElectraNet protection operated to clear a 3rd party fault
		Event 2533 - Kanmantoo plant failure	On Friday 4 November 2011 at 1921, the 132/11kV TF2 at Kanmantoo tripped to clear an 11kV downstream fault within the Kanmantoo mine. Approximately 1MW of load was lost however the event has been classified as 3rd Party and is excluded from the PI Scheme.	04/11/2011	19:21	04/11/2011	20:33	Kanmantoo Mine	72	1	3rd Party	ElectraNet protection operated to clear a 3rd party fault
S6	Average outage duration (minutes)	Event 2536 - Davenport - Leigh Creek 132kV line	On Tuesday 8 November 2011 at 2150, the Davenport - Leigh Creek 132kV line tripped and looked out after a severe storm passed through the northern end of the line blowing over several towers. To restore partial supply Leigh Creek Coal and South were disconnected from the 132kV line via line taps so that Neuroodda could be restored. Local generation at Leigh Creek South kept local supply on however how is not known. Approximately 0.5MW of load was lost at Neuroodda for 168 minutes, 1.76MW for 10709 minutes at Leigh Creek Coalfield and 1.26MW for 120 minutes at Leigh Creek South, totaling a 4.7 system minute event. This event is being treated as a Force Majeure event and is likely to be excluded from the PI Scheme.	08/11/2011	21:50	09/11/2011	17:12	Neuroodda	1162	1	Force Majeure	Severe storms blew over several towers.
				08/11/2011	21:50	10/11/2011	8:19	Leigh Creek Coalfield	10709	1	Force Majeure	Severe storms blew over several towers.
				08/11/2011	21:50	09/11/2011	23:50	Leigh Creek South	120	1	Force Majeure	Severe storms blew over several towers.
		Event 2552 - Bungama - Baroota 132kV line	On Saturday 17 December 2011 at 2037 the Bungama - Baroota 132kV line tripped as a result of strong storm conditions blowing over several poles. Under normal conditions supply can be backed from Bungama via the Murraytown-Baroota 33kV line however the supply changeover could not be achieved as the Murraytown-Baroota 33kV line had a number of poles on the ground as well due to the storms. Approximately 3.5MW of load was lost for 998 minutes until the Murraytown-Baroota 33kV line was re-instated. This event however is being classified as Force Majeure and is expected to be excluded from the PI Scheme.	17/12/2011	20:37	18/12/2011	13:15	Baroota	998	1	Force Majeure	Severe storms blew over several towers.

**NOTE:**

This worksheet should include a list all events that are proposed for exclusion.

Each proposed exclusion should include a description of the event, a description of the impact and quantification of the impact on the network and performance. The descriptive elements should also include reasons for the exclusion request making reference to the "Exclusion Definitions" worksheet.

Each exclusion should be entered onto one row for each parameter. Where one exclusion event applies to more than one parameter, the relevant details of the event should be entered under each of the measure headings.

The TNSP must provide details for all events requested for exclusion in this template. In the event that the TNSP wishes to provide further details of an exclusion, this should be provided with the TNSP's performance report. The source of information should be referenced in this template.

**ElectraNet - S1 - Total transmission circuit availability**

Performance Targets	Graph start	Collar	Target	Cap	Graph end
Total transmission circuit availability	99.00%	99.10%	99.47%	99.63%	99.80%
Weighting	-0.30%	-0.30%	0.00%	0.30%	0.30%

Performance Formulae	Formulae				Conditions	S- Calc 1	S- Calc 2
Performance	=	-0.003000			Availability < 99.10%	-0.003000	-0.003000
	=	0.810811	x	Availability +	99.10% ≤ Availability ≤ 99.47%	-0.003730	0.000889
	=	1.875000	x	Availability +	99.47% ≤ Availability ≤ 99.63%	-0.008625	0.002057
	=	0.003000			99.63% < Availability	0.003000	0.003000

Performance Outcomes	Performance (Without Exclusions)	Performance (Exclusions)
Total transmission circuit availability	= 99.010000%	99.579682%
S-Factor	= -0.300000%	0.205654%

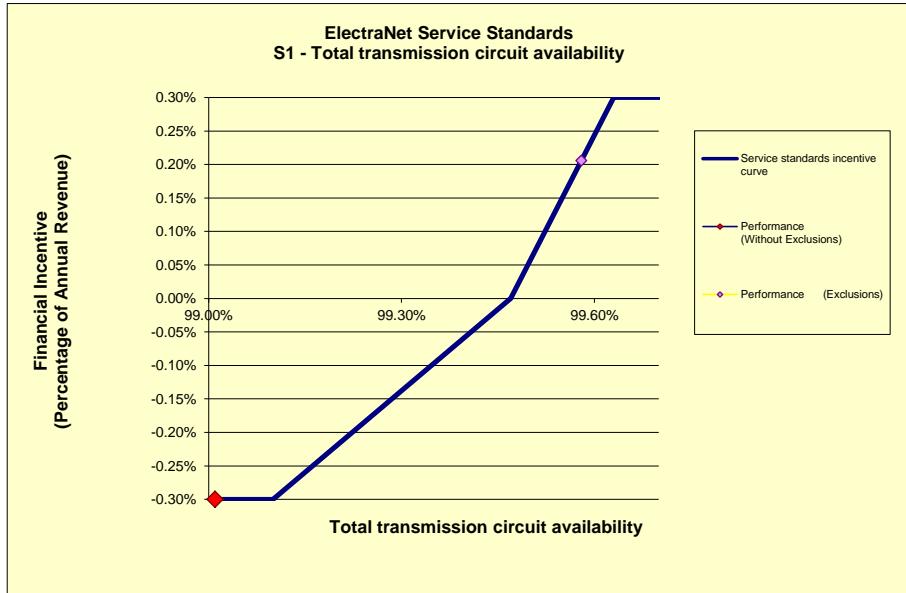
**NOTE: This sheet will automatically update based on data in input sheets**

Blue cells show the TNSP's performance targets and weightings

Yellow/Green cells show the TNSP's performance formulae and related formula conditions based on performance targets and weightings

Pink cells show the TNSP's performance outcomes without any events excluded from performance data

Orange cells show the TNSP's performance outcomes with events excluded from performance data



**ElectraNet - S2 - Critical circuit availability – peak**

Performance Targets	Graph start	Collar	Target	Cap	Graph end
critical circuit availability – peak	98.50%	98.52%	99.24%	99.51%	99.70%
Weighting	-0.20%	-0.20%	0.00%	0.20%	0.20%

Performance Formulae	Formulae				Conditions	S- Calc 1	S- Calc 2
Performance	=	-0.002000			When: Availability < 98.52%	-0.002000	-0.002000
	=	0.277778	x	Availability +	98.52% ≤ Availability ≤ 99.24%	-0.004000	-0.001545
	=	0.740741	x	Availability +	99.24% ≤ Availability ≤ 99.51%	-0.010667	-0.004120
	=	0.002000			99.51% < Availability	0.002000	0.002000

Performance Outcomes	Performance (Without Exclusions)	Performance (Exclusions)
critical circuit availability – peak	= 97.800000%	98.683852%
S-Factor	= -0.200000%	-0.154485%

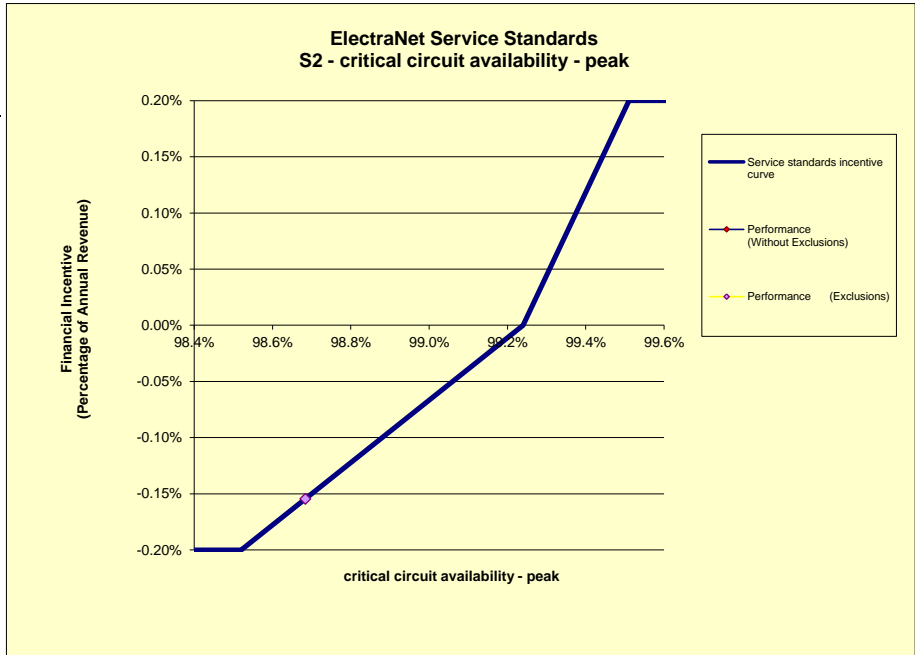
**NOTE: This sheet will automatically update based on data in input sheets**

Blue cells show the TNSP's performance targets and weightings

Yellow/Green cells show the TNSP's performance formulae and related formula conditions based on performance targets and weightings

Pink cells show the TNSP's performance outcomes without any events excluded from performance data

Orange cells show the TNSP's performance outcomes with events excluded from performance data



**ElectraNet - S3 - Critical circuit availability – non-peak (zero weighting)**

Performance Targets	Graph start	Collar	Target	Cap	Graph end
Circuit availability – non-peak (zero Weighting)	98.70%	98.88%	99.62%	99.95%	100.20%
	0.00%	0.00%	0.00%	0.00%	0.00%

Performance Formulae	Formulae				Conditions	S- Calc 1	S- Calc 2
Performance	=	0.000000			When: Availability < 98.88%	0.000000	0.000000
	=	0.000000	x	Availability + 0.000000	98.88% ≤ Availability ≤ 99.62%	0.000000	0.000000
	=	0.000000	x	Availability + 0.000000	99.62% ≤ Availability ≤ 99.95%	0.000000	0.000000
	=	0.000000			99.95% < Availability	0.000000	0.000000

Performance Outcomes	Performance (Without Exclusions)	Performance (Exclusions)
Circuit availability – non-peak (zero S-Factor)	= 98.000872%	99.187752%
	= 0.000000%	0.000000%

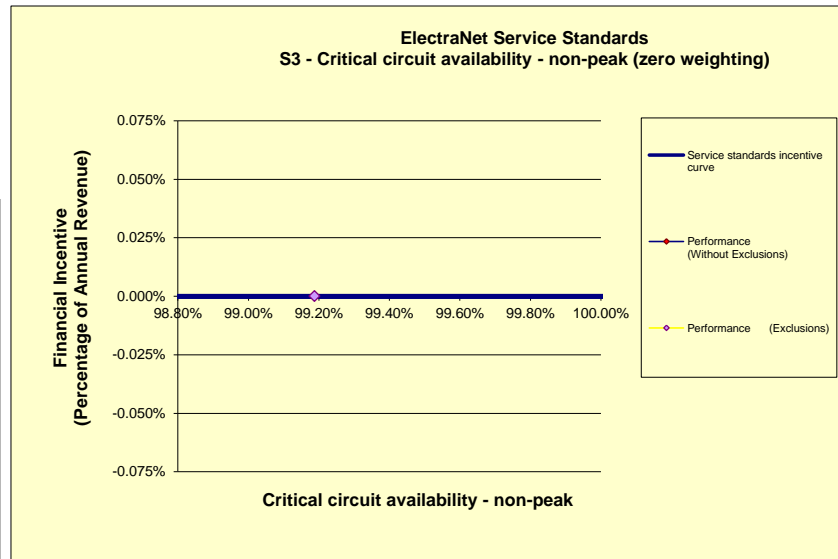
**NOTE: This sheet will automatically update based on data in input sheets**

Blue cells show the TNSP's performance targets and weightings

Yellow/Green cells show the TNSP's performance formulae and related formula conditions based on performance targets and weightings

Pink cells show the TNSP's performance outcomes without any events excluded from performance data

Orange cells show the TNSP's performance outcomes with events excluded from performance data



## ElectraNet - S4 - Loss of supply event frequency ( >0.05 system minutes )

Performance Targets	Graph start	Collar	Target	Cap	Graph end
Loss of supply event frequency ( >0.05 system minutes )	13	11	8	6	-
Weighting	-0.10%	-0.100%	0.00%	0.100%	0.10%

Performance Formulae	Formulae					Conditions	S- Calc 1	S- Calc 2
Performance	=	-0.001000				11 < No. of events	-0.001000	-0.001000
	=	-0.000333	x	No. of events	+	0.002667 8 ≤ No. of events ≤ 11	-0.000667	0.000333
	=	-0.000500	x	No. of events	+	0.004000 6 ≤ No. of events ≤ 8	-0.001000	0.000500
	=	0.001000				No. of events < 6	0.001000	0.001000

Loss of supply event frequency ( >0.05 system minutes )	=	Performance (Without Exclusions)	Performance (Exclusions)
Loss of supply event frequency ( >0.05 system minutes )	=	10	7
S-Factor		-0.066667%	0.050000%

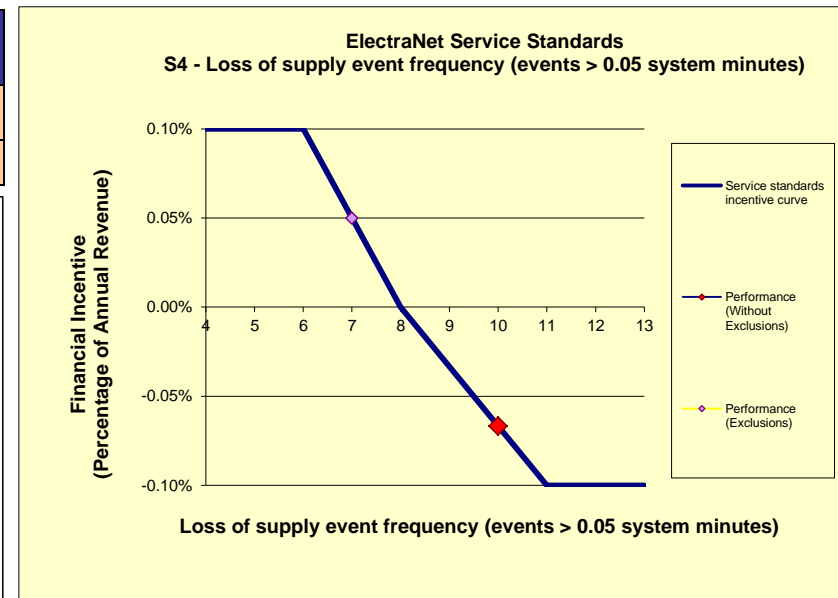
### NOTE: This sheet will automatically update based on data in input sheets

Blue cells show the TNSP's performance targets and weightings

Yellow/Green cells show the TNSP's performance formulae and related formula conditions based on performance targets and weightings

Pink cells show the TNSP's performance outcomes without any events excluded from performance data

Orange cells show the TNSP's performance outcomes with events excluded from performance data



**ElectraNet - S5 - Loss of supply event frequency ( >0.2 system minutes )**

Performance Targets	Graph start	Collar	Target	Cap	Graph end
Loss of supply event frequency ( >0.2 system minutes )	8	6	4	2	0
Weighting	-0.20%	-0.200%	0.00%	0.200%	0.20%

Performance Formulae	Formulae					Conditions	S- Calc 1	S- Calc 2	
Performance	=	-0.002000				6 < No. of events	-0.002000	-0.002000	
	=	-0.001000	x	No. of events	+	0.004000	4 ≤ No. of events ≤ 6	0.000000	0.003000
	=	-0.001000	x	No. of events	+	0.004000	2 ≤ No. of events ≤ 4	0.000000	0.003000
	=	0.002000				No. of events = 2	0.002000	0.002000	

Loss of supply event frequency ( >0.2 system minutes )	=	Performance (Without Exclusions)	Performance (Exclusions)
Loss of supply event frequency ( >0.2 system minutes )	=	4	1
S-Factor	=	0.000000%	0.200000%

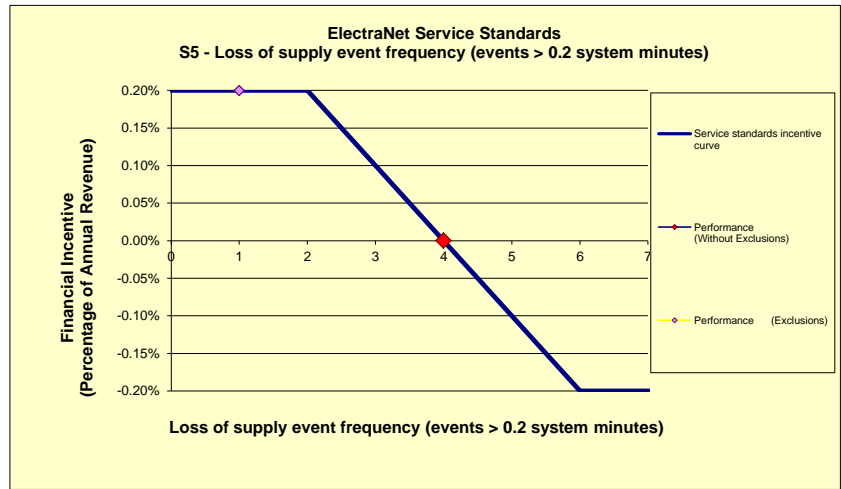
**NOTE: This sheet will automatically update based on data in input sheets**

Blue cells show the TNSP's performance targets and weightings

Yellow/Green cells show the TNSP's performance formulae and related formula conditions based on performance targets and weightings

Pink cells show the TNSP's performance outcomes without any events excluded from performance data

Orange cells show the TNSP's performance outcomes with events excluded from performance data



**ElectraNet - S6 - Average outage duration (minutes)**

Performance Targets	Graph start	Collar	Target	Cap	Graph end
Average outage duration (minutes)	319	119	78	38	-
Weighting	-0.20%	-0.200%	0.00%	0.200%	-0.20%

Performance Formulae	Formulae					Conditions		S- Calc 1	S- Calc 2		
Performance	=	-0.002000				119	<	Duration	-0.002000	-0.002000	
	=	-0.000049	x	Duration	+	0.003805	78	≤	Duration ≤ 119	-0.030591	-0.008696
	=	-0.000050	x	Duration	+	0.003900	38	≤	Duration ≤ 78	-0.031356	-0.008913
	=	0.002000							Duration < 38	0.002000	0.002000

Average outage duration (minutes)	=	Performance (Without Exclusions)	Performance (Exclusions)
Average outage duration (minutes)	=	705.115385	256.263158
S-Factor		-0.200000%	-0.200000%

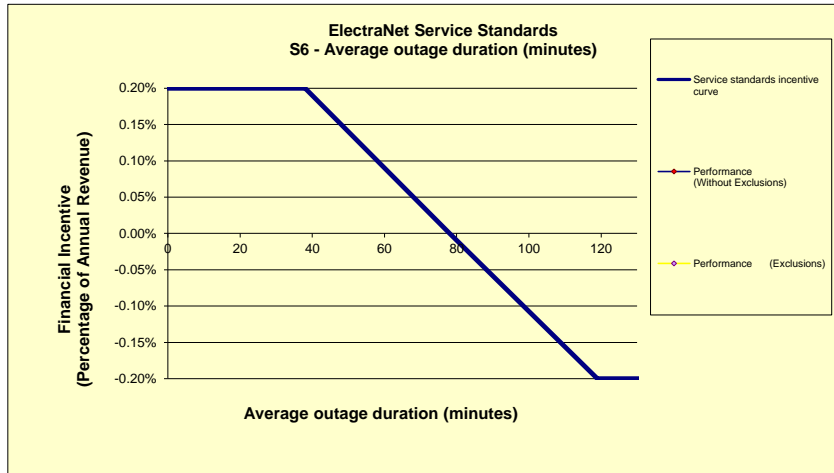
**NOTE: This sheet will automatically update based on data in input sheets**

Blue cells show the TNSP's performance targets and weightings

Yellow/Green cells show the TNSP's performance formulae and related formula conditions based on performance targets and weightings

Pink cells show the TNSP's performance outcomes without any events excluded from performance data

Orange cells show the TNSP's performance outcomes with events excluded from performance data





## ElectraNet - Revenue Calculation

X-factor from AER final decision

<i>Revenue cap information</i>	2008-09 to 2009-10
Base year allowed revenue (2008-09)	\$229,990,000
Base year	2008-09
X-factor	-5.93%
Commencement of regulatory period	01-Jul-08

X-factor after approval of Munno Para contingent project

<i>Revenue cap information</i>	2010-11 to 2012-13
Base year allowed revenue (2010-11)	\$272,077,206
Base year	2010-11
X-factor	-5.95%
Commencement of regulatory period	01-Jul-08

<i>Annual revenue adjusted for CPI</i>	Mar-08	Mar-09	Mar-10	Mar-11	Mar-12	Mar-13
CPI	162.2	166.2	171.0	176.7	-	-

<i>Nominal annual revenue</i>	2008-09	2009-10	2010-11	2011-12	2012-13
Allowed Revenue	\$229,990,000	\$249,636,506	\$272,128,575	\$297,930,899	

<i>Calendar year revenue</i>	2008	2009	2010	2011	2012	2013
Revenue	\$114,995,000	\$239,813,253	\$260,882,540	\$285,029,737		

### NOTE:

This sheet will automatically update based on data on input sheets.

Grey cells show calendar year revenue

Green cells are for formula

## ElectraNet - Performance outcomes

Revenue calendar year

\$285,029,737

S	Performance parameter	Target	Performance without exclusions			Performance with exclusions			Impact of exclusions
			Performance	S-Factor	Final Incentive	Performance	S-Factor	Final Incentive	
S1	Total transmission circuit availability	99.47%	99.010000%	-0.300000%	-\$855,089	99.579682%	0.205654%	\$586,175	0.505654%
S2	Critical circuit availability – peak	99.24%	97.800000%	-0.200000%	-\$570,059	98.683852%	-0.154485%	-\$440,330	0.045515%
S3	Critical circuit availability – non-peak (zero weighting)	99.62%	98.000872%	0.000000%	\$0	99.187752%	0.000000%	\$0	0.000000%
S4	Loss of supply event frequency ( >0.05 system minutes )	8	10	-0.066667%	-\$190,020	7	0.050000%	\$142,515	0.116667%
S5	Loss of supply event frequency ( >0.2 system minutes )	4	4	0.000000%	\$0	1	0.200000%	\$570,059	0.200000%
S6	Average outage duration (minutes)	78	705	-0.200000%	-\$570,059	256	-0.200000%	-\$570,059	0.000000%
<b>TOTALS</b>				-0.766667%	-\$2,185,228		0.101169%	\$288,360	0.867835%

**NOTE:**

This sheet will automatically update based on data in input sheets.

Grey cell shows relevant calendar year revenue

Green cells show performance measure targets

Pink cells show performance, s-factor results and financial incentive without exclusions

Orange cells show performance, s-factor results and financial incentive with exclusions

Blue cells show the impact of exclusions on revenue

Aggregate outcome	
S-factor	0.101169%
Financial Incentive	\$288,360
Financial year affected by financial incentive	2012/13

**ElectraNet - Defined exclusions**

No. Parameter 1 - Transmission circuit availability		
Defined exclusions	Further description of exclusion	Reference
1.1 Unregulated transmission assets		Appendix C Revenue cap decision
1.2 3rd party outages	Any outages shown to be caused by a 'third party system'—eg. intertrip signals, generator outage, customer installation, customer request or AEMO direction.	Appendix C Revenue cap decision
1.3 Outages to control voltages	Outages to control voltages within required limits, both as directed by AEMO and where AEMO does not have direct oversight of the network (in both cases only where the element is available for immediate energisation if required).	Appendix C Revenue cap decision
1.4 Circuit opening for operational purposes	The opening of only one end of a transmission line where the transmission line remains energised and available to carry power.	Appendix C Revenue cap decision
1.5 Capped outages	The number of interrupted hours related to a single transmission line redevelopment project or substation redevelopment project is capped at 336 hours (14 days).	Appendix C Revenue cap decision
1.6 Force majeure		Appendix D First proposed STPIS

No. Parameter 2 - Critical circuit availability – peak		
Defined exclusions	Further description of exclusion	Reference
2.1 Unregulated transmission assets		Appendix C Revenue cap decision
2.2 3rd party outages	Any outages shown to be caused by a 'third party system'—eg. intertrip signals, generator outage, customer installation, customer request or AEMO direction.	Appendix C Revenue cap decision
2.3 Outages to control voltages	Outages to control voltages within required limits, both as directed by AEMO and where AEMO does not have direct oversight of the network (in both cases only where the element is available for immediate energisation if required).	Appendix C Revenue cap decision
2.4 Circuit opening for operational purposes	The opening of only one end of a transmission line where the transmission line remains energised and available to carry power.	Appendix C Revenue cap decision
2.5 Capped outages	The number of interrupted hours related to a single transmission line redevelopment project or substation redevelopment project is capped at 336 hours (14 days).	Appendix C Revenue cap decision
2.6 Force majeure		Appendix D First proposed STPIS

Parameter 3 - Loss of supply event frequency (>0.2 system minutes)		
Defined exclusions	Further description of exclusion	Reference
3.1 Successful reclose events (<1 min duration)		Appendix C Revenue cap decision
3.2 Unregulated transmission assets		Appendix C Revenue cap decision
3.3 3rd party outages	Any outages shown to be caused by a 'third party system'—e.g. intertrip signals, generator outage, customer installation, customer request or AEMO direction.	Appendix C Revenue cap decision
3.4 Planned outages		Appendix C Revenue cap decision
3.5 Interconnector outages	For supply outages resulting from an interconnector outage, the period of the interruption is capped at half an hour. This is done to include the impact of automatic under-frequency load shedding, but to exclude the impact of any market failure to respond and restore load within required timeframes (ie. excluding factors outside of ElectraNet's control).	Appendix C Revenue cap decision
3.6 Pumping station supply interruptions	Pumping station supply interruptions were excluded from historical data due to the highly irregular nature of these loads, which makes accurate estimation of load profiles unreliable.	Appendix C Revenue cap decision
3.7 Force majeure		Appendix D First proposed STPIS
3.8 ElectraNet protection operates incorrectly ahead of third party protection	Where ElectraNet protection operates incorrectly ahead of third party protection, the portion of customer load that would have been lost had ElectraNet protection not operated is removed from the total lost load.	Appendix C Revenue cap decision
3.9 ElectraNet protection operates correctly due to a fault on a third party system	Where ElectraNet protection operates correctly due to a fault on a third party system no lost load is recorded.	Appendix C Revenue cap decision

Parameter 4 - Loss of supply event frequency (>1.0 system minutes)		
Defined exclusions	Further description of exclusion	Reference
4.1 Successful reclose events (<1 min duration)		Appendix C Revenue cap decision
4.2 Unregulated transmission assets		Appendix C Revenue cap decision
4.3 3rd party outages	Any outages shown to be caused by a 'third party system'—e.g. intertrip signals, generator outage, customer installation, customer request or AEMO direction.	Appendix C Revenue cap decision
4.4 Planned outages		Appendix C Revenue cap decision
4.5 Interconnector outages	For supply outages resulting from an interconnector outage, the period of the interruption is capped at half an hour. This is done to include the impact of automatic under-frequency load shedding, but to exclude the impact of any market failure to respond and restore load within required timeframes (ie. excluding factors outside of ElectraNet's control).	Appendix C Revenue cap decision
4.6 Pumping station supply interruptions	Pumping station supply interruptions were excluded from historical data due to the highly irregular nature of these loads, which makes accurate estimation of load profiles unreliable.	Appendix C Revenue cap decision
4.7 Force majeure		Appendix D First proposed STPIS
4.8 ElectraNet protection operates incorrectly ahead of third party protection	Where ElectraNet protection operates incorrectly ahead of third party protection, the portion of customer load that would have been lost had ElectraNet protection not operated is removed from the total lost load.	Appendix C Revenue cap decision
4.9 ElectraNet protection operates correctly due to a fault on a third party system	Where ElectraNet protection operates correctly due to a fault on a third party system no lost load is recorded.	Appendix C Revenue cap decision

Parameter 5 - Average outage duration		
Defined exclusions	Further description of exclusion	Reference
5.1 Successful reclose events (<1 min duration)		Appendix C Revenue cap decision
5.2 Unregulated transmission assets		Appendix C Revenue cap decision
5.3 3rd party outages	any outages shown to be caused by a 'third party system'—eg intertrip signals, generator outage, customer installation, customer request or AEMO direction	Appendix C Revenue cap decision
5.4 Planned outages		Appendix C Revenue cap decision
5.5 Interconnector outages supply interruptions	For supply outages resulting from an interconnector outage, the duration is capped at half an hour. This is done to include the impact of automatic under-frequency load shedding, but to exclude the impact of any market failure to respond and restore load within required timeframes (i.e. excluding factors outside of ElectraNet's control).	Appendix C Revenue cap decision
5.6 Force majeure		Appendix D First proposed STPIS
5.7 ElectraNet protection operates correctly due to a fault on a third party system	Where ElectraNet protection operates correctly due to a fault on a third party system no lost load is recorded.	Appendix C Revenue cap decision

No. Critical circuit availability – non-peak (zero weight)		
Defined exclusions	Further description of exclusion	Reference
6.1 Unregulated transmission assets		Appendix C Revenue cap decision
6.2 3rd party outages	Any outages shown to be caused by a 'third party system'—eg intertrip signals, generator outage, customer installation, customer request or AEMO direction.	Appendix C Revenue cap decision
6.3 Outages to control voltages	Outages to control voltages within required limits, both as directed by AEMO and where AEMO does not have direct oversight of the network (in both cases only where the element is available for immediate energisation if required).	Appendix C Revenue cap decision
6.4 Circuit opening for operational purposes	The opening of only one end of a transmission line where the transmission line remains energised and available to carry power.	Appendix C Revenue cap decision
6.5 Capped outages	The number of interrupted hours related to a single transmission line redevelopment project or substation redevelopment project is capped at 336 hours (14 days).	Appendix C Revenue cap decision
6.6 Force majeure		Appendix D First proposed STPIS (January 2007)

## Service Target Performance Incentive Scheme - Definition of Force Majeure

Definition of Force Majeure	Reference
<p>For the purpose of applying the <i>service target performance incentive scheme</i>, force majeure events means any event, act or circumstance or combination of events, acts and circumstances which (despite the observance of good electricity industry practice) is beyond the reasonable control of the part affected by any such event, which may include, without limitation, the following:</p> <ul style="list-style-type: none"><li>- fire, lightning, explosion, flood, earthquake, storm, cyclone, action of the elements, riots, civil commotion, malicious damage, natural disaster, sabotage, act of a public enemy, act of God, war (declared or undeclared), blockage, revolution, radioactive contamination, toxic or dangerous chemical contamination or force of nature.</li><li>- action or inaction by a court, government agency (including denial, refusal or failure to grant any authorisation, despite timely best endeavour to obtain same)</li><li>- strikes, lockouts, industrial and/or labour disputes and/or difficulties, work bans, blockades, picketing</li><li>- acts or omissions (other than failure to pay money) of a party other than the TNSP, which party either is connected to or uses the high voltage grid or is directly connected to or uses a system for the supply of electricity that in turn is connected to the high voltage grid</li><li>- where those acts or omissions affect the ability of the TNSP to perform its obligation under the service standard by virtue of that direct or indirect connection to or use of the high voltage grid</li></ul> <p>In determining what force majeure events should be excluded the AER will consider the following:</p> <ul style="list-style-type: none"><li>- was the event unforeseeable and its impact extraordinary, uncontrollable and not manageable?</li><li>- does the event occur frequently? If so, how did the impact of the particular event differ?</li><li>- could the TNSP, in practice, have prevented the impact (not necessarily the event itself)?</li><li>- could the TNSP have effectively reduced the impact of the event by adopting better practices?</li></ul>	<p>Service Target Performance Incentive Scheme (January 2007) p. 31</p>

**ATTACHMENT 2 – AER PROFORMA FOR CALCULATION OF S FACTOR AND INCENTIVE  
MARKET IMPACT PARAMETER**



## EXCEL TEMPLATE EXPLANATION

This reporting template is for each TNSP to report its service performance against the market impact parameter of the service target performance incentive scheme.

It only applies to the TNSP for the calendar year set out in the Input Performance worksheet of the TNSPs current regulatory period. The TNSP will need to submit raw data in a clear layout for validation (either in database or csv).

## DATABASE TEMPLATE EXPLANATION

Below is an example of a database table format suitable for verification by the AER.

The table lists ALL binding constraints that are used to manage TNSP's XYZ equipment on a 5 minute resolution. The TNSP is able to enter the exclusion clause number in the 'EXCLUSION CLAUSE' field and provide comment. If the outage should be included in the benchmark, the TNSP simply leave the exclusion field blank.

NOTE: All dispatch intervals with a marginal value greater than \$10/MWh, classified as an OUTAGE and has no exclusion clause entered, will be used to calculate the TNSP's Market Impact Parameter.

DATABASE NAME: TNSP XYZ

TABLE NAME: TNSP XYZ Service Performance data

DATA:

SOURCE	SETTLEMENTDATE	CONSTRAINTID	EQUIPMENTNAME	EFFECTIVEDATE	VERSIONNO	MARGINAL VALUE	CLASSIFICATION	EXCLUSION CLAUSE	COMMENTS
TNSP XYZ	1/01/2007 12:30 PM	X>X-22_LK 1	LINE 22	1/01/2007	1	12	OUTAGE		
TNSP XYZ	1/01/2008 12:35 PM	X>X-NIL_RU		1/01/2006	2	120	SYSTEM NORMAL		
TNSP XYZ	1/01/2008 12:35 PM	X>>X-54	LINE 54	1/01/2004	1	200	OUTAGE	6	Line out of service to provide greater network capacity
TNSP XYZ	1/01/2008 12:55 PM	X>X_NSA_01	LINE 33	1/02/2004	1	5000	OUTAGE	7	Network Support constraint
TNSP XYZ	1/01/2007 12:30 PM	X>Y-22_LK 1	LINE 22	1/01/2007	1	12	OUTAGE		TNSP YYY is also responsible for this outage

## ElectraNet - SERVICE STANDARDS PERFORMANCE SUMMARY

SERVICE TARGET PERFORMANCE INCENTIVE SCHEME DATA						
Year	Month	Market impact parameter count (DI) (without exclusions)	Market impact parameter count (DI) (with exclusions)	Non-market impact parameter count (DI)	Market impact parameters (Hrs)	Non-market impact parameters (Hrs)
2011	January	1917	88	59151	7.33	4929.25
	February	2574	49	54015	4.08	4501.25
	March	1087	60	64954	5.00	5412.83
	April	84	5	62382	0.42	5198.50
	May	633	122	60480	10.17	5040.00
	June	1067	65	58353	5.42	4862.75
	July	2406	201	61885	16.75	5157.08
	August	1011	18	60000	1.50	5000.00
	September	1225	224	60851	18.67	5070.92
	October	2192	385	65221	32.08	5435.08
	November	1182	73	60255	6.08	5021.25
	December	555	72	61084	6.00	5090.33
<b>Total</b>		<b>15933</b>	<b>1362</b>	<b>728631</b>	<b>113.50</b>	<b>60719.25</b>

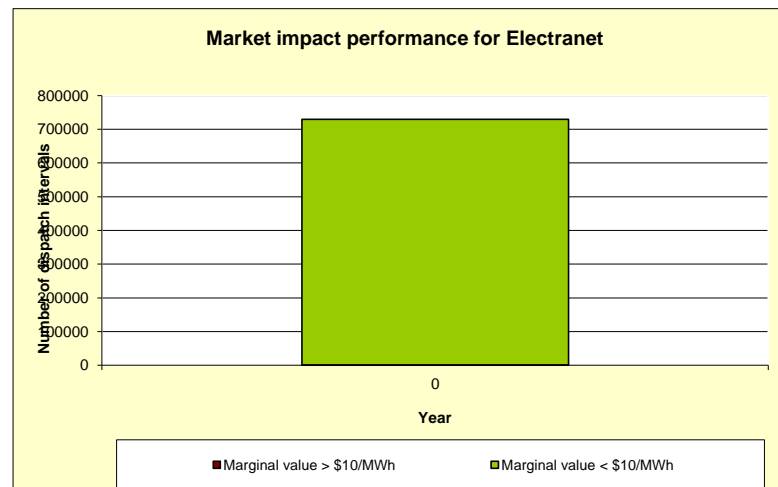
### NOTES:

Yellow cells - Enter market impact parameter performance data

Note: Performance is measured on a calendar year basis.

### Summary

Date	Marginal value > \$10/MWh	Marginal value < \$10/MWh	Market impact parameters (Hrs)	Non-market impact parameters (Hrs)
0	1362	728631	113.50	60719.25



Revenue Determination Inputs	
TNSP:	ElectraNet
STPIS version:	January, 2007
Regulatory Determination	2008/09 - 2012/13
Base Year Allowed Revenue	\$ 229,990,000
Base Year	2008-09
X-factor	-5.93%
Commencement of regulatory year	01-Jul-08

Other inputs	
Assessment Period	2011
Financial year to affect revenue:	2011/12
Date prepared:	
Revision date:	
Target	1862

Other Inputs						
Annual reven	Mar-08	Mar-09	Mar-10	Mar-11	Mar-12	Mar-13
CPI	162.2	166.2	171.0	176.7		

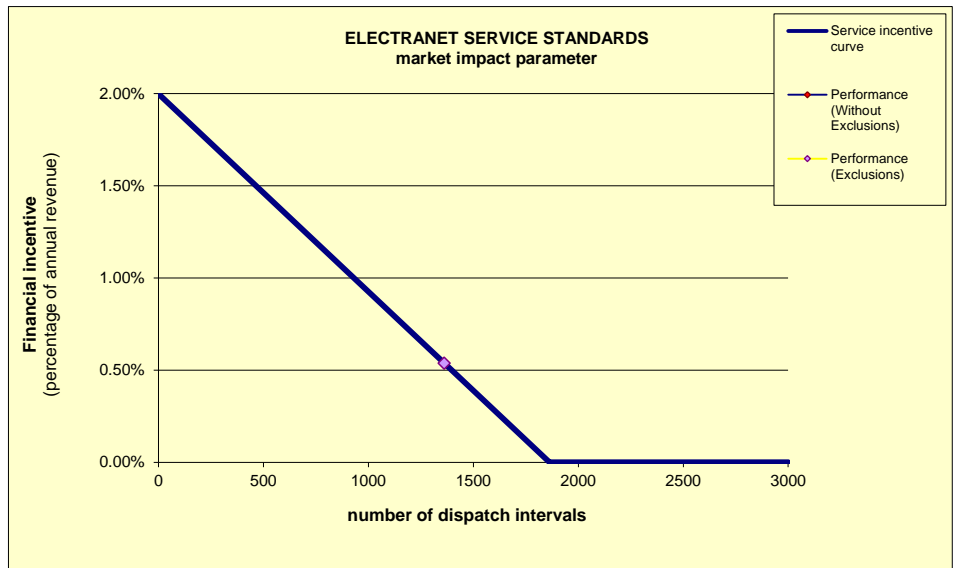
**ElectraNet - Market Impact parameter s-factor**

Performance Targets	Graph start	Target	Cap	Graph end
market impact parameter	3000	1862	0	0
Parameter weighting	0.00%	0.00%	2.00%	2.00%

Performance Formulae	Formulae				Conditions	S- Calc 1	S- Calc 2
Performance	=	0.000000		When:	1862 < No of dipatch intervals	0.000000	0.000000
	=	-0.000011	x	no of dipatch intervals	+ 0.020000 1862 ≤ No of dipatch intervals < 0	-0.151139	0.005371
	=	0.020000			No of dipatch intervals = 0	0.020000	0.020000

Performance Outcomes		Performance (Without Exclusions)	Performance (Exclusions)
number of dispatch intervals	=	15933	1362
S-Factor	=	0.0000%	0.5371%

**NOTES:**  
 Blue cells show Transgrid's performance target and maximum financial incentive.  
 Yellow/Green cells show Transgrid's performance formula and related formula conditions based on performance targets and the maximum financial incentive  
 Pink cells show TNSP performance outcomes without any events excluded from performance data  
 Orange cells show TNSP's performance outcomes with events excluded from performance data





## ElectraNet - Revenue calculation

X-factor from AER final decision

Revenue cap information	2008-09 to 2009-10
Base revenue	\$229,990,000
Base year	2008-09
X-factor	-5.93%
Commencement of regulatory period	01-Jul-08

X-factor after approval of Munno Para contingent project

Revenue cap information	2010-11 to 2012-13
Base year allowed revenue (2010-11)	\$272,077,206
Base year	2010-11
X-factor	-5.95%
Commencement of regulatory period	01-Jul-08

Annual revenue adjusted for CPI	Mar-08	Mar-09	Mar-10	Mar-11	Mar-12	Mar-13
CPI	162.2	166.2	171.0	176.7	-	-

	2008-09	2009-10	2010-11	2011-12	2012-13
AR	\$229,990,000	\$249,636,506	\$272,128,575	\$297,930,899	

Calendar year revenue	2008	2009	2010	2011	2012	2013
Revenue	\$114,995,000	\$239,813,253	\$260,882,540	\$285,029,737		

### NOTES:

Grey cells show calendar year revenue

Green cells are for formula

## ElectraNet - Market impact parameter performance outcomes

Revenue calendar year **\$285,029,737**

Performance parameter	Target (six months)	Performance without exclusions			Performance with exclusions			Impact of exclusions
		Performance	S-Factor	Final Incentive	Performance	S-Factor	Final Incentive	
Market impact parameter	1,862	15933	0.000000%	\$0	1362	0.537057%	\$1,530,772	0.537057%

**NOTE:**

**This sheet will automatically update based on data in input sheets.**

Grey cell shows relevant calendar year revenue

Green cells show performance targets

Pink cells show performance, s-factor results and financial incentive without exclusions

Orange cells show performance, s-factor results and financial incentive with exclusions

Blue cells show the impact of exclusions on revenue

Aggregate outcome	
S-factor	0.537057%
Bonus for market impact parameter	\$1,530,772
Financial year to affect revenue	2011/12

## Exclusions for Service Target Performance Incentive Scheme

Exclusion Number	Defined Exclusion	Further description	Reference
1	Force majeure	As defined in the Force Majeure definition worksheet and Appendix E of the Service Target Performance Incentive Scheme (March 2008) p. 51	Service Target Performance Incentive Scheme (March 2008) p. 51
2	Credible contingency events	Any network constraints that are invoked to manage the reclassification of non-credible contingency events to credible contingency events as per clause 4.2.3 (f) of the NER	Service Target Performance Incentive Scheme (March 2008) p. 46
3	3rd party outage	Any outages shown to be caused by a fault or other event on a '3rd party system' e.g. intertrip signal, generator outage, customer installation	Service Target Performance Incentive Scheme (March 2008) p. 46
4	Non-prescribed transmission services	Any outages on assets that are not providing prescribed transmission services	Service Target Performance Incentive Scheme (March 2008) p. 46
5	Safety reasons	Any outages for personal safety that are not related to the activity of owning or operating a transmission network	Service Target Performance Incentive Scheme (March 2008) p. 46
6	Operational security	Any outages that are only for the purpose of assisting with operational security, for example where a lower voltage parallel circuit is taken out of service to assist with transfers across an interconnector	Service Target Performance Incentive Scheme (March 2008) p. 46
7	Network support services	Any network constraints related to network support services in accordance with clause 5.6.2 of the NER	Service Target Performance Incentive Scheme (March 2008) p. 46
8 (a)	Others	Dispatch intervals (for a network outage constraint) that are affected by: (a) a manifestly incorrect input to the dispatch algorithm as determined by AEMO under clause 3.9.2B of the NER (b) a constraint applied by AEMO that does not accurately reflect or is otherwise inconsistent with that network capability that the TNSP advised AEMO (c) a scheduling error (d) mandatory restrictions under clause 3.12A if the NER (e) AEMO declaring the spot market suspended under clause 3.14.3 of the NER, or (f) an administered price cap under clause 3.14.2 of the NER	Service Target Performance Incentive Scheme (March 2008) p. 46
8 (b)			
8 (c)			
8 (d)			
8 (e)			
8 (f)			

## Service Target Performance Incentive Scheme - Definition of Force Majeure

Definition of Force Majeure	Reference
<p>For the purpose of applying the <i>service target performance incentive scheme</i>, force majeure events means any event, act or circumstance or combination of events, acts and circumstances which (despite the observance of good electricity industry practice) is beyond the reasonable control of the part affected by any such event, which may include, without limitation, the following:</p> <ul style="list-style-type: none"> <li>- fire, lightning, explosion, flood, earthquake, storm, cyclone, action of the elements, riots, civil commotion, malicious damage, natural disaster, sabotage, act of a public enemy, act of God, war (declared or undeclared), blockage, revolution, radioactive contamination, toxic or dangerous chemical contamination or force of nature.</li> <li>- action or inaction by a court, government agency (including denial, refusal or failure to grant any authorisation, despite timely best endeavour to obtain same)</li> <li>- strikes, lockouts, industrial and/or labour disputes and/or difficulties, work bans, blockades, picketing</li> <li>- acts or omissions (other than failure to pay money) of a party other than the TNSP, which party either is connected to or uses the high voltage grid or is directly connected to or uses a system for the supply of electricity that in turn is connected to the high voltage grid</li> <li>- where those acts or omissions affect the ability of the TNSP to perform its obligation under the service standard by virtue of that direct or indirect connection to or use of the high voltage grid</li> </ul> <p>In determining what force majeure events should be excluded the AER will consider the following:</p> <ul style="list-style-type: none"> <li>- was the event unforeseeable and its impact extraordinary, uncontrollable and not manageable?</li> <li>- does the event occur frequently? If so, how did the impact of the particular event differ?</li> <li>- could the TNSP, in practice, have prevented the impact (not necessarily the event itself)?</li> <li>- could the TNSP have effectively reduced the impact of the event by adopting better practices?</li> </ul>	<p>Service Target Performance Incentive Scheme (March 2008) p. 51</p>

Month	Marginal Value > \$0 (DI)	Marginal Value > \$10 (DI)	Inclusion Count (DI)	Exclusion Count (DI)	Market Impact Parameters (Hrs)	Inclusion Count (Hrs)	Excluded Count (Hrs)	OUTAGE EXCLUSIONS	MITC CHECKED DIs
2011-01	61068	59151	88	1829	6.66	0.31	6.35	265	1917
2011-02	56589	54015	49	2525	8.94	0.17	8.77	600	2574
2011-03	66041	64954	60	1027	3.77	0.21	3.57	352	1087
2011-04	62466	62382	5	79	0.29	0.02	0.27	12	84
2011-05	61113	60480	122	511	2.2	0.42	1.77	147	633
2011-06	59420	58353	65	1002	3.7	0.23	3.48	201	1067
2011-07	64291	61885	201	2205	8.35	0.7	7.66	331	2406
2011-08	61011	60000	18	993	3.51	0.06	3.45	205	1011
2011-09	62076	60851	224	1001	4.25	0.78	3.48	204	1225
2011-10	67413	65221	385	1807	7.61	1.34	6.27	1129	2192
2011-11	61437	60255	73	1109	4.1	0.25	3.85	99	1182
2011-12	61639	61084	72	483	1.93	0.25	1.68	149	555
<b>Total</b>	<b>744564</b>	<b>15933</b>	<b>1362</b>	<b>14571</b>	<b>55.31</b>	<b>4.74</b>	<b>50.6</b>	<b>3694</b>	<b>15933</b>

Constraint ID	Constraint Description	Marginal Value > \$0 (DI)	Marginal Value > \$10 (DI)	Inclusion Count (DI)	Exclusion Count (DI)	Market Impact Parameters (Hrs)	Inclusion Count (Hrs)	Excluded Count (Hrs)	OUTAGE EXCLUSIONS	MITC CHECKED DIs
#NPS2_E	SNPA2.ENERGY * 1 <= 180 (Wt	35	35	0	35	0.12	0	0.12	0	35
#NPS2_E	SNPA2.ENERGY * 1 <= 273 (Wt	79	79	0	79	0.27	0	0.27	0	79
#POR01_E	SPLN1.ENERGY * 1 <= 0 (Wt =	134	134	0	134	0.47	0	0.47	0	134
#R004134_001_RAM	Hard Ramping constraint for	4	2	0	2	0.01	0	0.01	0	2
#R004134_002_RAM	Hard Ramping constraint for	11	8	0	8	0.03	0	0.03	0	8
#R004134_002_RAM	Soft Ramping constraint for	2	0	0	0	0	0	0	0	0
#R004149_002_RAM	Hard Ramping constraint for	1	1	0	1	0	0	0	0	1
#R004149_004_RAM	Hard Ramping constraint for	7	7	0	7	0.02	0	0.02	0	7
#R004149_004_RAM	Soft Ramping constraint for	1	1	0	1	0	0	0	0	1
#R004153_002_RAM	Hard Ramping constraint for	3	3	0	3	0.01	0	0.01	0	3
#R004153_004_RAM	Hard Ramping constraint for	2	2	0	2	0.01	0	0.01	0	2
#R004153_004_RAM	Soft Ramping constraint for	4	3	0	3	0.01	0	0.01	0	3
#R004156_007_RAM	Hard Ramping constraint for	1	0	0	0	0	0	0	0	0
#R004156_007_RAM	Soft Ramping constraint for	3	0	0	0	0	0	0	0	0
#R004156_015_RAM	Hard Ramping constraint for	1	0	0	0	0	0	0	0	0
#R004158_017_RAM	Hard Ramping constraint for	8	5	0	5	0.02	0	0.02	0	5
#R004158_017_RAM	Soft Ramping constraint for	2	0	0	0	0	0	0	0	0
#R004159_012_RAM	Hard Ramping constraint for	2	0	0	0	0	0	0	0	0
#R004159_012_RAM	Soft Ramping constraint for	7	0	0	0	0	0	0	0	0
#R004171_006_RAM	Hard Ramping constraint for	1	0	0	0	0	0	0	0	0
#R004171_021_RAM	Hard Ramping constraint for	10	10	0	10	0.03	0	0.03	0	10
#R004172_012_RAM	Hard Ramping constraint for	5	0	0	0	0	0	0	0	0
#R004172_012_RAM	Soft Ramping constraint for	5	0	0	0	0	0	0	0	0
#R004172_013_RAM	Soft Ramping constraint for	2	0	0	0	0	0	0	0	0
#R004175_001_RAM	Hard Ramping constraint for	12	12	0	12	0.04	0	0.04	0	12
#R004177_001_RAM	Hard Ramping constraint for	12	12	0	12	0.04	0	0.04	0	12
#R004180_001_RAM	Hard Ramping constraint for	10	10	0	10	0.03	0	0.03	0	10
#R004189_002_RAM	Hard Ramping constraint for	2	0	0	0	0	0	0	0	0
#R004189_002_RAM	Soft Ramping constraint for	2	0	0	0	0	0	0	0	0
#R004190_017_RAM	Hard Ramping constraint for	1	0	0	0	0	0	0	0	0
#R004190_019_RAM	Soft Ramping constraint for	1	0	0	0	0	0	0	0	0
#R004195_002_RAM	Hard Ramping constraint for	7	7	0	7	0.02	0	0.02	0	7
#R004196_002_RAM	Hard Ramping constraint for	4	2	0	2	0.01	0	0.01	0	2
#R004196_003_RAM	Hard Ramping constraint for	2	0	0	0	0	0	0	0	0
#R004196_003_RAM	Soft Ramping constraint for	1	0	0	0	0	0	0	0	0
#R004226_021_RAM	Hard Ramping constraint for	6	0	0	0	0	0	0	0	0
#R004226_021_RAM	Soft Ramping constraint for	2	0	0	0	0	0	0	0	0
#R004258_013_RAM	Hard Ramping constraint for	9	9	0	9	0.03	0	0.03	0	9

















#R005801_012_RAM Hard Ramping constraint for	2	0	0	0	0	0	0	0	0	0
#R005801_012_RAM Soft Ramping constraint for	5	0	0	0	0	0	0	0	0	0
#R005801_013_RAM Hard Ramping constraint for	9	6	0	6	0.02	0	0.02	0	6	6
#R005801_013_RAM Soft Ramping constraint for	2	0	0	0	0	0	0	0	0	0
#R005801_014_RAM Soft Ramping constraint for	2	0	0	0	0	0	0	0	0	0
#R005811_009_RAM Soft Ramping constraint for	3	0	0	0	0	0	0	0	0	0
#R005850_011_RAM Soft Ramping constraint for	9	0	0	0	0	0	0	0	0	0
#R005866_001_RAM Hard Ramping constraint for	5	0	0	0	0	0	0	0	0	0
#R005866_001_RAM Soft Ramping constraint for	4	0	0	0	0	0	0	0	0	0
#R005884_010_RAM Soft Ramping constraint for	2	0	0	0	0	0	0	0	0	0
#R005884_011_RAM Hard Ramping constraint for	1	0	0	0	0	0	0	0	0	0
#R005886_024_RAM Hard Ramping constraint for	1	0	0	0	0	0	0	0	0	0
#R005886_024_RAM Soft Ramping constraint for	5	3	0	3	0.01	0	0.01	0	3	3
#R005922_002_RAM Hard Ramping constraint for	6	3	0	3	0.01	0	0.01	0	3	3
#R005922_002_RAM Soft Ramping constraint for	3	0	0	0	0	0	0	0	0	0
#R005923_004_RAM Soft Ramping constraint for	1	0	0	0	0	0	0	0	0	0
#R005961_004_RAM Hard Ramping constraint for	1	0	0	0	0	0	0	0	0	0
#R005961_004_RAM Soft Ramping constraint for	8	0	0	0	0	0	0	0	0	0
#R005978_010_RAM Hard Ramping constraint for	9	9	0	9	0.03	0	0.03	0	9	9
#R005978_010_RAM Soft Ramping constraint for	3	2	0	2	0.01	0	0.01	0	2	2
#R005979_007_RAM Hard Ramping constraint for	8	3	0	3	0.01	0	0.01	0	3	3
#R005979_007_RAM Soft Ramping constraint for	4	0	0	0	0	0	0	0	0	0
#R005979_008_RAM Soft Ramping constraint for	4	0	0	0	0	0	0	0	0	0
#R005979_014_RAM Soft Ramping constraint for	1	0	0	0	0	0	0	0	0	0
#R005981_017_RAM Hard Ramping constraint for	3	0	0	0	0	0	0	0	0	0
#R005981_017_RAM Soft Ramping constraint for	1	0	0	0	0	0	0	0	0	0
#R005981_018_RAM Hard Ramping constraint for	1	0	0	0	0	0	0	0	0	0
#R005989_008_RAM Hard Ramping constraint for	13	0	0	0	0	0	0	0	0	0
#R005989_008_RAM Soft Ramping constraint for	5	0	0	0	0	0	0	0	0	0
#R006007_003_RAM Soft Ramping constraint for	1	0	0	0	0	0	0	0	0	0
#R006025_008_RAM Hard Ramping constraint for	2	0	0	0	0	0	0	0	0	0
#R006025_008_RAM Soft Ramping constraint for	6	0	0	0	0	0	0	0	0	0
#R006038_005_RAM Hard Ramping constraint for	1	0	0	0	0	0	0	0	0	0
#R006038_005_RAM Soft Ramping constraint for	2	0	0	0	0	0	0	0	0	0
#R006039_008_RAM Hard Ramping constraint for	4	1	0	1	0	0	0	0	1	1
#R006039_008_RAM Soft Ramping constraint for	2	0	0	0	0	0	0	0	0	0
#R006039_009_RAM Soft Ramping constraint for	2	0	0	0	0	0	0	0	0	0
#R006039_014_RAM Hard Ramping constraint for	8	1	0	1	0	0	0	0	1	1
#R006039_014_RAM Soft Ramping constraint for	1	0	0	0	0	0	0	0	0	0
#R006039_015_RAM Soft Ramping constraint for	1	0	0	0	0	0	0	0	0	0
#R006039_016_RAM Soft Ramping constraint for	1	0	0	0	0	0	0	0	0	0
#R006063_002_RAM Hard Ramping constraint for	2	0	0	0	0	0	0	0	0	0
#R006063_002_RAM Soft Ramping constraint for	8	0	0	0	0	0	0	0	0	0
#R006066_011_RAM Soft Ramping constraint for	1	0	0	0	0	0	0	0	0	0
#R006083_002_RAM Soft Ramping constraint for	1	0	0	0	0	0	0	0	0	0
#R006105_001_RAM Hard Ramping constraint for	9	0	0	0	0	0	0	0	0	0
#R006105_001_RAM Soft Ramping constraint for	4	0	0	0	0	0	0	0	0	0
#R006118_001_RAM Hard Ramping constraint for	1	1	0	1	0	0	0	0	1	1
#R006135_001_RAM Hard Ramping constraint for	5	5	0	5	0.02	0	0.02	0	5	5
#R006136_001_RAM Hard Ramping constraint for	5	5	0	5	0.02	0	0.02	0	5	5
#R006141_015_RAM Hard Ramping constraint for	7	4	0	4	0.01	0	0.01	0	4	4
#R006141_015_RAM Soft Ramping constraint for	4	0	0	0	0	0	0	0	0	0
#R006147_015_RAM Hard Ramping constraint for	3	0	0	0	0	0	0	0	0	0
#R006147_015_RAM Soft Ramping constraint for	4	0	0	0	0	0	0	0	0	0
#R006165_001_RAM Hard Ramping constraint for	1	1	0	1	0	0	0	0	1	1
#R006165_001_RAM Soft Ramping constraint for	2	0	0	0	0	0	0	0	0	0
#R006165_002_RAM Hard Ramping constraint for	1	1	0	1	0	0	0	0	1	1
#R006165_002_RAM Soft Ramping constraint for	6	5	0	5	0.02	0	0.02	0	5	5
#SNOWTWN1_E SNWF1T.ENERGY * 1 <= 70	1	1	1	0	0	0	0	0	1	1









S>SE132CB_SETX_	Out= South East 132 kV CB6160	13	13	13	0	0.05	0.05	0	0	13
S>SECB6161_SETX	Out = South East 132 kV	2	2	2	0	0.01	0.01	0	0	2
S>SETX_SETX_SGK	Out= One South East 275/132kV	166	145	145	0	0.5	0.5	0	0	145
S>V_NIL_HYTX_HY	Out= Nil, limit SA to Vic to avoid	58	12	0	12	0.04	0	0.04	0	12
S>V_NIL_NIL_RBN	Out = Nil, avoid overloading	1722	664	0	664	2.31	0	2.31	0	664
S>V_NIL_NIL_RBN	Outage=Nil; limit SA to Vic on	379	135	0	135	0.47	0	0.47	0	135
S>V_NORB_MWRB	Outage=Murraylink runback	18	6	0	6	0.02	0	0.02	6	6
S>VML_NWCB6033	Out= North West Bend_CB6033;	66	50	50	0	0.17	0.17	0	0	50
SA_HYSE1	SA / Eastern separation between	4	0	0	0	0	0	0	0	0
SA_HYSE2	SA / Eastern separation between	3	3	0	3	0.01	0	0.01	3	3
S-LB2_0	Discretionary upper limit for Lake	17	17	17	0	0.06	0.06	0	0	17
S-SNWWF_0	Discretionary upper limit for	309	309	27	282	1.07	0.09	0.98	106	309
SV_260	SA to Victoria on VicSA upper	67	6	6	0	0.02	0.02	0	0	6
SV_300	SA to Victoria on VicSA upper	33	13	13	0	0.05	0.05	0	0	13
SVML_000	SA to Vic on ML upper transfer	844	68	9	59	0.24	0.03	0.2	59	68
SVS_420	SA to Vic on Vic-SA + ML upper	15	2	0	2	0.01	0	0.01	0	2
V::N_BUDPQD_R	Outage = Buronga to Darlington	22	0	0	0	0	0	0	0	0
V::N_BUDPQE_R	Outage = Buronga to Darlington	204	17	0	17	0.06	0	0.06	17	17
V::N_BUDPQF_R	Outage = Buronga to Darlington	45	8	0	8	0.03	0	0.03	8	8
V::N_BUDPVD_R	Outage = Buronga to Darlington	10	0	0	0	0	0	0	0	0
V::N_BUDPVE_R	Outage = Buronga to Darlington	193	0	0	0	0	0	0	0	0
V::N_BUDPVF_R	Outage = Buronga to Darlington	50	13	0	13	0.05	0	0.05	13	13
V::N_DDMSQB_R	Outage = Dederang to Murray	62	35	0	35	0.12	0	0.12	35	35
V::N_DDMSQC_R	Outage = Dederang to Murray	1	0	0	0	0	0	0	0	0
V::N_DDMSQD_R	Outage = Dederang to Murray	38	1	0	1	0	0	0	1	1
V::N_DDMSQE_R	Outage = Dederang to Murray	201	67	0	67	0.23	0	0.23	67	67
V::N_DDMSQF_R	Outage = Dederang to Murray	20	8	0	8	0.03	0	0.03	8	8
V::N_DDMSVB_R	Outage = Dederang to Murray	29	0	0	0	0	0	0	0	0
V::N_DDMSVC_R	Outage = Dederang to Murray	14	0	0	0	0	0	0	0	0
V::N_DDMSVD_R	Outage = Dederang to Murray	8	0	0	0	0	0	0	0	0
V::N_DDMSVE_R	Outage = Dederang to Murray	21	0	0	0	0	0	0	0	0
V::N_DDMSVF_R	Outage = Dederang to Murray	5	0	0	0	0	0	0	0	0
V::N_DDMSM2	Outage = Dederang to South	30	2	0	2	0.01	0	0.01	2	2
V::N_EPTTQD_R	Outage = Eildon to Thomastown	23	0	0	0	0	0	0	0	0
V::N_EPTTQE_R	Outage = Eildon to Thomastown	2	0	0	0	0	0	0	0	0
V::N_EPTTVB_R	Outage = Eildon to Thomastown	29	5	0	5	0.02	0	0.02	5	5
V::N_EPTTVC_R	Outage = Eildon to Thomastown	8	3	0	3	0.01	0	0.01	3	3
V::N_EPTTVD_R	Outage = Eildon to Thomastown	3	0	0	0	0	0	0	0	0
V::N_EPTTVF_R	Outage = Eildon to Thomastown	3	1	0	1	0	0	0	1	1
V::N_HWSMQD_R	Outage = Hazelwood to South	26	13	0	13	0.05	0	0.05	13	13
V::N_HWSMQE_R	Outage = Hazelwood to South	46	40	0	40	0.14	0	0.14	40	40
V::N_HYMLQA_R	Outage = Heywood to Moorabool	19	3	0	3	0.01	0	0.01	3	3
V::N_HYMLQB_R	Outage = Heywood to Moorabool	93	22	0	22	0.08	0	0.08	22	22
V::N_HYMLQD_R	Outage = Heywood to Moorabool	6	0	0	0	0	0	0	0	0
V::N_HYMLQE_R	Outage = Heywood to Moorabool	45	4	0	4	0.01	0	0.01	4	4
V::N_HYMLVA_R	Outage = Heywood to Moorabool	6	0	0	0	0	0	0	0	0
V::N_HYMLVB_R	Outage = Heywood to Moorabool	17	0	0	0	0	0	0	0	0
V::N_HYMLVD_R	Outage = Heywood to Moorabool	14	0	0	0	0	0	0	0	0
V::N_HYMLVE_R	Outage = Heywood to Moorabool	21	0	0	0	0	0	0	0	0
V::N_HYSEQB_R	Outage = Heywood to South	18	0	0	0	0	0	0	0	0
V::N_HYSEQD_R	Outage = Heywood to South	16	4	0	4	0.01	0	0.01	4	4
V::N_HYSEQE_R	Outage = Heywood to South	67	5	0	5	0.02	0	0.02	5	5
V::N_HYSEVB_R	Outage = Heywood to South	3	1	0	1	0	0	0	1	1
V::N_HYSEVD_R	Outage = Heywood to South	10	0	0	0	0	0	0	0	0
V::N_HYSEVE_R	Outage = Heywood to South	56	2	0	2	0.01	0	0.01	2	2
V::N_LTMSQE_R	Outage = Lower Tumut to Murray	1	0	0	0	0	0	0	0	0
V::N_MLTXQF_R	Outage = Moorabool 500/220kV	2	0	0	0	0	0	0	0	0
V::N_MSUTQD_R	Outage = Upper Tumut to	34	0	0	0	0	0	0	0	0
V::N_MSUTQE_R	Outage = Upper Tumut to	67	11	0	11	0.04	0	0.04	11	11

V::N_MSUTVD_R	Outage = Upper Tumut to	6	0	0	0	0	0	0	0	0
V::N_MSUTVE_R	Outage = Upper Tumut to	10	0	0	0	0	0	0	0	0
V::N_NIL_SH	VIC to NSW Transient Limit for	10	6	0	6	0.02	0	0.02	0	6
V::N_NILQA_BL_R	Outage = Nil, Basslink import	328	52	0	52	0.18	0	0.18	0	52
V::N_NILQB_BL_R	Outage = Nil, Basslink import	466	79	0	79	0.27	0	0.27	0	79
V::N_NILQC_BL_R	Outage = Nil, Basslink import	410	166	0	166	0.58	0	0.58	0	166
V::N_NILQD_BL_R	Outage = Nil, Basslink export to	742	19	0	19	0.07	0	0.07	0	19
V::N_NILQD_BL_R-	Out = NIL, avoid transient	5	0	0	0	0	0	0	0	0
V::N_NILQD_BL_R-	Out = NIL, avoid transient	8	0	0	0	0	0	0	0	0
V::N_NILQD_BL_R-	Out = NIL, avoid transient	8	0	0	0	0	0	0	0	0
V::N_NILQD_BL_R-	Out = NIL, avoid transient	11	0	0	0	0	0	0	0	0
V::N_NILQD_BL_R-	Out = NIL, avoid transient	8	0	0	0	0	0	0	0	0
V::N_NILQE_BL_R	Outage = Nil, Basslink export to	2990	249	0	249	0.86	0	0.86	0	249
V::N_NILQE_BL_R-	Out = NIL, avoid transient	1	0	0	0	0	0	0	0	0
V::N_NILQF_BL_R	Outage = Nil, Basslink export to	1790	262	0	262	0.91	0	0.91	0	262
V::N_NILQF_BL_R-	Out = NIL, avoid transient	3	0	0	0	0	0	0	0	0
V::N_NILVA_BL_R	Outage = Nil, Basslink import	172	9	0	9	0.03	0	0.03	0	9
V::N_NILVB_BL_R	Outage = Nil, Basslink import	680	71	0	71	0.25	0	0.25	0	71
V::N_NILVC_BL_R	Outage = Nil, Basslink import	565	57	0	57	0.2	0	0.2	0	57
V::N_NILVD_BL_R	Outage = Nil, Basslink export to	735	11	0	11	0.04	0	0.04	0	11
V::N_NILVD_BL_R-	Out = NIL, avoid transient	43	0	0	0	0	0	0	0	0
V::N_NILVD_BL_R-	Out = NIL, avoid transient	20	1	0	1	0	0	0	0	1
V::N_NILVD_BL_R-	Out = NIL, avoid transient	26	0	0	0	0	0	0	0	0
V::N_NILVD_BL_R-	Out = NIL, avoid transient	50	4	0	4	0.01	0	0.01	0	4
V::N_NILVD_BL_R-	Out = NIL, avoid transient	5	0	0	0	0	0	0	0	0
V::N_NILVD_BL_R-	Out = NIL, avoid transient	16	0	0	0	0	0	0	0	0
V::N_NILVD_BL_R-	Out = NIL, avoid transient	18	0	0	0	0	0	0	0	0
V::N_NILVE_BL_R	Outage = Nil, Basslink export to	2293	45	0	45	0.16	0	0.16	0	45
V::N_NILVE_BL_R-	Out = NIL, avoid transient	159	11	0	11	0.04	0	0.04	0	11
V::N_NILVE_BL_R-	Out = NIL, avoid transient	48	4	0	4	0.01	0	0.01	0	4
V::N_NILVE_BL_R-	Out = NIL, avoid transient	8	0	0	0	0	0	0	0	0
V::N_NILVF_BL_R	Outage = Nil, Basslink export to	1877	110	0	110	0.38	0	0.38	0	110
V::N_NILVF_BL_R-	Out = NIL, avoid transient	39	0	0	0	0	0	0	0	0
V::N_NILVF_BL_R-	Out = NIL, avoid transient	2	1	0	1	0	0	0	0	1
V::N_NILVF_BL_R-	Out = NIL, avoid transient	35	0	0	0	0	0	0	0	0
V::N_SMCSQA_R	Outage = South Morang 330kV	27	4	0	4	0.01	0	0.01	4	4
V::N_SMCSQB_R	Outage = South Morang 330kV	21	4	0	4	0.01	0	0.01	4	4
V::N_SMCSQC_R	Outage = South Morang 330kV	31	15	0	15	0.05	0	0.05	15	15
V::N_SMCSQD_R	Outage = South Morang 330kV	8	0	0	0	0	0	0	0	0
V::N_SMCSQE_R	Outage = South Morang 330kV	51	7	0	7	0.02	0	0.02	7	7
V::N_SMCSQF_R	Outage = South Morang 330kV	44	3	0	3	0.01	0	0.01	3	3
V::N_SMCSVA_R	Outage = South Morang 330kV	95	14	0	14	0.05	0	0.05	14	14
V::N_SMCSVB_R	Outage = South Morang 330kV	198	86	0	86	0.3	0	0.3	86	86
V::N_SMCSVC_R	Outage = South Morang 330kV	76	25	0	25	0.09	0	0.09	25	25
V::N_SMCSVD_R	Outage = South Morang 330kV	53	9	0	9	0.03	0	0.03	9	9
V::N_SMCSVE_R	Outage = South Morang 330kV	31	14	0	14	0.05	0	0.05	14	14
V::N_SMCSVF_R	Outage = South Morang 330kV	2	0	0	0	0	0	0	0	0
V::N_SMF2QB_R	Out = South Morang F2 500/330	1	0	0	0	0	0	0	0	0
V::N_SMF2VB_R	Outage=South Morang 500/330	77	45	0	45	0.16	0	0.16	45	45
V::N_SMF2VC_R	Outage=South Morang 500/330	18	2	0	2	0.01	0	0.01	2	2
V::S_ACMA	Out=Angas Creek-Mannum	2	0	0	0	0	0	0	0	0
V::S_MBMO	Out= Mt Barker - Mobilong 132	32	12	12	0	0.04	0.04	0	0	12
V::S_NIL_NPS_SEO	Out = Nil; Vic to SA transient	40	0	0	0	0	0	0	0	0
V::S_NIL_NPS_SEO	Out = Nil; Vic to SA transient	303	4	0	4	0.01	0	0.01	0	4
V::S_NIL_NPS_SEO	Out = Nil; Vic to SA transient	59	0	0	0	0	0	0	0	0
V::S_PAAC	Out = Para to Angas Ck 132kV	154	0	0	0	0	0	0	0	0
V::S_PAAC	Out = Para to Angas Ck 132kV	52	0	0	0	0	0	0	0	0
V::S_SE_VC	Out = one South East SVC; Vic-	41	0	0	0	0	0	0	0	0
V::V_DDSDM	Out= Dederang to South Morang	51	51	0	51	0.18	0	0.18	51	51

V::V_DDSM	Outage = Dederang to South	435	283	0	283	0.98	0	0.98	283	283
V::V_EPTT	Outage = Eildon to Thomastown	279	106	0	106	0.37	0	0.37	106	106
V:N_MSUT_1	Outage = Murray to Upper	52	3	0	3	0.01	0	0.01	3	3
V:S_SA_PSS	Out= Nil; Vic to SA Oscillatory	76	5	0	5	0.02	0	0.02	0	5
V^S_BNMT_NPS_S	Out = Blanche - Mt Gambier	41	1	1	0	0	0	0	0	1
V^S_BNMT_NPS_S	Out = Blanche - Mt Gambier	282	3	3	0	0.01	0.01	0	0	3
V^S_BNSG_NPS_S	Out = Blanche - Snuggery 132	8	0	0	0	0	0	0	0	0
V^S_CGTU_NPS_S	Out=Cherry Gardens - Tungkill	146	5	5	0	0.02	0.02	0	0	5
V^S_CGTU_NPS_S	Out= Cherry Gardens - Tungkill	6	0	0	0	0	0	0	0	0
V^S_KHKN_MAXG_	Out = Keith - Kincaig 132 kV	1129	249	249	0	0.86	0.86	0	0	249
V^S_KHKN_MAXG_	Out = Keith - Kincaig 132 kV	2481	335	335	0	1.16	1.16	0	0	335
V^S_KNPW_NPS_S	Out = Kincaig - Penola West	158	0	0	0	0	0	0	0	0
V^S_KNPW_NPS_S	Out = Kincaig - Penola West	95	0	0	0	0	0	0	0	0
V^S_NIL_MAXG_A	Out = Nil; Vic to SA Long Term	416	0	0	0	0	0	0	0	0
V^S_NIL_NPS_SE_	Out = Nil; Vic to SA Long Term	873	58	0	58	0.2	0	0.2	0	58
V^S_NIL_NPS_SE_	Out = Nil; Vic to SA Long Term	1405	139	0	139	0.48	0	0.48	0	139
V^S_NIL_NPS_SE_	Out = Nil; Vic to SA Long Term	419	52	0	52	0.18	0	0.18	0	52
V^S_NIL_NPS_SE_	Out = Nil; Vic to SA Long Term	1489	333	0	333	1.16	0	1.16	0	333
V^S_PACP_NPS_S	Out = One Para Capacitor; Vic to	3	0	0	0	0	0	0	0	0
V^S_PAVC_NPS_S	Out = Para SVC1; Vic to SA	668	83	83	0	0.29	0.29	0	0	83
V^S_PAVC_NPS_S	Out = Para SVC1; Vic to SA	533	46	46	0	0.16	0.16	0	0	46
V^S_SETX_NPS_S	Out = One South East	52	0	0	0	0	0	0	0	0
V^S_SETX_NPS_S	Out = One South East	45	0	0	0	0	0	0	0	0
V^S_SETX_NPS_S	Out = One South East	249	15	15	0	0.05	0.05	0	0	15
V^S_SEVC_NPS_S	Out = One South East SVC; Vic	361	4	4	0	0.01	0.01	0	0	4
V^S_SEVC_NPS_S	Out = One South East SVC; Vic	13	0	0	0	0	0	0	0	0
V^S_TB35_NPS_S	Out = Tailern Bend one 275 kV	35	0	0	0	0	0	0	0	0
V^S_TB35_NPS_S	Out = Tailern Bend one 275 kV	15	0	0	0	0	0	0	0	0
V^S_TB35_NPS_S	Out= Tailern Bend 100MVA Cap	1176	29	0	29	0.1	0	0.1	0	29
V^S_TB35_NPS_S	Out= Tailern Bend 100MVA Cap	2347	192	0	192	0.67	0	0.67	0	192
V^S_TB35_NPS_S	Out= Tailern Bend 100MVA Cap	2776	426	0	426	1.48	0	1.48	0	426
V^S_TB35_NPS_S	Out= Tailern Bend 100MVA Cap	2547	206	0	206	0.72	0	0.72	0	206
V^S_XCGTU_NPS_	Out=Cherry Gardens - Tungkill	17	0	0	0	0	0	0	0	0
V^SML_NSWRB_2	Outage = NSW Murraylink	181	160	0	160	0.56	0	0.56	160	160
V_HYML1_4	Out = Heywood to Moorabool	3	2	0	2	0.01	0	0.01	2	2
V_HYML1_5	Out = Heywood to Moorabool	2	2	0	2	0.01	0	0.01	2	2
V_HYMO2_1	Out = Heywood to Mortlake No.	45	45	0	45	0.16	0	0.16	45	45
V>>N_SMTXF2	Outage = South Morang	171	103	0	103	0.36	0	0.36	103	103
V>>N_SMTXH1	Outage = South Morang	27	24	0	24	0.08	0	0.08	24	24
V>>N_SMTXH2	Outage = South Morang H2	1	0	0	0	0	0	0	0	0
V>>N-LTMS_1	Out= Lower Tumut-Murray(66),	25	25	0	25	0.09	0	0.09	25	25
V>>N-LTMS_4	Out= LowerTumut-Murray(66),	2	2	0	2	0.01	0	0.01	2	2
V>>N-MSUT_2	Out= Murray-Upper Tumut(65),	27	24	0	24	0.08	0	0.08	24	24
V>>N-MSUT_4	Out= Murray-UpperTumut(65),	54	20	0	20	0.07	0	0.07	20	20
V>>N-NIL_HA	Out = Nil, avoid Murray to Upper	1258	921	0	921	3.2	0	3.2	0	921
V>>N-NIL_HB	Out = Nil, avoid Murray to Lower	37	26	0	26	0.09	0	0.09	0	26
V>>N-NIL_HG	Out = Nil, avoid Murray to Upper	24	16	0	16	0.06	0	0.06	0	16
V>>N-NIL_HH	Out = Nil, avoid Murray to Lower	34	34	0	34	0.12	0	0.12	0	34
V>>S_BGP_RBTUN	Out= Bungama - Para 275 kV	4	4	0	4	0.01	0.01	0	0	4
V>>S_BP_RBTU-	Out= Brinkworth - Para line;	12	12	0	12	0.04	0	0.04	12	12
V>>S_BP_RBTU-	Out= Brinkworth - Templers	14	10	10	0	0.03	0.03	0	0	10
V>>S_CGTB_TBTU_	Prior Outage = Cherry Gardens -	83	0	0	0	0	0	0	0	0
V>>S_DB_RBTU-	Out= Davenport - Brinkworth	9	4	0	4	0.01	0	0.01	0	4
V>>S_HYML_1	Out = Heywood - Moorabool -	484	68	0	68	0.24	0	0.24	68	68
V>>S_HYML_2	Out = Heywood - Moorabool -	565	70	0	70	0.24	0	0.24	70	70
V>>S_KHKN_NIL_S	Out = Keith - Kincaig 132 kV	2	0	0	0	0	0	0	0	0
V>>S_NIL_KHTB1_K	Out = Nil. Prevent Keith - Tailern	2	0	0	0	0	0	0	0	0
V>>S_NIL_KHTB2_K	Out = Nil. Prevent Keith - Tailern	121	71	0	71	0.25	0	0.25	0	71
V>>S_NIL_NIL_SGK	Out= Nil, Limit all other	97	51	0	51	0.18	0	0.18	0	51

V>>S_NIL_SETB_K	Out = Nil; Prevent Keith - Tailern	212	114	0	114	0.4	0	0.4	0	114
V>>S_RBTU_N-	Out= Nil; avoid O/L Waterloo	37	0	0	0	0	0	0	0	0
V>>S_RBTU2_BRPA	Out = Robertstown - Para and	7	7	7	0	0.02	0.02	0	0	7
V>>S_RBTU2_DVB	Out = Robertstown - Para and	22	22	22	0	0.08	0.08	0	0	22
V>>S_TBTU_TBCG_	Prior Outage = Tailern Bend -	24	4	4	0	0.01	0.01	0	0	4
V>>SML_BESH_1	Out= Bendigo to Shepparton 220	2	0	0	0	0	0	0	0	0
V>>SML_NIL_1	Outage = Nil, limit Vic generators	13	10	0	10	0.03	0	0.03	0	10
V>>SML_NIL_7A	Out = Nil, avoid O/L on the	99	28	0	28	0.1	0	0.1	0	28
V>>SML_NIL_7A	Outage = Nil, limit Vic to SA on	163	115	0	115	0.4	0	0.4	0	115
V>>SML_NIL_7B	Out = Nil, avoid O/L on the	7	3	0	3	0.01	0	0.01	0	3
V>>SML_NIL_7B	Outage = Nil, limit Vic to SA on	12	0	0	0	0	0	0	0	0
V>>SML_SMTXF2_4	Outage = South Morang	28	3	0	3	0.01	0	0.01	3	3
V>>S-	Prior Outage = South East SVC	8	2	2	0	0.01	0.01	0	0	2
V>>V_EPMB_1B	Out = Eildon to Mt Beauty 220kV	2	2	0	2	0.01	0	0.01	2	2
V>>V_EPTT_1B	Outage = Eildon to Thomastown	1	0	0	0	0	0	0	0	0
V>>V_EPTT_2A_R	Outage = Eildon to Thomastown	1	0	0	0	0	0	0	0	0
V>>V_EPTT_2B_R	Outage = Eildon to Thomastown	8	0	0	0	0	0	0	0	0
V>>V_EPTT_2B_R	Outage = Eildon to Thomastown	3	3	0	3	0.01	0	0.01	3	3
V>>V_KTS_TX_A2_	Out= Keilor A2 or A4 500/220 kV	81	0	0	0	0	0	0	0	0
V>>V_KTS_TX_A2_	Out= Keilor A2 or A4 500/220 kV	66	0	0	0	0	0	0	0	0
V>>V_KTS_TX_A3_	Out= Keilor A3 500/220 kV txfmr,	3	0	0	0	0	0	0	0	0
V>>V_KTS_TX_A3_	Out= Keilor A3 500/220 kV txfmr,	31	0	0	0	0	0	0	0	0
V>>V_KTSM_2_R	Outage = Keilor to South Morang	3	0	0	0	0	0	0	0	0
V>>V_KTSM_4_R	Out = Keilor - South Morang 500	26	4	0	4	0.01	0	0.01	4	4
V>>V_NIL_1B	Outage = Nil, limit Vic	355	87	0	87	0.3	0	0.3	0	87
V>>V_NIL_1D	Outage = Nil, limit Vic	5	5	0	5	0.02	0	0.02	0	5
V>>V_NIL_2_P	Out = Nil, avoid pre-contingent	14	0	0	0	0	0	0	0	0
V>>V_NIL_2_P	Out = Nil, avoid pre-contingent	8	1	0	1	0	0	0	0	1
V>>V_NIL_2A_R	Out = Nil, avoid pre-contingent	136	0	0	0	0	0	0	0	0
V>>V_NIL_2A_R	Out = Nil, avoid pre-contingent	738	111	0	111	0.39	0	0.39	0	111
V>>V_NIL_2A_R	Outage = Nil, limit Vic	98	31	0	31	0.11	0	0.11	0	31
V>>V_NIL_2B_R	Out = Nil, avoid pre-contingent	1051	52	0	52	0.18	0	0.18	0	52
V>>V_NIL_2B_R	Out = Nil, avoid pre-contingent	423	102	0	102	0.35	0	0.35	0	102
V>>V_NIL_5	Out = Nil, avoid O/L either	93	43	0	43	0.15	0	0.15	0	43
V>>V_NIL_5	Out= NIL, avoid O/L either	555	351	0	351	1.22	0	1.22	0	351
V>>V_NIL_6B_R	Out = Nil, avoid O/L South	57	13	0	13	0.05	0	0.05	0	13
V>>V_NIL1A_R	Out = Nil, avoid O/L a Dederang	1217	150	0	150	0.52	0	0.52	0	150
V>>V_NIL1A_R	Out = NIL, avoid O/L a Dederang	686	150	0	150	0.52	0	0.52	0	150
V>>V_ROTT_R_1B	Out= Rowville to Thomastown	4	2	0	2	0.01	0	0.01	2	2
V>>V_ROTT_R_2B	Out= Rowville to Thomastown	17	0	0	0	0	0	0	0	0
V>>V_SMSY_KTSM	Outage = One South Morang-	6	0	0	0	0	0	0	0	0
V>>V_SMTT1_2	Out= South Morang to	126	53	0	53	0.18	0	0.18	53	53
V>>V_SMTXF2_6	Out= South Morang F2 500/220	204	150	0	150	0.52	0	0.52	150	150
V>>V_TTS_B1_2	Out= Thomastown No. 1 220 kV	40	22	0	22	0.08	0	0.08	22	22
V>>V_TTS_B2_SMT	Out= TTS No. 2 220 kV bus	17	0	0	0	0	0	0	0	0
V>>V_TTS_B3_2	Out= Thomastown No. 3 220 kV	140	98	0	98	0.34	0	0.34	98	98
V>>V_TTS_B3_SMT	Out= TTS No. 3 220 kV bus,	2	0	0	0	0	0	0	0	0
V>>V_TTSB1_SMTT	Out= TTS No. 1 220 kV bus,	3	1	0	1	0	0	0	1	1
V>>V_TTSB1_SMTT	Out= TTS No. 1 220 kV bus,	27	22	0	22	0.08	0	0.08	22	22
V>>V_TTSB1_SMTT	Out= TTS No. 1 220 kV bus,	2	0	0	0	0	0	0	0	0
V>>V_X_EPTTSMR	Out= multiple outage - Eildon to	21	0	0	0	0	0	0	0	0
V>>V-MSUT_1	Out= Murray-UpperTumut(65),	17	0	0	0	0	0	0	0	0
V>>V-	Out= Dederang to South Morang	8	5	0	5	0.02	0	0.02	5	5
V>SML_BUDP_1	Outage = Buronga to Balranald	2	0	0	0	0	0	0	0	0
V>SMLBAHO1	Out = Ballarat to Horsham, or	25	0	0	0	0	0	0	0	0
V>SMLBAHO4	Out = Ballarat to Horsham or	42	0	0	0	0	0	0	0	0
V>SMLBEKG	Outage = Bendigo to Kerang or	4	1	0	1	0	0	0	1	1
V>SMLHORC1	Out = Horsham to Red Cliffs	4	0	0	0	0	0	0	0	0
V>SMLKGRC1	Out = Kerang to Redcliffs 220kV	1	1	0	1	0	0	0	1	1

V>SMLKGRC1	Outage = one Kerang to Red	82	0	0	0	0	0	0	0	0
V>SMLKGRC2	Out = Kerang to Redcliffs 220kV	42	20	0	20	0.07	0	0.07	20	20
V>SMLKGRC2	Out = Kerang to Redcliffs 220kV	43	30	0	30	0.1	0	0.1	30	30
VN::DDMS	Outage = Dederang to Murray	185	11	0	11	0.04	0	0.04	11	11
VS_100	Victoria to SA on VicSA upper	7	3	0	3	0.01	0	0.01	0	3
VS_130	Victoria to SA on VicSA upper	8	6	0	6	0.02	0	0.02	0	6
VS_140	Victoria to SA on VicSA upper	1	0	0	0	0	0	0	0	0
VS_250	Victoria to SA on Heywood upper	909	101	0	101	0.35	0	0.35	101	101
VS_350	Victoria to SA on VicSA upper	16	0	0	0	0	0	0	0	0
VS_HYTS_TX	Victoria to SA on VicSA upper	182	31	0	31	0.11	0	0.11	0	31
VSML_000	Vic to SA on ML upper transfer	498	38	2	36	0.13	0.01	0.13	36	38
VSML_010	Vic to SA on ML upper transfer	209	64	0	64	0.22	0	0.22	64	64
VSML_220	Vic to SA on ML upper transfer	326	133	0	133	0.46	0	0.46	0	133
VSML_VFRB_OFF	Out=Nil, Vic to SA on Murraylink	5	1	0	1	0	0	0	0	1
		<b>744564</b>	<b>15933</b>	<b>1362</b>	<b>14571</b>	<b>55.17</b>	<b>4.72</b>	<b>50.45</b>	<b>3694</b>	<b>15933</b>