# TEMPLATE EXPLANATION



This template must be used by Powerlink to report service performance information for the 2007 calendar year.

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

Purple worksheets 'S1' to 'S6' are the s-factors 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 Powerlink's performance in 'Inputs-Performance' and 'Revenue Calculation' worksheets.

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

# **Powerlink - SERVICE STANDARDS PERFORMANCE**

PERFORMANCE PARAMETERS	s	Performance (Without exclusions)	Performance (With exclusions)
Transmission circuit availability - critical elements	S1	99.438281%	99.438281%
Transmission circuit availability - non-critical elements	S2	98.701377%	98.701793%
Transmission circuit availability - peak periods	S3	98.597368%	98.598182%
Loss of supply event frequency (No of events > 0.2 system minutes)	S4	1	1
Loss of supply event frequency (No of events > 1.0 system minutes)	S5	0	0
Average outage duration	S6	583	612

Date prepared:	1 February 2008
Revision date:	

# NOTES:

Pink cells- Input performance without exclusions from performance data

Orange cells- Input performance with exclusions from performance data

Green cells- Input date that template data was entered and date of any revisions from original version.

Performance should be measured on a calendar year basis

# **Powerlink - Proposed exclusions**

CI	IRCUIT AVAILABILITY	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
ava	me of any circuit ailability parameters blying to Powerlink	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 a	and time of	End date a event	and time of	Name of circuits affected	Name of any reactive plant or transformer affected	Number of hours, mins etc interrupted	Full details of the reason/s for excluding this event. Should include a reference to the defined exclusions and explain how it meets this exclusion definition (see Exclusion definition tab). Eg. Exclusion 1.2 Third party event	A TNSP may provide further details of an exclusion event. TNSP to provide reference.
	Transmission circuit												
S1	availability - critical elements												
			H024 Calvale: Feeder 851 tripped at the same time as Callide B Power Station 1 Generator tripped. Event investigation undertaken. Callide B Power Station advised of generator equipment failure. Powerlink plant and equipment	Generation equipment failure.	19/07/07	13:56:00	19/07/07	15:14:01	Feeder 851		1.3003	3rd party outage.	
S2	Transmission circuit availability - non–critical elements		operated as expected. Feeder 8828 tripped and feeder 8810 deloaded due to intertrip from Tarong North Power Station. Event investigation found issue originated from Tarong North Power Station. Powerlink plant and equipment	Generator testing issue.	13/09/07	15:07:32	13/09/07	15:51:24	Feeder 8810		0.7311	3rd party outage.	
			operated as expected. T53 Kamerunga: Feeder 7184 tripped. Trip initiated by Barron Gorge Power Station. Powerlink plant and equipment operated as expected.	Generation equipment failure.	2/10/07	08:11:43	2/10/07	08:49:22	Feeder 7184		0.6275	3rd party outage.	
			T049 Kareeya: Transformer 1 tripped due to Kareeya Power Station equipment failure. Powerlink plant and equipment operated as expected.	Generation equipment failure.	3/12/07	15:12:46	3/12/07	20:31:12		T049 Kareeya Transformer 1	5.3072	3rd party outage.	
			H024 Calvale: Feeder 851 tripped at the same time as Callide B Power Station 1 Generator tripped. Event investigation undertaken. Callide B Power Station advised of generator equipment failure. Powerlink plant and equipment operated as expected.	Generation equipment failure.	19/07/07	13:56:00	19/07/07	15:14:01	Feeder 851		1.3003	3rd party outage.	
S3	Transmission circuit availability - peak periods	20070240	Feeder 8828 tripped and feeder 8810 deloaded due to intertrip from Tarong North Power Station.  Event investigation found issue originated from Tarong North Power Station.  Powerlink plant and equipment operated as expected.	Generator testing issue.	13/09/07	15:07:32	13/09/07	15:51:24	Feeder 8810		0.7311	3rd party outage.	
			T53 Kamerunga: Feeder 7184 tripped. Trip initiated by Barron Gorge Power Station. Powerlink plant and equipment operated as expected.	Generation equipment failure.	2/10/07	08:11:43	2/10/07	08:49:22	Feeder 7184		0.6275	3rd party outage.	
			To49 Kareeya: Transformer 1 tripped due to Kareeya Power Station equipment failure. Powerlink plant and equipment operated as expected.	Generation equipment failure.	3/12/07	15:12:46	3/12/07	20:31:12		T049 Kareeya Transformer 1	5.3072	3rd party outage.	

	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 parameters applying to Powerlink	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.		Start date a event		End date ar event	nd time of	Name of circuits or plant affected	The max system demand that occurred up until the time of the event	etc interrunted	The (MW) demand shed and the duration it was shed for.	the state of the s	A TNSP may provide further details of an exclusion event. TNSP to provide reference.
ı														

	Loss of supply	ly event							
6	frequency (N	No of							
34	Loss of supply frequency (N events > 0.2 sy	system							
	minutes)	s)							
	Loss of supply	ly event							
6.0	Loss of supply frequency (N events > 1.0 sy	No of							
30	events > 1.0 sy	system							
	minutes)	s)							

A	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
dura	ne of any average outage ation parameters applying owerlink	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 a event	and time of	End date a event	nd time of	Name of circuits or plant affected	Number of hours, mins etc interrupted	Number of hours and minutes interupted following the application of a cap	Full details of the reason/s for excluding this event. Should include a reference to the defined exclusions and explain how it meets this exclusion definition (see Exclusion definition tab). Eg. Exclusion 1.2 Third party event	A TNSP may provide further details of an exclusion event. TNSP to provide reference.
		20070240	H024 Calvale: Feeder 851 tripped at the same time as Callide B Power Station 1 Generator tripped. Event investigation undertaken. Callide B Power Station advised of generator equipment failure. Powerlink plant and equipment operated as expected. Feeder 8828 tripped and feeder 8810 deloaded due to intertrip from Tarong North Power Station.				19/07/07		Feeder 851	1.3003 0.7311		3rd party outage.  3rd party outage.	
S6	Average outage duration	20070255	Event investigation found issue originated from Tarong North Power Station.  Powerlink plant and equipment operated as expected.	Generation equipment failure.	2/10/07	08:11:43	2/10/07	08:49:22	Feeder 7184	0.6275		3rd party outage.	
		20070332	T049 Kareeya: Transformer 1 tripped due to Kareeya Power Station equipment failure. Powerlink plant and equipment operated as expected.	Generation equipment failure.	3/12/07	15:12:46	3/12/07	20:31:12	T049 Kareeya TFMR-1	5.3072		3rd party outage.	

# NOTES:

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 parameter 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

## Powerlink - S1 - Transmission circuit availability - critical elements

Performance Targets	Graph start	Collar	Target	Сар	Graph end
Transmission circuit availability - critical elements		98.01%	99.07%	99.60%	99.90%
Weighting	-0.155%	-0.155%	0.000%	0.155%	0.155%

Performance Formulae			Formula	ае					Conditions			S- Calc 1	S- Calc 2
Performance	=	-0.001550					Where:		Availability	<	98.01%	-0.001550	-0.001550
	=	0.146226	х	Availability	+	-0.144867	98.01%	≤	Availability	≤	99.07%	0.000539	0.000539
	=	0.292453	Х	Availability	+	-0.289733	99.07%	≤	Availability	≤	99.60%	0.001077	0.001077
	=	0.001550					99.60%	<	Availability			0.001550	0.001550

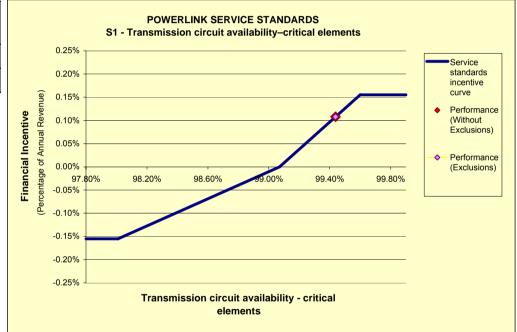
Performance Outcomes	Performance (Without Exclusions)	Performance (Exclusions)
Transmission circuit availability - critical elements =	99.438281%	99.438281%
S-Factor =	0.107705%	0.107705%

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

Blue cells show TNSP's performance targets and weightings.

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

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



# Powerlink - S2 - Transmission circuit availability - non-critical elements

Performance Targets	Graph start	Collar	Target	Cap	Graph end
Transmission circuit availability - non–critical elements		97.81%	98.40%	98.99%	99.20%
Weighting	-0.085%	-0.085%	0.000%	0.085%	0.085%

Performance Formulae			Formula	ae					Conditions			S- Calc 1	S- Calc 2
Performance	=	-0.000850					Where:		Availability	<	97.81%	-0.000850	-0.000850
	=	0.144068	х	Availability	+	-0.141763	97.81%	≤	Availability	≤	98.40%	0.000434	0.000435
	=	0.144068	х	Availability	+	-0.141763	98.40%	≤	Availability	≤	98.99%	0.000434	0.000435
	=	0.000850					98.99%	<	Availability			0.000850	0.000850

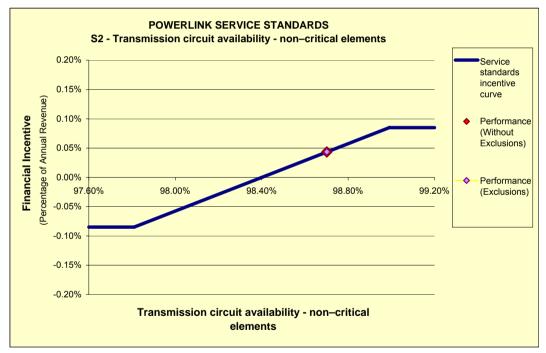
Performance Outcomes		Performance (Without Exclusions)	Performance (Exclusions)
Transmission circuit availability - non–critical elements		98.701377%	98.701793%
S-Factor	=	0.043419%	0.043479%

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

Blue cells show TNSP's performance targets and weightings.

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

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



## Powerlink - S3 - Transmission circuit availability - peak periods

Performance Targets	Graph start	Collar	Target	Cap	Graph end
Transmission circuit availability - peak periods		97.53%	98.16%	98.80%	99.00%
Weighting	-0.155%	-0.155%	0.000%	0.155%	0.155%

Performance Formulae			Formula	е					Conditions			S- Calc 1	S- Calc 2
Performance	=	-0.001550					Where:		Availability	<	97.53%	-0.001550	-0.001550
	=	0.246032	х	Availability	+	-0.241505	97.53%	≤	Availability	≤	98.16%	0.001076	0.001078
	=	0.242188	Х	Availability	+	-0.237731	98.16%	≤	Availability	≤	98.80%	0.001059	0.001061
	=	0.001550					98.80%	<	Availability			0.001550	0.001550

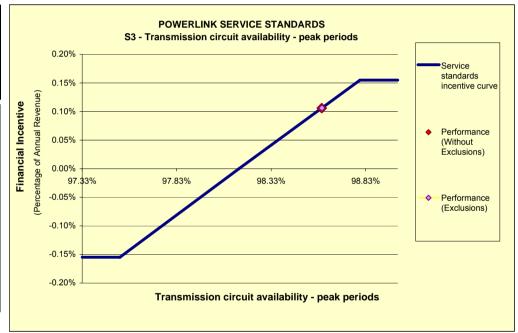
Performance Outcomes		Performance (Without Exclusions)	Performance (Exclusions)
Transmission circuit availability - peak periods	=	98.597368%	98.598182%
S-Factor	=	0.105925%	0.106122%

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

Blue cells show TNSP's performance targets and weightings.

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

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



# Powerlink - S4 - Loss of supply event frequency (No of events > 0.2 system minutes)

Performance Targets	Graph start	Collar	Target	Сар	Graph end
Loss of supply event frequency (No of events > 0.2 system minutes)		4	2.5	1	0
Weighting	-0.155%	-0.155%	0.000%	0.155%	0.155%

Performance Formulae			Form	nulae					Conditions			S- Calc 1	S- Calc 2
Performance	=	-0.001550					4	<	No of events			-0.001550	-0.001550
	=	-0.001033	x	No of events	+	0.002583	3	≤	No of events	≤	4	0.001550	0.001550
	=	-0.001033	х	No of events	+	0.002583	1	≤	No of events	≤	3	0.001550	0.001550
	=	0.001550							No of events	<	1	0.001550	0.001550

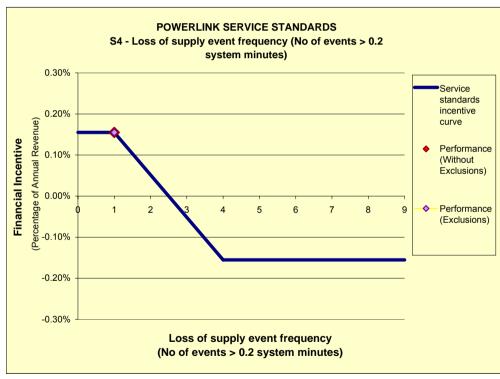
Performance Outcomes		Performance (Without Exclusions)	Performance (Exclusions)
Loss of supply event frequency (No of events > 0.2 system minutes)	=	1	1
S-Factor	=	0.155000%	0.155000%

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

Blue cells show TNSP's performance targets and weightings.

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

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



## Powerlink - S5 - Loss of supply event frequency (No of events > 1.0 system minutes)

Performance Targets	Graph start	Collar	Target	Сар	Graph end
Loss of supply event frequency (No of events > 1.0 system minutes)		1.5	0.5	0	-1
Weighting	-0.30%	-0.30%	0.00%	0.30%	0.30%

Performance Formulae			Formu	ılae					Conditions			S- Calc 1	S- Calc 2
Performance	=	-0.003000					Where:		No of events	>	2	-0.003000	-0.003000
	=	-0.003000	х	No of events	+	0.001500	1	≤	No of events	≤	2	0.001500	0.001500
	=	-0.006000	х	No of events	+	0.003000	0	≤	No of events	≤	1	0.003000	0.003000
	=	0.003000							No of events	<	0	0.003000	0.003000

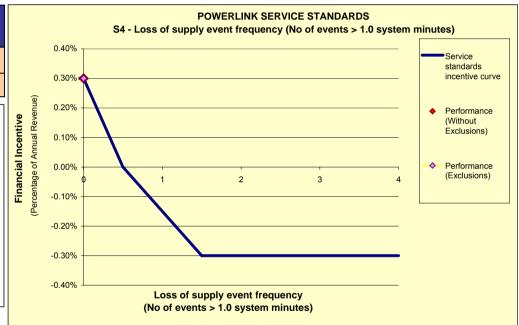
Performance Outcomes		Performance (Without Exclusions)	Performance (Exclusions)
Loss of supply event frequency (No of events > 1.0 system minutes)		0	0
S-Factor	=	0.300000%	0.300000%

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

Blue cells show TNSP's performance targets and weightings.

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

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



# Powerlink - S6 - Average outage duration

Performance Targets	Graph start	Collar	Target	Cap	Graph end
Average outage duration		1627	1033	439	
Weighting		-0.15%	0.00%	0.15%	0.15%

Performance Formulae			Fo	ormulae				Conditions		S- Calc 1	S- Calc 2
Performance	=	-0.001500					Where:	Average time >	1627	-0.001500	-0.001500
	=	-0.000003	Х	Average time	+	0.002609	1033	≤ Average time ≤	1627	0.001136	0.001063
	=	-0.000003	Х	Average time	+	0.002609	439	≤ Average time ≤	1033	0.001136	0.001063
	=	0.001500						Average time <	439	0.001500	0.001500

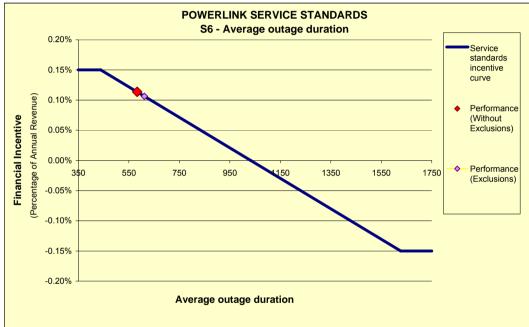
Performance Outcomes		Performance (Without Exclusions)	Performance (Exclusions)
Average outage duration	=	583	612
S-Factor	=	0.113636%	0.106313%

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

Blue cells show TNSP's performance targets and weightings.

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

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



# **Powerlink - Revenue calculation**

Revenue cap information			
Base revenue	\$536,810,000		
Base year	2007-08		
X-factor	-7.60%		
Commencement of period	1-Jul-07		

Annual revenue adjusted for CPI	Mar-07
CPI	155.6
	2007-08
AR	\$536,810,000

Calendar year revenue	2007
Revenue	\$268,405,000

## NOTES:

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

Grey cells show calendar year revenue

Green cells are for formula

#### **Powerlink - Performance outcomes**

Revenue calendar year (\$)

\$268,405,000

Performance parameter		Target	Performance without exclusions		Performance with exclusions			Impact of	
		Target	Performance	S-Factor	Final Incentive	Performance	S-Factor	Final Incentive	exclusions
Transmission circuit availability - critical elements	S1	99.070000%	99.438281%	0.107705%	\$289,085	99.438281%	0.107705%	\$289,085	0.000000%
Transmission circuit availability - non-critical elements	S2	98.400000%	98.701377%	0.043419%	\$116,538	98.701793%	0.043479%	\$116,699	0.000060%
Transmission circuit availability - peak periods	S3	98.160000%	98.597368%	0.105925%	\$284,308	98.598182%	0.106122%	\$284,837	0.000197%
Loss of supply event frequency (No of events > 0.2 system minutes)	S4	2.5	1	0.155000%	\$416,028	1	0.155000%	\$416,028	0.000000%
Loss of supply event frequency (No of events > 1.0 system minutes)	S5	0.5	0	0.300000%	\$805,215	0	0.300000%	\$805,215	0.000000%
Average outage duration	S6	1033	583	0.113636%	\$305,006	612	0.106313%	\$285,350	-0.007323%
TOTALS				0.825685%	\$2,216,180		0.818619%	\$2,197,214	-0.007066%

#### 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	0.818619%
Bonus (penalty)	\$2,197,214
Financial year to affect revenue	2008-09

#### **Powerlink - Defined exclusions**

No. Parameter 1 - Circuit availability - critical elements		
Defined exclusions	Further description of exclusion	Reference
1.1 Unregulated transmission assets		Service standards guidelines
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	Service standards guidelines
1.3 Force majeure	customer installation	Service standards guidelines
1.4 Any outage not affecting Powerlink's primary transmission equipment		Appendix D, Powerlink revenue cap decision 2007-08 to 2011-12
1.5 Faults originating from Powerlink owned equipment that affect primar plant or equipment owned by a distributor, connected customer or a	y	Appendix D, Powerlink revenue cap decision 2007-08 to 2011-12
generator.  Parameter 2 - Circuit availability - non-critical elements		
Defined exclusions	Further description of exclusion	Reference
2.1 Unregulated transmission assets		Service standards guidelines
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	Service standards guidelines
2.3 Force majeure		Service standards guidelines
2.4 Any outage not affecting Powerlink's primary transmission equipment		Appendix D, Powerlink revenue cap decision 2007-08 to 2011-12
2.5 Faults originating from Powerlink owned equipment that affect primare	v	Appendix D, Powerlink revenue cap decision
plant or equipment owned by a distributor, connected customer or a generator.	,	2007-08 to 2011-12
Parameter 3 - Circuit availablility - peak hours		
Defined exclusions	Further description of exclusion	Reference
3.1 Unregulated transmission assets		Service standards guidelines
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	Service standards guidelines
3.3 Force majeure		Service standards guidelines
3.4 Any outage not affecting Powerlink's primary transmission equipment		Appendix D, Powerlink revenue cap decision 2007-08 to 2011-12
3.5 Faults originating from Powerlink owned equipment that affect primare	y	Appendix D, Powerlink revenue cap decision
plant or equipment owned by a distributor, connected customer or a		2007-08 to 2011-12
generator.		

Parameter 4 - Loss of supply event frequency (No. of events >	0.2 system mins)	
Defined exclusions	Further description of exclusion	Reference
4.1 Unregulated transmission assets (eg some connection assets)		Service standards guidelines
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	Service standards guidelines
4.3 Planned outages		Service standards guidelines
4.4 Force majeure		Service standards guidelines
Parameter 5 - Loss of supply event frequency (No. of events >	<del></del>	
Defined exclusions	Further description of exclusion	Reference
5.1 Unregulated transmission assets		Service standards guidelines
5.3 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 standards guidelines
5.4 Planned outages		Service standards guidelines
5.5 Force majeure		Service standards guidelines

Parameter 6 - Average outage duration		
Defined exclusions	Further description of exclusion	Reference
6.1 Momentary interruptions (less than one minute)		Service standards guidelines
6.3 Planned outages		Service standards guidelines
6.5 Force majeure		Service standards guidelines