Draft Decision

Statement of Principles for the Regulation of Transmission Revenues

Service Standards Guidelines

Date: 28 May 2003

File no: C2000/1180

Commissioners:
Fels
Bhojani
Jones
Martin
McNeill
Willett

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S	Service standards factor
TNSP	Transmission network service provider

Objective

This report contains the Australian Competition and Consumer Commission's (Commission) draft service standards guidelines and draft decision in relation to these guidelines. Using these two documents the Commission aim's to:

- explain the its approach to setting performance-incentives within the transmission revenue cap process
- outline the its information requirements to implement the service standards performance-incentive scheme.

1 Introduction

As part of its responsibilities under the *Trade Practices Act 1974* the Commission regulates various providers of monopoly services, including electricity transmission network service providers (TNSPs).

Under the current regulatory arrangements, the Commission uses the building block approach to decide a maximum allowed revenue (MAR or revenue cap) for TNSPs.

The Commission initially decides a TNSP's revenue cap based on its forecast of efficient costs. TNSPs can then maximise their profits by reducing actual costs below the forecast levels. While such cost reduction could occur because of improved efficiency, it could also be a sign of a reduction in service quality. There could be a perverse incentive for TNSPs to maximise profits at the expense of service quality.

The Commission intends to improve these incentives by linking each TNSP's revenue cap to their performance or standards of service. The performance or standards of service should influence the revenue cap to ensure that TNSPs:

- are rewarded when performance standards increase and are penalised when performance standards decline, thus providing incentives for continued performance improvement
- consider how their operations are valued by the national electricity market (NEM).

To do this the Commission has developed a performance-incentive scheme, which is explained in this document.

2 Background

2.1 Code requirements

Chapter six of the National Electricity Code (the code) sets out how the Commission should regulate transmission revenue. Clause 6.2.3(b) states that 'the form of economic regulation applied is to be revenue capping'. The Commission can move away from revenue capping when clause 6.2.3(c) is satisfied—that is, when the Commission

determines that enough competition exists to warrant a more light-handed approach to regulation.

The code recognises that the Commission also determines what level of service the TNSP must provide. This is reflected in clause 6.2.4 of the code:

> 'In setting a separate revenue cap to be applied to each Transmission Network Owner and/or Transmission Network Service Provider (as appropriate) in accordance with clause 6.2.4(b), the ACCC must take into account the revenue requirements of each Transmission Network Owner and/or Transmission Network Service Provider (as appropriate) during the regulatory control period, having regard for:
>
> (1) …
>
> (2) the service standards referred to in the Code applicable to the Transmission Network Owner and/or Transmission Network Service Provider (as appropriate) and any other standards imposed on the Transmission Network Owner and/or Transmission Network Service Provider (as appropriate) by any regulatory regime administered by the ACCC or by agreement with the relevant Network Users;
>
> (3) …'

2.2 Information requirements

In May 1999 the Commission released its draft *Statement of Principles for the Regulation of Transmission Revenues* (DRP), to provide guidance on how the Commission intends to regulate transmission revenues. In June 2002 the Commission released its information requirements guidelines, as a part of the development of the DRP. These guidelines outline what information the Commission requires from each TNSPas part of its regulatory regime.

To implement a performance-incentive scheme the Commission requires performance information that is not specified in the information requirements guidelines. Therefore the draft service standards guidelines will ensure the Commission is given information to effectively undertake its role as regulator of transmission networks.

These draft guidelines outline how the Commission will decide the service standards underlying each revenue cap decision. Clause 6.2.5 (a1) of the code states that the Commission may collect and publish this performance information.

> 'The certified annual financial statements provided by the Transmission Network Owner and/or Transmission Network Service Provider (as appropriate) under clause 6.2.5(a) must include:
>
> (1) such information as the ACCC may reasonably require to prepare and publish annual performance statistics in relation to the service standards published by the Transmission Network Owner and/or Transmission Network Service Provider (as appropriate) under clause 6.5.7(b);…'

TNSPs already report to their state-based regulators on performance standards. Reporting performance information to the Commission is not intended to replace reporting to state regulators. Performance standards and other licence conditions imposed by state regulators are still vitally important to the functioning of TNSPs. The

Commission's performance-incentive scheme will complement existing state arrangements where necessary.

3 The Commission's process

3.1 Sinclair Knight Merz review

The Commission engaged Sinclair Knight Merz (SKM) to recommend a performance-incentive scheme for TNSPs. Both SKM and the Commission consulted extensively with TNSPs and other interested parties throughout the review.

In March 2002 SKM produced a draft discussion paper[1] to stimulate debate. Because of keen interest by code participants and other parties, the Commission and SKM held a number of meetings and forums with the following groups:

- NEMMCO
- state regulators
- TNSPs
- consumer representatives
- other interested parties.

The draft discussion paper outlines the principles underpinning the development of performance-incentives and recommended five performance measures that could be employed in the scheme, as discussed in section 5.3 of this document.

3.2 Recent revenue cap decisions

The Commission recently released revenue cap decisions for the transmission networks of South Australia (ElectraNet[2]) and Victoria (SPI PowerNet and VENCorp[3]). Under the code, the Commission must take into account the TNSPs service standards in setting an appropriate revenue cap.

The decisions outlining the revenue caps of ElectraNet, SPI PowerNet and VENCorp were finalised before the Commission released the draft guidelines and were based on SKM's draft report. There were no major changes to the draft in SKM's final report The guidelines adopt SKM's approach therefore, the performance-incentives of the South Australian and Victorian decisions are consistent with the approach of the draft guidelines.

1 SKM (March 2002), Transmission Network Service Provider (TNSP) – Service Standards Stage 1 – Discussion Paper
2 ACCC (11 December 2002), South Australian Transmission Network Revenue Cap 2003–2007/08
3 ACCC (11 December 2002),Victorian Transmission Network Revenue Caps 2003–2008

During the consultation process, interested parties raised concerns regarding the Commission's implementation of service standards. Identifying these issues has contributed to the practical development of the draft guidelines. The Commission considers the consultation process for these revenue cap decisions as part of the process to develop these draft guidelines.

3.3 Submissions received on the SKM report

The Commission posted SKM's report[4] on its website and called for interested parties to comment. Many parties gave information to SKM directly, and as a result only three written submissions were made:

- Powerlink
- TransGrid
- NRG Flinders

The Commission considered the issues raised in these submissions when developing the draft guidelines. Appendix D contains a summary of the issues raised, and the full submissions can be found on the Commission's website[5].

The remainder of this report outlines the Commission's intentions to set performance-incentives, and discusses the issues raised by submissions that were of key importance to the Commission's decision.

4 The performance-incentive scheme

4.1 Best practice performance

In their submissions to the Commission, Powerlink and TransGrid discussed the concept of best practice performance. The Commission understands that this would represent the frontier of transmission service performance. Powerlink and TransGrid argued that under such a scheme, TNSPs would be rewarded for meeting the frontier.

In trying to use such a method, the Commission would face the difficulty of determining the position of the frontier. The Commission would then have to determine which TNSPs, if any, were operating at such a level. Given measurement difficulties involved in setting such a frontier, the Commission has chosen not to refer to 'best practice' performance in setting performance targets.

4.2 Performance targets

In deciding how performance targets would be set, the Commission explored two alternatives:

4 SKM (November 2002), Transmission Network Service Provider (TNSP) Service Standards
5 http://www.accc.gov.au

- applying industry performance benchmarks
- TNSPs' own performance over the recent past.

The Commission found that little common performance data existed in Australia and internationally, which created a problem in applying industry benchmarks. Also, using industry benchmarks requires consideration of unique and complex operating environments of all individual companies used to develop the industry benchmark.

Therefore the Commission has chosen to use the actual performance outcomes of each TNSP from the last three to five years as a guide to set achievable performance targets (see appendix A). The advantages to this approach are as follows.

- As with most forecasting, the best guide to future outcomes can be derived from past performance. The TNSP's most recent performance would take into account all available historical information, making it a reliable way of setting achievable targets.
- Using actual performance data reduces the need to compare performance with industry benchmarks. A TNSP with poor performance results may be operating very well given its local (difficult) conditions and hence an industry benchmark would be inappropriate. For example, it would not be appropriate to give two TNSPs the same industry benchmark, when one has a lot of outages due to violent storms and the other does not.
- Applying actual performance data provides a self-check mechanism. Once the performance target is set for the regulatory period the TNSP must report its performance annually. The Commission will then reassess the performance targets based on the reported results. This removes any incentive for the TNSP to exaggerate its performance in an attempt to seek higher financial rewards.

The Commission's performance-incentive scheme is designed to drive the TNSP's operating decisions and not its capital decisions. However, the capital decisions may affect the TNSP's performance and, therefore, its performance-incentives. Changes in the code and other regulatory arrangements may also affect the incentives.

Therefore, while the Commission is relying mainly on historical performance data, other information will also help set performance targets, for example, any planned capital works programs, and changes to regulations and codes.

4.3 Performance measures

The five core performance measures, as defined by SKM, that the Commission will incorporate when determining a TNSP's revenue cap are:

1. transmission circuit availability
2. average outage duration
3. frequency of 'off-supply' events

4. inter-regional constraints

5. intra-regional constraints

The standard definitions of these performance measures are in schedule 1 of the draft guidelines (appendix E).

4.4 Flexible definitions

Applying standard definitions of performance measures will ensure that TNSPs have similar incentives. However, these definitions need to be flexible.

Historically TNSPs have collected performance data mainly for internal management purposes and reporting to state regulators. But they haven't had to collect data based on a uniform set of performance measures, and therefore no two TNSPs have collected exactly the same data. This has led to the need for definitions that would measure broadly the same parameters yet offer some flexibility.

For each revenue cap decision in the future the standard definitions will be modified to align with appropriate information that the TNSP has been collecting in the past. Performance must be measured consistently over time to preserve the incentive for the TNSP to improve. Therefore the Commission would be reluctant to change the definitions as it may adversely affect performance-incentives.

SKM gave the Commission a schedule detailing the variations required for each TNSP (see appendix B).

The definition of force majeure that SKM adopted is based on the code. Interested parties have expressed a need for further clarification to provide certainty for its implementation. However the Commission believes that their may be a need to collect performance data with force majeure definitions adopted by TNSPs on a historical basis. The Commission will address the force majeure definition for each TNSP in its revenue-cap decision.

4.5 The incentive cap

The Commission has decided to initially cap the financial incentives available from achieving performance targets to ±1 per cent of the TNSP's revenue-cap. As the incentive scheme is in the early stage of development, the Commission is cautious about exposing TNSPs and customers to excessive risk and uncertainty.

The Commission intends to monitor how performance-incentives are applied. When it is satisfied that the scheme is providing appropriate incentives for TNSPs it will be more confident of increasing the cap above 1 per cent of the revenue-cap.

4.5.1 Risk

Powerlink and TransGrid believe that the performance-incentive scheme will increase risk to be borne by TNSPs. However both note the importance of achieving a fair balance of upside and downside risk.

Powerlink also believes that some design aspects of the scheme may be used to manipulate the level of risk a TNSP faces. They believe that the Commission could use these aspects to increase the power of incentives, and reduce any of these additional risks to the TNSP.

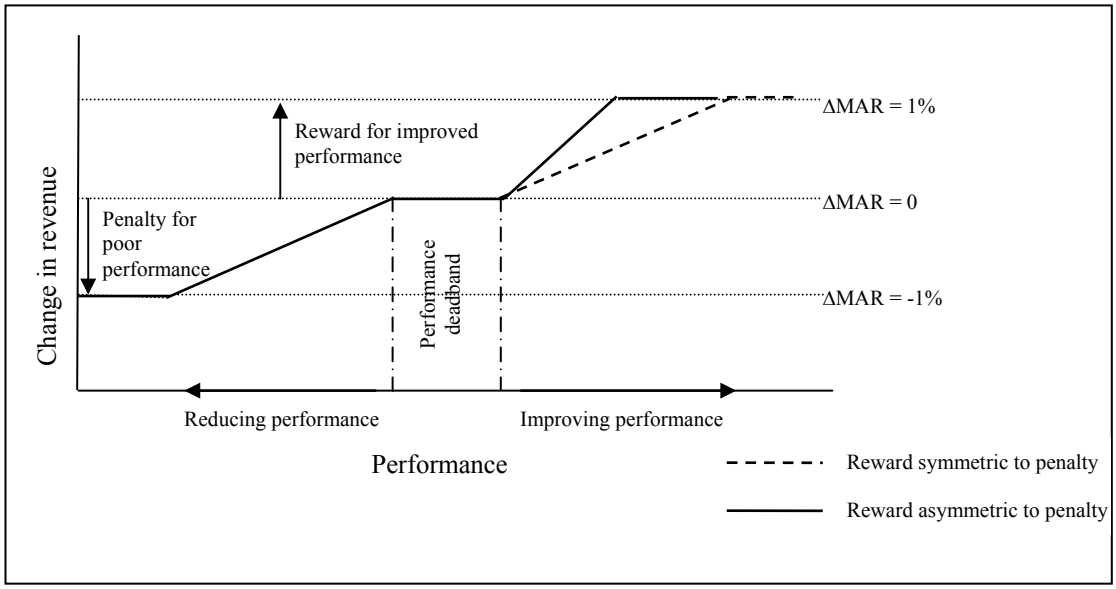
4.5.2 Asymmetric rewards and penalties

The underlying principle of this incentive regime is that it should provide a symmetrical incentives. That is the expected value of reward should equal the expected value of penalty.

However the Commission recognises that TNSPs may already be operating at a high-level of performance. For example, most TNSPs in Australia have a circuit availability rate of more than 99 per cent. At this level, for a particular TNSP, improvements of a certain magnitude could be harder than a similar deterioration. Therefore the gradient of the reward would be greater than that of the penalty, although at the extreme the maximum reward is 1 per cent of the revenue-cap and so is the penalty.

The scheme can also provide for events that can increase or decrease performance. For example, a high-level of capital expenditure to improve performance could result in targets that are higher than the historical average or change the gradient of rewards and penalties (see figure 1).

Figure 4.1. Performance incentive curve



The Commission believes that this approach would help balance the risk associated with achieving performance targets.

The Commission could also set an asymmetrical performance-incentive curve where the rate of the penalty is higher than the rate of reward. It would apply this approach when it believes the TNSP does not have enough incentive to stop its performance from

falling, especially if it has fallen without good reason. While this is unlikely to occur at the moment, conditions may warrant this approach in the future.

4.6 Timing of the financial incentives

The Commission proposes to use a three to six-month lag between the annual performance being measured and the financial incentive being added to or subtracted from the annual revenue limit. Measuring performance measured by calendar years would reduce the difference between measurement and reward/ penalty because most revenue cap decisions are based around the financial year.

Example

The performance measured over the calendar year 2004 would not have a financial impact on the TNSP until the financial year beginning on 1 July 2005. This would give the TNSP enough time to prepare its publication of transmission prices and report its performance results to the Commission.

Six months beginning	Annual Revenue 'AR'	Performance 'S'
1 July 2003	\$100m	
1 January 2004		0.80%
1 July 2004	\$110m	
1 January 2005		0.85%
1 July 2005	\$120m	
1 January 2006		

In this example, the TNSP achieved a service standards factor (S) of 0.80 per cent in 2004. Under this performance-incentive scheme an S factor of 0.80 per cent results in an increase in the annual revenue (AR) of 0.80 per cent, or in this example an increase of \$840 000, as shown below.

Financial incentive ($FI_{1\ January\ 2004}$) $= \left(\frac{(AR_{t-1} + AR_{t-2})}{2} \times S_{ct} \right)$

Note: ($FI_{1\ January\ 2004}$) is the financial incentive based on the TNSP's performance and regulated revenue in the calender year starting 1 January 2004

$= \left(\frac{(AR_{01\ July\ 04} + AR_{01\ July\ 03})}{2} \times S_{01\ January\ 04} \right)$

$= \left(\frac{(110 + 100)}{2} \times 0.008 \right)$

$= \$0.84m$

The dollar amount of financial incentive is based on the average revenue for the year in which the performance was measured, that is, the calendar year 2004. The annual revenue for the calendar year is the simple average of the two adjacent financial years.

The financial incentive of $0.84 million in the above example would not affect the revenue cap until the year beginning 1 July 2005. Hence the maximum allowable revenue cap for that year would be:

$$MAR_{1\ July\ 2005} = AR_{1\ July\ 2005} + FI_{1\ January\ 2004}$$

$$= \$120m + \$0.84m$$

$$= \$120.84m$$

4.7 Compliance issues

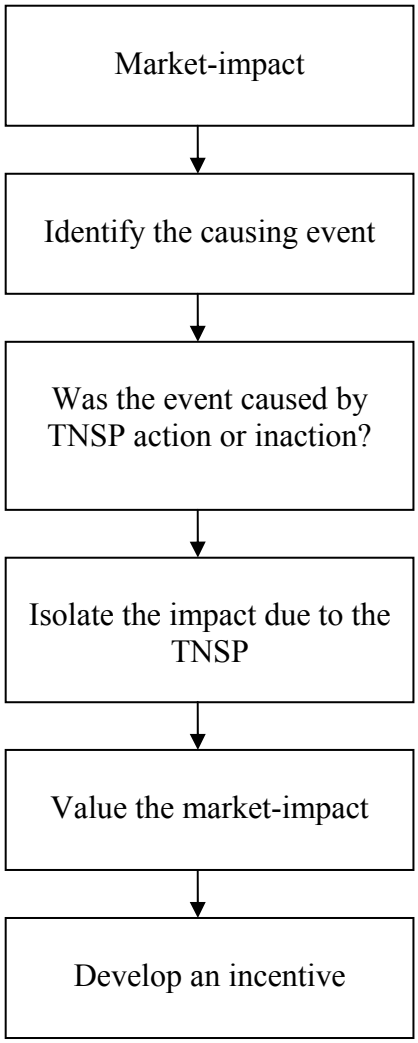
As part of the regulatory regime, TNSPs should report their performance standards to the Commission annually. The Commission would then audit each annual report to ensure that they have complied with the parameters of their respective revenue caps.

The Commission will publish this information as part of its audit process and will probably engage an expert consultant to check the accuracy of the information.

5 Market impact performance measures

The Commission's initial objective in developing a performance-incentive scheme was to include performance measures linking market-impact to TNSP behaviour. For various reasons, the Commission has been unable to fulfil this objective.

Figure 5.1 Market-impact incentives



The main impediment for market-impact measures was the difficulty in establishing the market-impact *caused* by TNSP action (or inaction). Sometimes a market may be impacted by a constraint on the distribution network, generator tripping or another non-transmission event. Any transmission event that occurs at the same time may be just a coincidence.

- The was a lack of data demonstrating the link between an event (eg an outage) and TNSPs behaviour.

- Isolating the market-impact caused by TNSP proved to be difficult to establish, for example

  If a farmer accidentally runs into a transmission tower with his tractor, should the TNSP be held responsible? If the TNSP informs the farmer and his workers about work safety around the transmission tower then it may not be the TNSP's fault. However if the TNSP has never given the farmer such information then it may be considered the TNSP's fault.

In most cases it would be fairly straight forward to determine that the event affected the market. However, the difficulty then arises in assessing the cost to the market. Figure 5.1 shows the process the Commission would need to follow to implement market-impact performance-incentives.

6 Commission's draft decision

In developing these draft guidelines the Commission has relied on SKM's recommendations[6]. The performance-incentive scheme is intended to be a starting point for developing performance-incentives. It is likely that this scheme will be implemented with variations in revenue caps.

TNSPs and the Commission will be able to understand the incentives better in the early stages of the implementation. This will enable the Commission to increase the financial incentives for each TNSP when their revenue caps are reset.

6.1 Way forward

The Commission's service standards scheme provides a practical, though imperfect, solution. It provides a solid foundation to build on when the Commission and other interested parties obtain more experience and further develop information sources.

The Commission will therefore consider refining and amending the existing measures in the future. Some examples of possible future measures are given below.

- Raise the 'cap' on the incentives (above the current 1% of the revenue-cap).
- Take into account the impact of the allowed capital program on historical performance on targets (i.e. 'stretched' targets).
- Take into account the performance of specific interconnectors.
- Take into account the amount of energy delivered.
- Incentives that related to processing connection enquiries.
- Market-impact measures, such as the cost to the market of the outage or constraint caused by a TNSP.

[6] SKM (November 2002), Transmission Network Service Provider (TNSP) Service Standards

Appendix A – TNSP performance targets

Table 1. SKM's recommended performance targets

TNSP	Measure no	Measure	Unit	Weighting factor (%)	Proposed targets				
					Year 1	Year 2	Year 3	Year 4	Year 5
ElectraNet SA	1	Circuit availability (total)	%	35.0	99.25	99.25	99.25	99.25	99.25
	2a	Loss of supply event frequency index > 0.2 min	No	10.0	5	5	5	5	5
	2b	Loss of supply event frequency index > 1.0 min	No	30.0	2	2	2	2	2
	3	Average outage duration	Min	25.0	100	100	100	100	100
EnergyAustralia	1	Circuit availability (total)	%	100.0	95.50	95.50	95.50	95.50	95.50
	3	Average outage duration	Min	0.0	-	-	-	-	-
Powerlink	1a	Circuit availability (critical)	%	15.5	97.15	97.15	97.15	97.15	97.15
	1b	Circuit availability (non-critical)	%	8.5	97.98	97.98	97.98	97.98	97.98
	1c	Circuit availability (peak)	%	15.5	97.45	97.45	97.45	97.45	97.45
	2a	Loss of supply event frequency index > 0.2 min	No	15.5	4	4	4	4	4
	2b	Loss of supply event frequency index > 1.0 min	No	30.0	1	1	1	1	1
	3	Average outage duration	Min	15.0	800	800	800	800	800

TNSP	Measure no	Measure	Unit	Weighting factor (%)	Proposed targets				
					Year 1	Year 2	Year 3	Year 4	Year 5
SPI PowerNet	1	Circuit availability (total)	%	20.0	99.20	99.20	99.20	99.20	99.20
	1a	Circuit availability (critical)(peak)	%	15.0	99.90	99.90	99.90	99.90	99.90
	1b	Circuit availability (non-critical)(peak)	%	5.0	99.85	99.85	99.85	99.85	99.85
	1c	Circuit availability (critical)(intermediate)	%	5.0	99.85	99.85	99.85	99.85	99.85
	1d	Circuit availability (non-critical)(intermediate)	%	5.0	99.75	99.75	99.75	99.75	99.75
	2a	Loss of supply event frequency index > 0.05 min	No	0.0	2	2	2	2	2
	2b	Loss of supply event frequency index > 0.3 min	No	0.0	1	1	1	1	1
	3a	Average outage duration (lines)	Hrs	25.0	10	10	10	10	10
	3b	Average outage duration (transformers)	Hrs	25.0	10	10	10	10	10
Snowy Hydro[7]	1	Circuit availability (total)	%	40.0	99.50	99.50	99.50	99.50	99.50
	1a	Circuit availability (critical)	%	60.0	99.75	99.75	99.75	99.75	99.75
Transend	1	Circuit availability (total)	%	25.0	99.05	99.05	99.05	99.05	99.05
	1a	Circuit availability (transformers)	%	15.0	99.05	99.05	99.05	99.05	99.05
	2a	Loss of supply event frequency index > 0.1 min	No	20.0	15	15	15	15	15
	2b	Loss of supply event frequency index > 2.0 min	No	40.0	2	2	2	2	2

[7] The Commission notes that the Snowy region transmission assets are now owned and operated by TransGrid.

TNSP	Measure no	Measure	Unit	Weighting factor (%)	Proposed targets				
					Year 1	Year 2	Year 3	Year 4	Year 5
Transgrid	1a	Circuit availability (lines)	%	20.0	99.40	99.40	99.40	99.40	99.40
	1a	Circuit availability (transformers)	%	15.0	99.00	99.00	99.00	99.00	99.00
	1b	Circuit availability (reactive plant)	%	10.0	98.50	98.50	98.50	98.50	98.50
	2a	Loss of supply event frequency index > 0.05 min	%	25.0	6	6	6	6	6
	2b	Loss of supply event frequency index >0.4 min		20.0	1	1	1	1	1
	3	Average outage duration	Min	10.0	1500	1500	1500	1500	1500
	4	Transmission constraints (intra-regional)	Hrs	0.0	-	-	-	-	-
	5	Transmission constraints (inter-regional)	Hrs	0.0	-	-	-	-	-

Appendix B – Individual TNSP performance measure definitions

Table 2. Schedule of variations from standard definitions

Measure	ElectraNet SA	EnergyAustralia	Powerlink	SPI PowerNet	Snowy Hydro	Transend	TransGrid
Circuit availability	Data submitted for *transmission line circuits only* - where a line is considered available only when it is in service, as opposed to time during which circuit is available for return to service. No historical data including plant (e.g. power transformers, SVC's, etc.) is available.	Phase introduction of measure due to lack of historical data. Primary measure used only with no sub-measures.	Data submitted for critical circuits, non-critical circuits and peak periods. Sub-measures only used, as primary measure would be only an aggregate of the sub-measures and duplicate the result. Applies to all lines, transformers and reactive devices.	Implemented as per standard definition using primary and sub-measures. Data recorded for existing availability incentive scheme. Excludes third party initiated construction and connection assets.	Implemented as per standard definition using primary and 1 sub-measure	Data submitted for transmission lines and transformers. Sub-measures only used.	Data submitted for transmission lines, transformers and reactive plant. Sub-measures only used, as primary measure would be only an aggregate of the sub-measures and duplicate the result.
Loss of supply event frequency index	Implemented as per standard definition LOSEFI thresholds 0.2 min and 1 min	Not applicable	Implemented as per standard definition LOSEFI thresholds 0.2 min and 1 min	Implemented as per standard definition LOSEFI thresholds 0.05 min and 0.3 min	Not applicable	Implemented as per standard definition LOSEFI thresholds 0.1 min and 2 min	Implemented as per standard definition LOSEFI thresholds 0.05 min and 0.4 min

Measure	ElectraNet SA	EnergyAustralia	Powerlink	SPI PowerNet	Snowy Hydro	Transend	TransGrid
Average outage duration	Data submitted for *customer outages only*. Exit point outages that result in customer interruption is well recorded. For other plant, only time to restore system to safe operating state is recorded.	Not applied due to extreme volatility of data and very limited level of control possible	Data for unplanned outages only on lines, transformers and reactive devices. Effect of any single event capped to 7 days.	Data for unplanned outages only, for lines, transformers separately. Data adjusted for SPI PowerNet force majeure.	Future measure not currently included	Future measure not currently included – historical data shows performance volatile as a result of small number of events. Appropriate target not feasible at this time.	Data for primary measure as an aggregate of all forced and emergency events. Effect of any single event capped to 14 days.
Intra-regional constraints	No intra-regional critical circuits	No data currently available	No data currently available	No data currently available	No data currently available	No data currently available	No data currently available
Inter-regional constraints	No data currently available	No data currently available	No data currently available	No data currently available	No data currently available	No data currently available	No data currently available

Appendix C – Calculation of the MAR

The building block formula is:

AR = return on capital + return of capital + opex + tax

= (WACC * WDV) + D + opex + tax

Where:

AR = annual revenue

WACC = post-tax nominal weighted average cost of capital

WDV = written down (depreciated) value of the asset base

D = depreciation

opex = operating and maintenance expenditure

tax = expected business income tax payable

The MAR is derived by adding the financial incentive component, FI, to the annual revenue. The annual revenue is rolled forward separate from the financial incentive to ensure the effects of the financial incentive are not compounded into future periods.

The annual revenue is rolled forward from one period (i-1) to the next period (i) as follows:

$AR_i = AR_{i-1} \times (1+\Delta CPI_i) \times (1- X)$

To determine the MAR the financial incentive component is added to the annual revenue, that is:

MAR = (allowed revenue) + (financial incentive)

= AR + FI

The formula for the financial incentive is below. There is also an example in section 4.6.

$$FI = \left(\frac{(AR_{t-1} + AR_{t-2})}{2} \times S_{ct} \right)$$

Appendix D – Submissions

TransGrid, Powerlink and NRG Flinders made submissions in response to SKM's final report.

Powerlink submitted:

- it would like some of the measures refined
- it would like some guidance about the application of the force majeure definition
- the Commission should set a date to review the performance-incentive scheme
- that targets and incentives should be reviewed every regulatory reset
- that the constraint measures should be refined and alternative market impact measures should be developed
- the design parameters should be used to balance the risks

TransGrid submitted:

- given the practical problems it supports the general approach
- that it agreed with the first three measures and the 1 per cent financial incentive
- the constraint measures are not appropriate in their current form
- the caps and collars are just as important as reasonable performance targets
- that the force majeure definition should be more explicit
- that the Commission should seek to determine what the market prefers? Certainty of outage times or last minute rescheduling of outages when the planned outage would cause a binding constraint.

NRG Flinders submitted:

- peak and off-peak measures should be applied to all TNSPs
- momentary interruptions should not be excluded from the minutes of 'off-supply' events frequency
- the constraint measures exclude constraints at or near capacity, which removes any incentive on network design
- inter-regional price separation should be used to measure the market impact
- that the Commission's incentive scheme should avoid duplication with state regulators
- whether 1 per cent of the MAR provided enough incentive.

Appendix E – Draft Service Standards Guidelines

Draft Guidelines

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Date: 28 May 2003

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1 Application of the Service Standards Guidelines

These guidelines will:

1.1 be used by the Commission to decide the service standards component of transmission revenue cap decisions as required by the code

1.2 provide guidance about the approach the Commission will take in setting performance-incentives within each transmission revenue cap decision

1.3 provide guidance to TNSPs about the service quality information to provide in its revenue cap application

1.4 provide TNSPs with guidance about the information it should give the Commission annually, to indicate its compliance with the incentive component of the transmission revenue cap decision.

2 The Commission's treatment of service standards

The Commission will include a performance-incentive component in each transmission revenue cap decision.

2.1 The Commission will use the TNSP's performance history to set performance targets within each revenue cap decision. If this performance history is not available the Commission will use other appropriate information to set targets (see 3.2 of these guidelines). The performance measures will include:

- circuit availability
- average outage duration
- frequency of 'off-supply' events
- inter-regional constraints
- intra-regional constraints.

These performance measures are defined in Schedule 1—Definitions of performance measures.

2.2 The Commission may consider additional performance measures.

2.3 The Commission will decide the appropriate performance targets before the regulatory period begins.

2.4 The Commission will decide the financial incentives before the regulatory period begins.

2.5 The Commission may decide collars and caps to limit the financial incentives.

2.6 The Commission may decide to use performance dead-bands around performance targets, where appropriate.

2.7 The Commission will use an open and transparent decision making process.

2.8 The Commission will audit the annual compliance of the TNSP.

3 Information for the revenue cap decision

The following outlines the information the Commission needs to make a transmission revenue cap decision.

3.1 The TNSP's performance for three years before its revenue cap application described in section 2.1 of these draft guidelines

3.2 In the case where the individual TNSP does not provide this information, the Commission may:

- use an appropriate benchmark to set performance targets and incentives for each performance measure
- apply other methods to set performance targets and incentives
- consider the TNSP's request to include additional and/or amendments to performance measures when it makes its transmission revenue cap decision.

3.4 Where the TNSP applies for additional performance measures, it must:

- demonstrate why such the proposed performance measure would be supported by other NEM participants
- provide its performance history of the most recent three years as measured by its proposed performance measure
- recommend performance-incentives for its proposed performance measure
- propose a weight relative to the base performance measures, for the proposed measure.

4 Information for annual compliance

The TNSP should report its annual performance to indicate its compliance with the Commission's revenue cap decision by providing the following information.

4.1 Annual performance for the period of the revenue cap decision as measured by the performance measures decided by the Commission in the revenue cap decision. Performance over time should be reported according to the same definition.

4.2 A description of the events excluded from the performance measurements.

4.3 Calculation of the financial incentive as per the revenue cap decision.

5 Annual performance statement

The Commission intends to annually release a summary of each TNSP's performance results.

5.2 The objective of the annual performance statement is to provide information to the market.

5.3 Looking forward, the statement will include a table of performance results as measured by the performance measures described in section 2.1 of these draft guidelines.

5.4 The Commission will give each TNSP the opportunity to provide a commentary on the reported performance results and include this commentary in the annual performance statement.

Schedule 1—Definitions of performance measures

Measure 1	**Transmission circuit availability**
Sub-measures	Transmission circuit availability (critical circuits) Transmission circuit availability (non-critical circuits) Transmission circuit availability (peak periods) Transmission circuit availability (intermediate periods) Transmission lines Transmission transformers Transmission reactive
Unit of measure	Percentage of total possible hours available.
Source of data	TNSP outage reports and system for circuit availability Agreed Schedule of Critical Circuits and plant Nominated peak/off-peak hours Currently peak-7:00 am to 10:00 pm weekdays Or as otherwise defined by the TNSP/NEMMCO Off peak-all other times May include intermediate time periods and seasonal periods
Definition/formula	Formula: $\left(\frac{\text{No. hours per annum defined (critical/non - critical) circuits are available}}{\text{Total possible no. of defined circuit hours}}\right)\times 100$ Definition: The actual circuit hours available for defined (critical/non-critical) transmission circuits divided by the total possible defined circuit hours available. Note that there shall be an annual review of the nominated list of critical circuits/system components
Exclusions	Exclude unregulated transmission assets. Exclude from 'circuit unavailability' 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) Force majeure events
Inclusions	'Circuits' includes overhead lines, underground cables, power transformers, phase shifting transformers, static var compensators, capacitor banks, and any other primary transmission equipment essential for the successful operation of the transmission system (TNSP to provide lists) Circuit 'unavailability' to include outages from all causes including planned, forced and emergency events, including extreme events

Measure 2	**Loss of supply event frequency index**
Unit of measure	Number of significant events per annum
Source of data	TNSP outage reports and system for circuit availability
Definition/formula	Number of events greater than x system minutes per annum Number of events greater than y system minutes per annum Such that: • a x system minutes event has a return period of one year • a y system minutes event has a return period of two years
Exclusions	Exclude unregulated transmission assets (e.g. some connection assets) Exclude any outages shown to be caused by a fault or other event on a 'third party system' e.g. intertrip signal, generator outage, customer installation Planned outages Force majeure events
Inclusions	All unplanned outages exceeding the specified impact (that is, x minutes and y minutes) Includes outages on all parts of the regulated transmission system Includes extreme events

Measure 3	**Average outage duration**
Sub-measures	Transmission lines Transmission transformers/plant
Unit of measure	Minutes
Source of data	TNSP Outage Reporting System
Definition/formula	Formula: $\frac{\text{Aggregate minutes duration of all unplanned outages}}{\text{No. of events}}$ Definition: The cumulative summation of the outage duration time for the period, divided by the number of outage events during the period
Exclusions	Planned outages Excludes momentary interruptions (< one minute) Force majeure events
Inclusions	Includes faults on all parts of the transmission system (connection assets, interconnected system assets) Includes all forced and fault outages whether or not loss of supply occurs

Measure 4	**Transmission constraints (Intra-regional)**
Unit of measure	Hours per annum
Source of data	NEMMCO and TNSP
Definition/formula	Formula: Aggregate number of hours per annum that binding constraints exist on any part of the interconnected transmission system within a region (excludes interconnectors)
Exclusions	Hours of binding constraints at or near (>95 per cent) the capacity determined by the constraint equation describing all transmission elements in service Excludes connection assets Hours of binding constraints where non-credible generation contingencies coincide with previously notified planned outages Force majeure events
Inclusions	Includes binding constraints requiring 'out-of-merit-order' scheduling of generation or rotational load shedding Includes binding constraints from all causes including planned, forced and emergency events, including extreme events

Measure 5	**Transmission constraints (Inter-regional)**
Unit of measure	Hours per annum
Source of data	NEMMCO and TNSP
Definition/formula	Formula: Aggregate number of hours per annum that binding constraints exist on an inter-regional interconnector. Hours of binding constraints to be accumulated against 'importing' TNSP.
Exclusions	Hours of binding constraints at or near (>95 per cent) the capacity determined by the constraint equation describing all transmission elements in service Hours of binding constraints where non-credible generation contingencies coincide with previously notified planned outages Any event which was clearly as a consequence of action or inaction of another TNSP Force majeure events
Inclusions	Events where binding constraints occur due to unavailability of interconnector support assets Includes binding constraints from all causes including planned, forced and emergency events, including extreme events

Schedule 2—Definition of force majeure

For the purpose of applying the service standards performance-incentive scheme, '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 party affected by any such event, which may include, without limitation, the following:

- 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

- action or inaction by a court, government agency (including denial, refusal or failure to grant any authorisation, despite timely best endeavour to obtain same)

- strikes, lockouts, industrial and/or labour disputes and/or difficulties, work bans, blockades or picketing

- acts or omissions (other than a 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 which in turn is connected to the high voltage grid

- where those acts or omissions affect the ability of the TNSP to perform its obligations under the service standard by virtue of that direct or indirect connection to or use of the high voltage grid.