TransGrid

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Mr Mike Buckley
General Manager – Networks Regulation North
Australian Energy Regulator
GPO Box 3648
Sydney NSW 2001

Annual Performance Incentive Scheme Report for 2006 Calendar Year

Dear Mr Buckley,

I am pleased to submit TransGrid's Service Standards Incentive Scheme report for the 2006 calendar year. As requested the report is this year being submitted on the new service standards templates.

The performance measures implemented for TransGrid are defined in the service standards templates. The annual performance report has been prepared consistent with these definitions.

Supporting documentation is attached regarding proposed exclusions and clarification of calculation of one outage (Attachment 1) and addressing matters raised by Sinclair Knight Merz during the 2005 review (Attachment 2). TransGrid has identified one (1) force majeure exclusion from its performance measures.

Please do not hesitate to contact me on 02 9284 3516 or by email should you require clarification of any of the information provided in this report.

Yours sincerely

John Byrne
Acting/Managing Director
29/1/07

TEMPLATE EXPLANATION

These templates form part of the information requirements of the AER as part of its annual compliance review against the service standards in TransGrid's revenue cap decision.

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

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

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' sheets.

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

TRANSGRID - SERVICE STANDARDS PERFORMANCE 2006

PERFORMANCE MEASURE	S	Performance (Without exclusions)	Performance (With exclusions)
Transmission line availability	S1	99.563127%	99.565846%
Transformer availability	S2	98.837670%	98.837889%
Reactive plant availability	S3	98.922566%	98.922566%
Reliability (Events > 0.05 and <=0.4 system minutes)	S4	2	2
Reliability (Events > 0.4 system minutes)	S5	0	0
Average outage restoration time	S6	857	824

NOTES:

Pink cells- Input performance without exclusions from performance data

Orange cells- Input performance with exclusions from performance data

Green cell (C14) input date that template data was entered. Enter date of any revisions from original version (C15).

Performance should be based on 2006 calendar year data

Date prepared:	18 January 2006
Revision date:	-

TRANSGRID - Proposed exclusions

CIRCUIT AVAILABILITY MEASURES		Event proposed for exclusion	Description of the event and its impact on the network and performance	Cause of the event	Start date	Start time	End date	End time	Circuits affected	Reactive plant or transformer	Quantitative impact	Reasons for exclusion request	Further references
Name of any circuit availability measures applying to TransGrid		Name of the event	Detail of the event. Such as: the action of any third parties, the actions of the TNSP, assets damaged or interrupted.	A description of the cause of the event	Start date and time of event		End date and time of event		Name of circuits affected	Name of any reactive plant or transformer affected	Number of hours, mins etc interrupted	Reason for excluding this event. Should include a reference to the defined exclusions (see Exclusion definition tab). Eg. Exclusion 1.3 Third party event	A TNSP may provide further details of an exclusion event. TNSP to provide reference.
S1	Transmission line availability	0-2006-F0006	TransGrid's staff were to perform in service Intertrip checks. Victorian staff had advised intertrips isolated before work commenced. An intertrip signal was sent which tripped the circuit breaker for this line at Wodonga.	Victorian TNSP staff had not isolated intertrip links for this circuit.	20/06/06	19:52:00	20/06/06	10:59:00	O60		0.1	3rd party outage	
		1-2006-F0214	Contractor injured EnergyAustralia's pilot cable at Vera St, Mayfield. Circuit Breaker for this line tripped. He did dial before digging and EnergyAustralia gave clearance to dig. No loss of load.	Contractor injured pilot cable; either cable was located in the wrong place or contractor identified wrong cable location.	4/12/06	13:55:00	4/12/06	16:23:00	96X		2.47	3rd party outage	
		3-2006-F0176	Snowy Hydro Ltd staff working on auto-synchronous circuit current transformers caused unplanned opening of circuit breakers controlling this line at TransGrid's Upper Tumut substation. Generator Unit 2 was inservice at 80MW at the time.	Snowy Hydro Ltd staff error.	21/06/06	10:37:00	21/06/06	10:42:00	U1		0.08	3rd party outage	
		3-2006-F0179	A fault on Snowy Hydro Ltd's 17kV busbar on Unit 11 at their Murray power station caused unplanned opening of circuit breakers controlling this line at TransGrid's Murray substation. Snowy Hydro Ltd generation 55MW at time of trip.	Fault on Snowy Hydro Ltd's 17kV Busbar.	26/06/06	22:11:00	27/06/06	19:00:00	M11		20.82	3rd party outage	
		3-2006-F0208	A blown voltage transformer secondary fuse on Snowy Hydro Ltd's Transformer Group at Murray 2 power station caused their protection to operate resulting in unplanned tripping of circuit breakers controlling this line at TransGrid's Murray substation. No generation in-service at time of trip.	Snowy Hydro Ltd's blown Voltage Transformer secondary fuse.	22/11/06	13:24:00	22/11/06	22:05:00	M11		2.68	3rd party outage	
		1-2006-F0177	Lightning/Storm.	Lightning on Queensland's portion of line.	13/11/06	19:21:00	13/11/06	19:21:00	8M		0	3rd party outage	
		2-2006-F0105	A fault in EnergyAustralia's system caused 760MW of load loss which included 910,90F,241 feeders to their Green Park and Sefton substations which resulted in a system over-voltage. TransGrid's circuit breakers at Beaconsfield West substation controlling cable 41 opened following cable 41 protection detecting the system over-voltage. Investigation showed the cable 41 protection operated correctly.	A fault in EnergyAustralia's system caused system over-voltage.	22/11/06	16:35:00	22/11/06	16:41:00	41		0.1	3rd party outage	

		3-2006-F0010	A bushfire was present along a length of line 991 in very hot and windy weather. Eight (8) poles on the line were found burnt down or damaged. Vegetation in the easement is managed in a regulated and timed manner including regular inspections. TransGrid is not responsible for vegetation adjacent to easements, except where trees could fall and damage lines.	Bushfire.	2/01/06	05:44:00	3/01/06	16:40:00	991		34.93	Force Majeure	
S2	Transformer availability	2-2006-F0117	Integral Energy staff were removing temporary protection at their West Liverpool substation following service voltage testing of Integral Energy's new No.4 Transformer. Line 93R No.2 protection operated and tripped direct connected No.3 Tx at TransGrid's Liverpool substation.	Integral Energy staff error at their West Liverpool substation.	17/12/06	16:05:00	17/12/06	19:09:00		Tx No3 Liverpool	3.07	3rd party outage	
S3	Reactive plant availability												

LOSS OF SUPPLY EVENT FREQUENCY		Event proposed for exclusion	Description of the event and its impact on the network and performance	Cause of the event	Start date	Start time	End date	End time	Circuits affected	Maximum system demand	Quantitative impact	Demand shed and time	Reasons for exclusion request	Further references
Name of any loss of supply measures applying to TransGrid		Name of the event	Detail of the event. Such as: the action of any third parties, the actions of the TNSP, assets damaged or interrupted.	A description of the cause of the event	Start date and time of event		End date and time of event		Name of circuits or plant affected	The max system demand that occurred up until the time of the event	Number of hours, mins etc interrupted	The (MW) demand shed and the duration it was shed for.	Reason for excluding this event. Should include a reference to the defined exclusions (see Exclusion definition tab). Eg. Exclusion 1.3 Third party event	A TNSP may provide further details of an exclusion event. TNSP to provide reference.
S4	Reliability (events > 0.05 and <=0.4 system minutes)													
S5	Reliability (events > 0.4 system minutes)													

AVERAGE OUTAGE DURATION		Event proposed for exclusion	Description of the event and its impact on the network and performance	Cause of the event	Start date	Start time	End date	End time	Circuits affected		Quantitative impact	Capped impact (if applicable)	Reasons for exclusion request	Further references
Name of any average outage duration measures applying to TransGrid		Name of the event	Detail of the event. Such as: the action of any third parties, the actions of the TNSP, assets damaged or interrupted.	A description of the cause of the event	Start date and time of event		End date and time of event		Name of circuits or plant affected		Number of hours, mins etc interrupted	Impact following any applicable cap	Reason for excluding this event. Should include a reference to the defined exclusions (see Exclusion definition tab). Eg. Exclusion 1.3 Third party event	A TNSP may provide further details of an exclusion event. TNSP to provide reference.
		0-2006-F0006	TransGrid's staff were to perform in service intertrip checks. Victorian staff had advised intertrips isolated before work commenced. An intertrip signal was sent which tripped the circuit breaker for this line at Wodonga.	Victorian TNSP staff had not isolated intertrip links for this circuit.	20/06/06	19:52:00	20/06/06	10:59:00	O60		0.1	3rd party outage		

S6	Average outage restoration time	1-2006-F0214	Contractor injured EnergyAustralia's pilot cable at Vera St, Mayfield. Circuit Breaker for this line tripped. He did dial before digging and EnergyAustralia gave clearance to dig. No loss of load.	Contractor injured pilot cable; either cable was located in the wrong place or contractor identified wrong cable location.	4/12/06	13:55:00	4/12/06	16:23:00	96X		2.47	3rd party outage	
		3-2006-F0176	Snowy Hydro Ltd staff working on auto-synchronous circuit current transformers caused unplanned opening of circuit breakers controlling this line at Transgrid's Upper Tumut substation. Generator Unit 2 was inservice at 80MW at the time.	Snowy Hydro Ltd staff error.	21/06/06	10:37:00	21/06/06	10:42:00	U1		0.08	3rd party outage	
		3-2006-F0179	A fault on Snowy Hydro Ltd's 17kV busbar on Unit 11 at their Murray power station caused unplanned opening of circuit breakers controlling this line at TransGrid's Murray substation. Snowy Hydro Ltd generation 55MW at time of trip.	Fault on Snowy Hydro Ltd's 17kV Busbar.	26/06/06	22:11:00	27/06/06	19:00:00	M11		20.82	3rd party outage	
		3-2006-F0208	A blown voltage transformer secondary fuse on Snowy Hydro Ltd's Transformer Group at Murray 2 power station caused their protection to operate resulting in unplanned tripping of circuit breakers controlling this line at TransGrid's Murray substation. No generation in-service at time of trip.	Snowy Hydro Ltd's blown Voltage Transformer secondary fuse.	22/11/06	13:24:00	22/11/06	22:05:00	M11		2.68	3rd party outage	
		1-2006-F0177	Lightning/Storm.	Lightning on Queensland's portion of line.	13/11/06	19:21:00	13/11/06	19:21:00	8M		0	3rd party outage	
		2-2006-F0105	A fault in EnergyAustralia's system caused 760MW of load loss which included 910,90F,241 feeders to their Green Park and Sefton substations which resulted in a system over-voltage. TransGrid's circuit breakers at Beaconsfield West substation controlling cable 41 opened following cable 41 protection detecting the system over-voltage. Investigation showed the cable 41 protection operated correctly.	A fault in EnergyAustralia's system caused system over-voltage.	22/11/06	16:35:00	22/11/06	16:41:00	41		0.1	3rd party outage	
		3-2006-F0010	A bushfire was present along a length of line 991 in very hot and windy weather. Eight (8) poles on the line were found burnt down or damaged. Vegetation in the easement is managed in a regulated and timed manner including regular inspections. TransGrid is not responsible for vegetation adjacent to easements, except where trees could fall and damage lines.	Bushfire.	2/01/06	05:44:00	3/01/06	16:40:00	991		34.93	Force Majeure	
		2-2006-F0117	Integral Energy staff were removing temporary protection at their West Liverpool substation following service voltage testing of Integral Energy's new No.4 Transformer. Line 93R No.2 protection operated and tripped direct connected No.3 Tx at TransGrid's Liverpool substation.	Integral Energy staff error at their West Liverpool substation.	17/12/06	16:05:00	17/12/06	19:09:00		Tx No3 Liverpool	3.07	3rd party outage	

NOTES:

This spreadsheet should include a list all events that are proposed for exclusion. This is consistent with the reporting information requirements contained in section 4.2 of the AER's Service Standards Guidelines.

Each proposed exclusion event 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" tab.

Each exclusion should be entered onto one row for each measure. Where one exclusion event applies to more than one measure, 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.

Green cells - input description impact

Orange cells - input reasons for the exclusion request

TRANSGRID- S1 - Transmission line availability

Performance Targets	Graph start	Collar	Target	Cap	Graph end
Transmission line availability	[illegible]	99.00%	99.50%	99.70%	[illegible]
Measure Weighting	[illegible]	-0.20%	0.00%	0.20%	[illegible]

Performance Formulae			Formulae						Conditions				S- Calc 1	S- Calc 2
Performance	=	-0.002000						Where:		Availability	<	99.00%	-0.002000	-0.002000
	=	0.400000	x	Availability	+	-0.398000		99.00%	≤	Availability	≤	99.50%	0.000253	0.000263
	=	1.000000	x	Availability	+	-0.995000		99.50%	≤	Availability	≤	99.70%	0.000631	0.000658
	=	0.002000						99.70%	<	Availability			0.002000	0.002000

Performance Outcomes		Performance (Without Exclusions)	Performance (Exclusions)
Transmission line availability	=	99.563127%	99.565846%
S-Factor Result	=	0.063127%	0.065846%

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

Blue cells show TransGrid's performance targets (C4:E4) and measure weightings (C5:E5) [See Table 9.8.1 of revenue cap]

Yellow/Green cells (Rows 8:11) show TransGrid's performance formulae and related formula conditions based on performance targets and measure weightings

Pink cells (C14, C15) show TransGrid's performance outcomes without any events excluded from performance data

Orange cells (D14, D15) show TransGrid's performance outcomes with events excluded from performance data

TRANSGRID- S2 - Tranformer availability

Performance Targets	Graph start	Collar	Target	Cap	Graph end
Transformer availability	[illegible]	98.20%	99.00%	99.50%	[illegible]
S2	[illegible]	-0.15%	0.00%	0.15%	[illegible]

Performance Formulae			Formulae					Conditions					S- Calc 1	S- Calc 2
Performance	=	-0.001500						Where:		Availability	<	98.20%	-0.001500	-0.001500
	=	0.187500	x	Availability	+	-0.185625		98.20%	≤	Availability	≤	99.00%	-0.000304	-0.000304
	=	0.300000	x	Availability	+	-0.297000		99.00%	≤	Availability	≤	99.50%	-0.000487	-0.000486
	=	0.001500						99.50%	<	Availability			0.001500	0.001500

Performance Outcomes		Performance (Without Exclusions)	Performance (Exclusions)
Transformer availability	=	98.837670%	98.837889%
S-Factor	=	-0.030437%	-0.030396%

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

Blue cells show TransGrid's performance targets (C4:E4) and measure weightings (C5:E5) [See Table 9.8.1 of revenue cap]

Yellow/Green cells (Rows 8:11) show TransGrid's performance formulae and related formular conditions based on performance targets and measure weightings

Pink cells (C14, C15) show TransGrid's performance outcomes without any events excluded from performance data

Orange cells (D14, D15) show TransGrid's performance outcomes with events excluded from performance data

TRANSGRID- S3 - Reactive plant availability

Performance Targets	Graph start	Collar	Target	Cap	Graph end
Reactive plant availability	96.50%	97.00%	98.60%	99.30%	100.00%
S3	-0.10%	-0.10%	0.00%	0.10%	0.10%

Performance Formulae		Formulae					Conditions						S- Calc 1	S- Calc 2
Performance	=	-0.001000					Where:		Availability	<	97.00%		-0.001000	-0.001000
	=	0.062500	x	Availability	+	-0.061625	97.00%	≤	Availability	≤	98.60%		0.000202	0.000202
	=	0.142857	x	Availability	+	-0.140857	98.60%	≤	Availability	≤	99.30%		0.000461	0.000461
	=	0.001000					99.30%	<	Availability				0.001000	0.001000

Performance Outcomes		Performance (Without Exclusions)	Performance (Exclusions)
Reactive plant availability	=	98.922566%	98.922566%
S-Factor	=	0.046081%	0.046081%

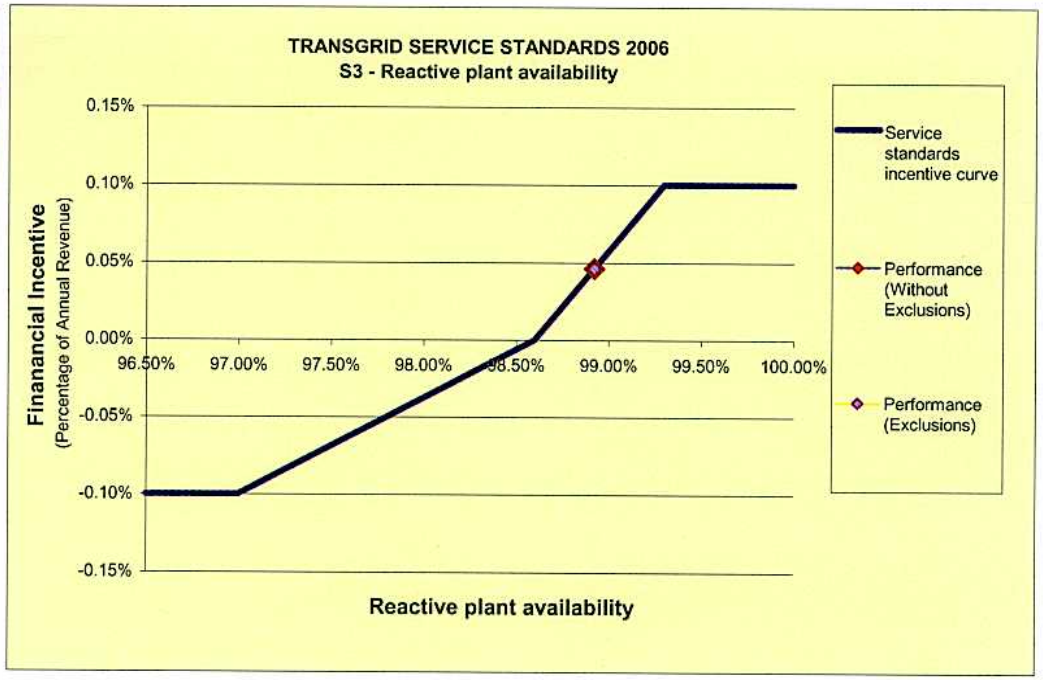
NOTES:
This sheet will automatically update based on data in inputs sheets.

Blue cells show TransGrid's performance targets (C4:E4) and measure weightings (C5:E5) [See Table 9.8.1 of revenue cap]

Yellow/Green cells (Rows 8:11) show TransGrid's performance formulae and related formular conditions based on performance targets and measure weightings

Pink cells (C14, C15) show TransGrid's performance outcomes without any events excluded from performance data

Orange cells (D14, D15) show TransGrid's performance outcomes with events excluded from performance data



TRANSGRID- S4 - Reliability (Events > 0.05 and <=0.4 system minutes)

Performance Targets	Graph start	Collar	Target	Cap	Graph end
Reliability (Events > 0.05 and <=0.4 system minutes)	10	8	5	3	0
S4	-0.25%	-0.25%	0.00%	0.25%	0.25%

Performance Formulae			Formulae					Conditions					S- Calc 1	S- Calc 2
Performance	=	-0.002500						8	<	Reliability			-0.002500	-0.002500
	=	-0.000833	x	Reliability	+	0.004167		5	≤	Reliability	≤	8	0.002500	0.002500
	=	-0.001250	x	Reliability	+	0.006250		3	≤	Reliability	≤	5	0.003750	0.003750
	=	0.002500								Reliability	<	3	0.002500	0.002500

Performance Outcomes		Performance (Without Exclusions)	Performance (Exclusions)
Reliability (Events > 0.05 and <=0.4 system minutes)	=	2	2
S-Factor	=	0.250000%	0.250000%

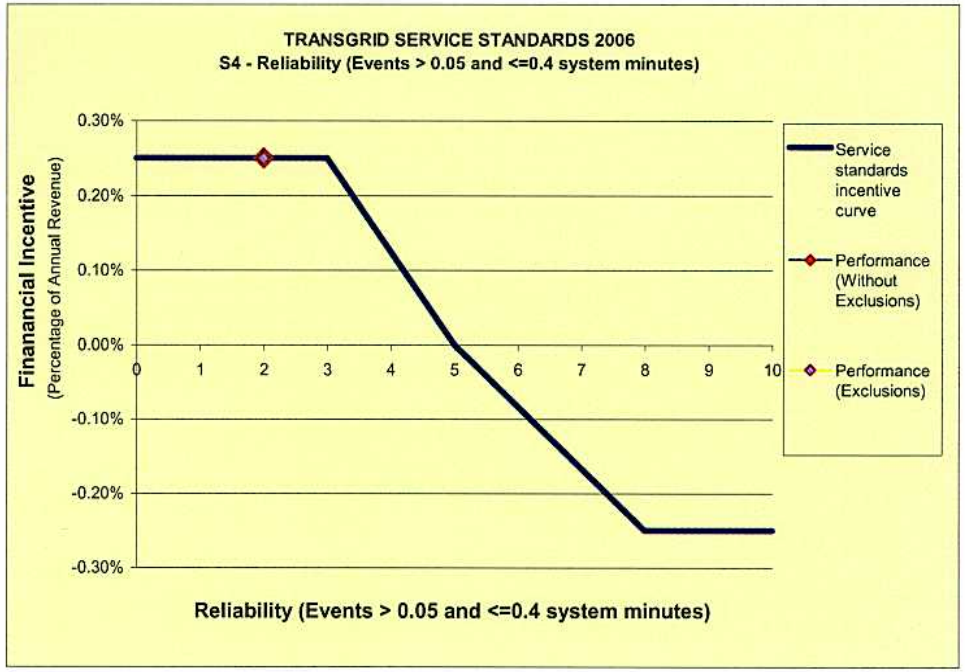
NOTES:
This sheet will automatically update based on data in input sheets.

Blue cells show TransGrid's performance targets (C4:E4) and measure weightings (C5:E5) [See Table 9.8.1 of revenue cap]

Yellow/Green cells (Rows 8:11) show TransGrid's performance formulae and related formular conditions based on performance targets and measure weightings

Pink cells (C14, C15) show TransGrid's performance outcomes without any events excluded from performance data

Orange cells (D14, D15) show TransGrid's performance outcomes with events excluded from performance data



TRANSGRID- S5 - Reliability (Events > 0.4 system minutes)

Performance Targets	Graph start	Collar	Target	Cap	Graph end
Reliability (Events > 0.4 system minutes)	0	2	1	0	3
S5	0.20%	-0.20%	0.00%	0.20%	-0.20%

Performance Formulae		Formulae					Conditions						S- Calc 1	S- Calc 2
Performance	=	-0.002000					Where:		Reliability	>	2		-0.002000	-0.002000
	=	-0.002000	x	Reliability	+	0.002000	1	≤	Reliability	≤	2		0.002000	0.002000
	=	-0.002000	x	Reliability	+	0.002000	0	≤	Reliability	≤	1		0.002000	0.002000
	=	0.002000							Reliability	<	0		0.002000	0.002000

Performance Outcomes		Performance (Without Exclusions)	Performance (Exclusions)
Reliability (Events > 0.4 system minutes)	=	0	0
S-Factor	=	0.200000%	0.200000%

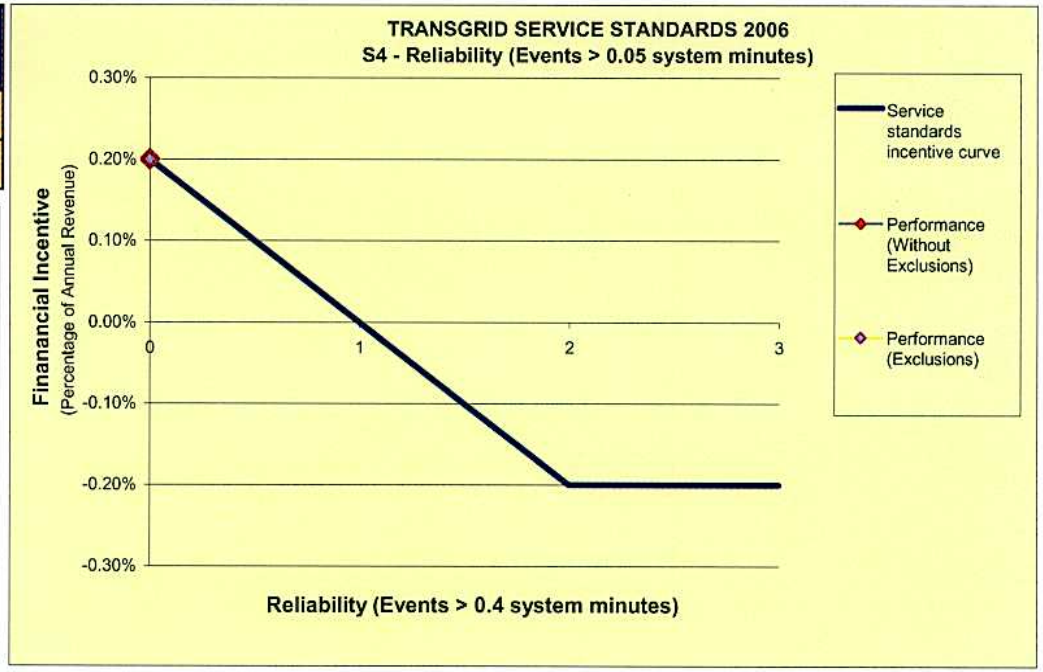
NOTES:
This sheet will automatically update based on data in input sheets.

Blue cells show TransGrid's performance targets (C4:E4) and measure weightings (C5:E5) [See Table 9.8.1 of revenue cap]

Yellow/Green cells (Rows 8:11) show TransGrid's performance formulae and related formular conditions based on performance targets and measure weightings

Pink cells (C14, C15) show TransGrid's performance outcomes without any events excluded from performance data

Orange cells (D14, D15) show TransGrid's performance outcomes with events excluded from performance data



TRANSGRID- S6 - Average outage restoration time

Performance Targets	Graph start	Collar	Knee Bend	Target	Knee Bend	Cap	Graph end
Average outage restoration time	[illegible]	1800	1600	1500	1400	800	[illegible]
S6	[illegible]	-0.10%	-0.05%	0.00%	0.05%	0.10%	[illegible]

Performance Formulae		Formulae					Conditions			S- Calc 1	S- Calc 2
Performance	=	-0.001000					Where:	Average time >	1800	-0.001000	-0.001000
	=	-0.000003	x	Average Time	+	0.003500	1600	≤ Average time ≤	1800	0.001357	0.001440
	=	-0.000005	x	Average Time	+	0.007500	1400	≤ Average time ≤	1600	0.003214	0.003380
	=	-0.000001	x	Average Time	+	0.001667	800	≤ Average time ≤	1400	0.000952	0.000980
	=	0.001000						Average time <	800	0.001000	0.001000

Performance Outcomes		Performance (Without Exclusions)	Performance (Exclusions)
Average outage restoration time	=	857	824
S-Factor	=	0.095235%	0.098008%

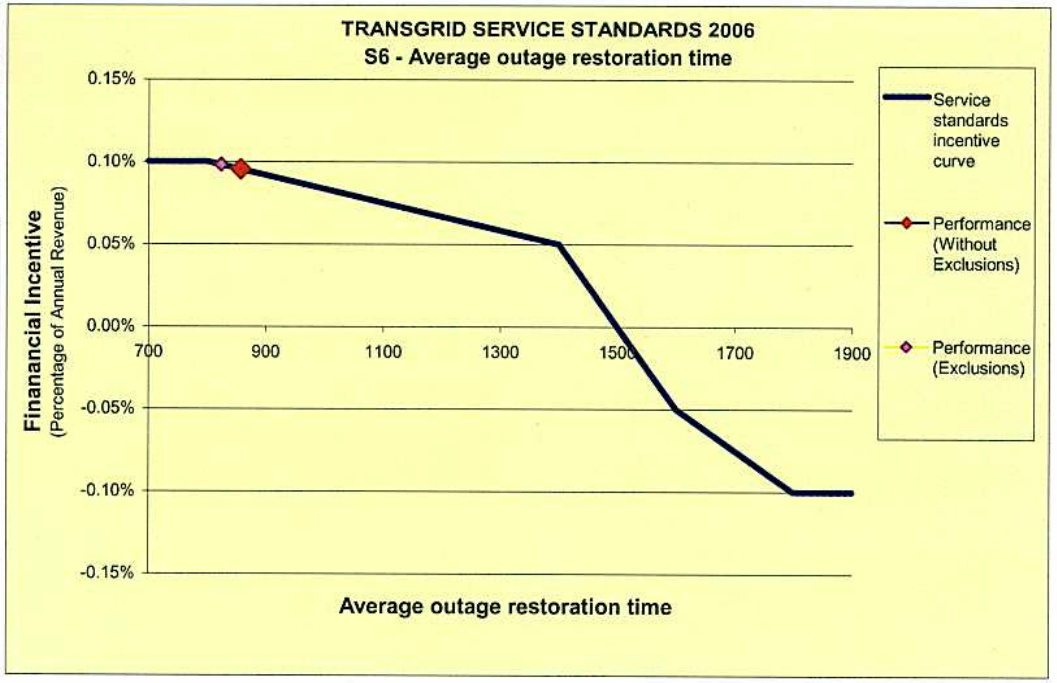
NOTES:
This sheet will automatically update based on data in input sheets.

Blue cells show TransGrid's performance targets (C4:G4) and measure weightings (C5:G5) [See Table 9.8.1 of revenue cap]

Yellow/Green cells (Rows 8:11) show TransGrid's performance formulae and related formular conditions based on performance targets and measure weightings

Pink cells (C15, C16) show TransGrid's performance outcomes without any events excluded from performance data

Orange cells (D15, D16) show TransGrid's performance outcomes with events excluded from performance data



TRANSGRID - Revenue calculation

Revenue cap information	
Base revenue	$432,750,000
Base year	2004-05
X-factor	-2.93%
Decision CPI	2.49%

Annual revenue adjusted for CPI	Mar-04	Mar-05	Mar-06
CPI	144.1	147.5	151.9
	2004-05	2005-06	2006-07
AR	$432,750,000	$455,939,364	$483,297,797

Calendar year revenue	2004	2005	2006
Revenue	$216,375,000	$444,344,682	**$469,618,580**

NOTES:

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

Grey cells show calendar year revenue

Green cells are for formula

Blue cells are a drop down menu

TRANSGRID- Performance outcomes 2006

Revenue calendar year 2006 ($)	*$469,618,580*

Performance measure	S	Target	Performance without exclusions			Performance with exclusions			Impact of exclusions
			Performance	S-Factor	Final Incentive	Performance	S-Factor	Final Incentive	
Transmission line availability	S1	99.500000%	99.563127%	0.063127%	$296,454	99.565846%	0.065846%	$309,224	0.002719%
Transformer availability	S2	99.000000%	98.837670%	-0.030437%	-$142,937	98.837889%	-0.030396%	-$142,744	0.000041%
Reactive plant availability	S3	98.600000%	98.922566%	0.046081%	$216,404	98.922566%	0.046081%	$216,404	0.000000%
Reliability (Events > 0.05 and <=0.4 system minutes)	S4	5	2	0.250000%	$1,174,046	2	0.250000%	$1,174,046	0.000000%
Reliability (Events > 0.4 system minutes)	S5	1	0	0.200000%	$939,237	0	0.200000%	$939,237	0.000000%
Average outage restoration time	S6	1500	857	0.095235%	$447,240	824	0.098008%	$460,263	0.002773%
TOTALS				0.624005%	$2,930,444		0.629539%	$2,956,430	0.005533%

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

Grey cell (C3) shows relevant calendar year revenue

Green cells (C7:C12) show performance measure targets

Pink cells (Rows D:F) show performance, s-factor results and financial incentive without exclusions

Orange cells (Rows G:I) show performance, s-factor results and financial incentive with exclusions

Blue cells show the impact of exclusions on revenue

Aggregate outcome 2006	
S-factor	0.629539%
Bonus (penalty)	$2,956,430
Financial year to affect revenue	2007-08

TRANSGRID - Defined exclusions

No.	Measure 1- Transmission Circuit Availability		
	Defined exclusions	**Further description of exclusion**	**Reference**
1.1	Unregulated transmission assets		Service standards guidelines p.4
1.2	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 (TNSP to provide list)	Service standards guidelines p.4
1.3	Force majeure		Service standards guidelines p.4
1.4	Transient interruptions less than one (1) minute		Historical exclusion applied by TransGrid
1.5	Switching to control voltages and fault levels	Switching to control voltages and fault levels within required limits, both as directed by NEMMCO and where NEMMCO does not have direct oversight of the network (in both cases only where the element is available for immediate energisation if required)	Historical exclusion applied by TransGrid
1.6	The opening of one end of a transmission circuit	The opening of only one end of a transmission circuit (eg where the transmission circuit remains energised and available to carry power with immediate manual or automatic return to service).	Historical exclusion applied by TransGrid

	Measure 2- Transformer Availability		
	Defined exclusions	**Further description of exclusion**	**Reference**
2.1	Unregulated transmission assets		Service standards guidelines p.4
2.2	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 (TNSP to provide list)	Service standards guidelines p.4
2.3	Force majeure		Service standards guidelines p.4
2.4	Transient interruptions less than one (1) minute		Historical exclusion applied by TransGrid
2.5	Auxiliary transformers		Historical exclusion applied by TransGrid
2.6	Static Var Compensator transformers	Static Var Compensator Transformers (which are counted as part of the SVC)	Historical exclusion applied by TransGrid
2.7	Switching to control voltages and fault levels	Switching to control voltages and fault levels within required limits, both as directed by NEMMCO and where NEMMCO does not have direct oversight of the network (in both cases only where the element is available for immediate energisation if required)	Historical exclusion applied by TransGrid
2.8	The opening of only one or both sides of a transformer for operational purposes	The opening of only one or both sides of a transformer for operational purposes, such as to control losses, fault levels, incompatibility of tap charges etc but where the transformer remains available to carry power on immediate manual or automatic return to service.	Historical exclusion applied by TransGrid
2.9	Transformer not switched in but available for service	The period where a transformer is made available for service, but not switched in, at the end of each day of a multi-day planned outage.	Historical exclusion applied by TransGrid

	Measure 3- Reactive Plant Availability		
	Defined exclusions	**Further description of exclusion**	**Reference**
3.1	Unregulated transmission assets		Service standards guidelines p.4
3.2	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 (TNSP to provide list)	Service standards guidelines p.4
3.3	Force majeure		Service standards guidelines p.4
3.4	Transient interruptions less than one (1) minute		Historical exclusion applied by TransGrid
3.5	Capacitor banks and reactors operating less than 66 kV		Historical exclusion applied by TransGrid
3.6	Reactive plant switched out by System Operations	Reactive plant switched out by System Operations, or left out after repairs that make it available for service for operational purposes	Historical exclusion applied by TransGrid

	Measure 4- Events > 0.05 system mins (No.)		
	Defined exclusions	**Further description of exclusion**	**Reference**

4.1	Unregulated transmission assets		Service standards guidelines p.5
4.2	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 (TNSP to provide list)	Service standards guidelines p.5
4.3	Planned outages		Service standards guidelines p.5
4.4	Force majeure		Service standards guidelines p.6
4.5	Transient interruptions less than one (1) minute		Historical exclusion applied by TransGrid
4.6	Where TransGrid protection operates correctly due to a fault on a customer's or a third party system		Historical exclusion applied by TransGrid
4.7	Pumping station supply interruption	Pumping station supply interruptions (such as Barnard River, Burrawang, Bendeela, Kangaroo Valley and Jindabyne). These interruptions were excluded from historical data used for target setting as there being no effective loss of supply due to their ability to obtain the pumping load at a later time after restoration of supply	Historical exclusion applied by TransGrid
4.8	Outage caused by customer's own control system during a transient voltage fluctuation	Where a customer's own control/protection system trips their plant during a transient voltage fluctuation or other quality of supply event, whether caused by TransGrid or otherwise	Historical exclusion applied by TransGrid

	Measure 5 - Events > 0.40 system mins (No.)		
	Defined exclusions	**Further description of exclusion**	**Reference**
5.1	Unregulated transmission assets		Service standards guidelines p.5
5.2	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 (TNSP to provide list)	Service standards guidelines p.5
5.3	Planned outages		Service standards guidelines p.5
5.4	Force majeure		Service standards guidelines p.5
5.5	Transient interruptions less than one (1) minute		Historical exclusion applied by TransGrid
5.6	Where TransGrid protection operates correctly due to a fault on a customer's or a third party system		Historical exclusion applied by TransGrid
5.7	Pumping station supply interruption	Pumping station supply interruptions (such as Barnard River, Burrawang, Bendeela, Kangaroo Valley and Jindabyne). These interruptions were excluded from historical data used for target setting as there being no effective loss of supply due to their ability to obtain the pumping load at a later time after restoration of supply	Historical exclusion applied by TransGrid
5.8	Outage caused by customer's own control system during a transient voltage fluctuation	Where a customer's own control/protection system trips their plant during a transient voltage fluctuation or other quality of supply event, whether caused by TransGrid or otherwise	Historical exclusion applied by TransGrid

	Measure 6 - Average Outage Restoration Time		
	Defined exclusions	**Further description of exclusion**	**Reference**
6.1	Transient interruptions less than one (1) minute		Service standards guidelines p.6
6.2	Unregulated transmission assets		Service standards guidelines p.6
6.3	Planned outages		Service standards guidelines p.6
6.4	Outage duration longer than 7 days	The portion of outage duration longer than 7 days (168 hours.) That is, each individual outage is capped at 7 days.	TransGrid revenue cap p.173
6.5	Force majeure		Service standards guidelines p.6
6.6	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, customer request or NEMMCO direction	Historical exclusion applied by TransGrid
6.7	Outages for capacitor banks and reactors operating at <66kV		Historical exclusion applied by TransGrid

Attachment 1: Exclusions and Capped Outage

TransGrid proposes to exclude the following events for the purposes of calculating the performance bonus/penalty under the performance incentive scheme, in accordance with the criteria set out in the service standards templates.

1. **Measure affected: Transmission Line Availability**

   Forced outage 3-2006-F0010 on 2nd January 2006 at 0544hrs of 132kV line 991.

   Circuit breakers at both ends of the line tripped, auto-reclosed, tripped then locked out and weather conditions were hot with strong winds and a bushfire in the area of the line. A ground patrol on 2nd January 2006 identified 8 wood poles on structures 424, 451, 465, 482, 497, 500 & 506 in the Junee to Bethungra area that were damaged and destroyed by the bushfire. All eight poles were replaced and the line was returned to service on 1640hrs on 3rd January 2006. The outage duration was 34.93 hours. It is proposed to exclude this outage under 1.3 "force majeure".

2. **Measures affected: Transmission Line Availability, Transformer Availability and Average Outage Restoration Time**

   There were eight (8) forced and emergency outages that meet the AER's definition of '3rd party' affecting Transmission Line Availability and one (1) affecting Transformer Availability. All nine (9) of these outages also affect Average Outage Restoration Time. They are listed with the rationale for regarding them as '3rd party' in the completed service standards templates.

TransGrid has capped the impact of the following event in accordance with past practice:

3. **Measure affected: Transmission Line Availability**

   Planned outage 2-2006-P0916 from 4th October 2006 0611 at hours to 29th October 2006 at 1821 hours of 330kV cable 41.

   In 2005 during sewer connections by a third party for a residential development adjoining the cable route, open trench excavations passed beneath the cable. During this work, a water main burst washing away the soil beneath the cable, causing significant sag in the cable. Subsequent sewer pipe works caused further subsidence. As a result, damage occurred to the joints on all three phases of the cable due to core movement and replacement was required. White phase joint was replaced by J-Power Systems in July 2005 and it was judged, based on the condition of the damaged joint, that the replacement of red and blue phase joints could be deferred until after the 2005/2006 summer peak.

   The repairs to red and blue phases required by the initial issue took place in October 2006 under this planned outage.

   In the *Audit of TransGrid 2005 Reporting,* Sinclair Knight Merz recommended that "this event should be capped at 14 days for the purposes of calculating the circuit availability measure, in line with similar practice adopted with other TNSPs." This recommendation was accepted by the AER. As planned outage 2-2006-P0916 was required to address the same event, TransGrid has followed the same practice of capping the impact of this outage at 14 days for the purposes of calculating Transmission Line Availability.

Attachment 2: Status of matters raised by Sinclair Knight Merz in 2005 Audit

In the *Audit of TransGrid 2005 Reporting* Sinclair Knight Merz reviewed TransGrid's Performance Incentives reporting system. Sinclair Knight Merz noted that TransGrid are undertaking a project to develop a new outage management and Performance Incentives reporting system, 'THEOS', which is due for completion in 2008.

However, Sinclair Knight Merz also made recommendations for simple modifications to the existing system to improve its performance as interim measures:

- Automatically link the spreadsheets involved in the process to reduce the potential for human error; and

- Include all outages throughout the PI Reporting system and indicate which have been "included" or "excluded".

TransGrid has implemented the second recommendation in preparation of data for the 2006 Performance Incentives reporting. Implementation of the first recommendation is underway but had not been completed to a sufficient extent that it could be used for reporting the 2006 Performance Incentives statistics. It is proposed to introduce the automatic linking of spreadsheets during the 2007 reporting period.