Proposed

Electricity distribution network service providers

Service target performance incentive scheme

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AUSTRALIAN ENERGY REGULATOR

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1 Nature and authority

1.1 Introduction

This document sets out the Australian Energy Regulator's (AER) *service target performance incentive scheme* for *distribution network service providers* (DNSPs).

1.2 Authority

Clause 6.6.2 of the *National Electricity Rules* (*NER*) requires the AER to develop and publish, in accordance with the *distribution consultation procedures*, this *service target performance incentive scheme*.

1.3 NER requirements

(a) Clauses 6.3.2, 6.8.1(b), 6.8.2(c)(2), 6.8.2(d) and 6.12.1 of the *NER* are relevant clauses for this *scheme*.

(b) In general, these clauses provide:

(1) The *framework and approach paper* should set out the AER's likely approach (together with its reasons for the likely approach), in the forthcoming distribution determination, to how this *scheme* is likely to be specifically applied in making a DNSP's distribution determination.

(2) A DNSP's *regulatory proposal* must contain at least:

(i) as part of the *building block proposal,* a description, including relevant explanatory material, of how the DNSP proposes the *service target performance incentive scheme* should apply for the relevant *regulatory control period*, in accordance with clause S6.1.3(4) of the *NER*

(ii) such information as required under any relevant *regulatory information instrument* issued by the AER.

(c) Clause 11.16.5 of the *NER* sets out transitional matters particular to Ergon Energy and Energex which the AER will take into account and consider in applying this *scheme* in making their 2010–15 distribution determinations.

1.4 Role of this scheme

(a) The role of this *scheme* is to provide incentives for DNSPs to maintain and improve service performance as set out in clause 6.6.2(a) of the *NER*.

(b) To that end, this *scheme*:

(1) defines the performance incentive *scheme parameters* that measure a DNSP's service performance

(2) sets out the requirements with which the values to be attributed to the *parameters* must comply

(3) will be used by the AER to decide the service standards financial reward or penalty component of a distribution determination

(4) provides guidance about the approach the AER will take in reviewing a DNSP's service performance and explains how this will affect a DNSP's allowed revenue.

1.5 AER objectives

The AER objectives for this *scheme* are that the *scheme*:

(a) is consistent with the national electricity objective in section 7 of *National Electricity Law* (*NEL*)

(b) is consistent with clause 6.6.2(b)(3) of the *NER* which requires that in developing and implementing a *service target performance incentive scheme*, the AER must take into account:

(1) the need to ensure that benefits to consumers likely to result from the *scheme* are sufficient to warrant any reward or penalty under the *scheme* for DNSPs

(2) any *regulatory obligation or requirement* to which the DNSP is subject

(3) the past performance of the distribution network

(4) any other incentives available to the DNSP under the Rules or a relevant distribution determination

(5) the need to ensure that the incentives are sufficient to offset any financial incentives the service provider may have to reduce costs at the expense of service levels

(6) the willingness of the customer or end user to pay for improved performance in the delivery of services

(7) the possible effects of the *scheme* on incentives for the implementation of non-network alternatives

(c) promotes transparency in:

(1) the information provided by a DNSP under this *scheme* to the AER

(2) the decisions made by the AER.

1.6 Confidentiality

The AER's obligations regarding confidentiality and the disclosure of information provided to it by a DNSP are governed by the *Trade Practices Act 1974* (Cth), the

NEL and the *NER*. For further information see the ACCC/AER's *Information Policy*, which is available on the AER's website.

1.7 Definitions and interpretation

(a) In this *scheme*, unless otherwise indicated:

  (1) the words and phrases presented in italics have the meaning given to them in:

    (i) the glossary, or

    (ii) if not defined in the glossary, the glossary of the *NER* or section 2 of the *NEL*

  (2) a reference to:

    (i) a 'clause' is a reference to a clause in this *scheme*

    (ii) an 'appendix' is a reference to an appendix in this *scheme*.

(b) Explanations in this *scheme* about why certain information is required are provided for guidance only.

1.8 Processes for revision

(a) The AER may amend or replace this *scheme* from time to time in accordance with clause 6.6.2(c) of the *NER* and the *distribution consultation procedures*.

(b) **[Deleted]**

(c) A DNSP or other person proposing an amendment to this *scheme* must submit the proposed amendment in writing to the AER.

(d) **[Deleted]**

(e) A proposal to amend this *scheme* must demonstrate how the proposed amendment is consistent with the objectives in clause 1.5 of this *scheme*.

(f) A proposal by a DNSP to add or vary a *parameter* must:

  (1) provide information and quantitative data on its performance history covering at least the most recent three to five *financial years* as measured by its proposed *parameter*, or

  (2) where this performance history information is not available, provide an appropriate benchmark or methodology to set *performance targets*, and *incentive rates* for the proposed *parameter*.

1.9 Version history and effective date

A version number and an effective date of issue will identify every version of this *scheme*.

2 The service target performance incentive scheme

2.1 General application of the scheme

(a) Consistent with clause 6.2.6 of the *NER*, this *scheme* applies to the control mechanism for *standard control services*.

(b) The *parameters* and the maximum revenue increment or decrement that a DNSP can receive and the payments to customers that a DNSP must make for a given level of performance are prescribed in this *scheme*.

(c) The obligation of a DNSP to comply with this scheme is additional to and does not derogate from any obligation imposed upon or provided for under *jurisdictional electricity legislation* or *national electricity legislation* applying to a DNSP.

2.2 Proposals to vary the application of the scheme

(a) Where the *scheme* indicates that a DNSP can make a proposal to vary the application of this *scheme*, that proposal should be made in either the *regulatory proposal* in accordance with clause 6.8.2 of the *NER* or any revised *regulatory proposal* in accordance with clause 6.10.3 of the *NER*, and is subject to the requirements of those clauses.

(b) A proposal made by a DNSP must be in writing and:

(1) include the reasons for and an explanation of the proposed variation

(2) demonstrate how the proposed variation is consistent with the objectives in clause 1.5

(3) if appropriate, include the calculations and/or methodology which differ to that provided for under this *scheme*.

(c) The AER will publish its reasons for deciding to accept or reject a proposal by a DNSP in the distribution determination.

2.3 Structure of the scheme

(a) This *scheme* comprises four components:

(1) the 'reliability of supply' component

(2) the 'quality of supply' component

(3) the 'customer service' component

(4) the 'guaranteed service level' (GSL) component.

(b) Each of the four components comprise:

(1) *parameters* that may apply

(2) the requirements with which the values to be attributed to the *parameters* must comply

(3) where applicable, the maximum revenue increment or decrement that a DNSP may receive or the payment to customers that a DNSP must make.

(c) Under the reliability of supply, quality of supply and customer service components of this *scheme*, a DNSP's revenue is increased (or decreased) based on changes in service performance, as assessed by the AER in accordance with this *scheme*.

(d) Under the GSL component, payments are made directly to customers where the service performance received by those customers is worse than a specified threshold.

(e) One or more components of this *scheme* may apply to a DNSP.

2.4 Timing of performance measurement

(a) Where a DNSP's *regulatory control period* commences on:

(1) 1 January, the DNSP must measure its performance in accordance with this *scheme* for each *financial year* starting on that same year within the *regulatory control period* from 1 July until 30 June inclusive

(2) 1 July, the DNSP must measure its performance in accordance with this *scheme* for each *financial year* starting on that same year within the *regulatory control period* from 1 July until 30 June inclusive

(3) a day other than the 1 January or 1 July, the AER will determine the period and the relevant dates across which the DNSP must measure its performance for each *regulatory year* within the *regulatory control period*.

(b) Where a DNSP's *regulatory control period* ceases before a full multiple of *regulatory years* has transpired from the start of the *regulatory control period*, the DNSP must measure its performance in the final *regulatory year* from 1 January or 1 July or as determined by the AER in accordance with clause 2.4(a) as applicable, until the end of the *regulatory control period*.

(c) Where clause 2.4(a)(3) applies, the measured performance may be adjusted to represent annualised performance.

2.5 Revenue at risk

(a) Subject to clause 2.5(b), and excluding the GSL component described in clauses 6.1–6.4, the maximum revenue increment or decrement (the *revenue at risk*) for the *scheme* components in aggregate for each *regulatory year* within the *regulatory control period* shall be 5%, that is, the sum of the *s-factors*

associated with all *parameters* must lie between +5% (the upper limit) and –5% (the lower limit).

(b) A DNSP may propose in accordance with clause 2.2 a different *revenue at risk* to apply where this would satisfy the objectives of the *scheme* described in clause 1.5.

(c) The *s-factor* will be calculated and approved annually by the AER in accordance with appendix C.

(d) The application of a revenue increment or decrement or a portion of the revenue increment or decrement may be delayed for a period of one *regulatory year*, in accordance with appendix C, for the purposes of reducing price variations to customers.

(e) A DNSP proposing a delay in accordance with clause 2.5(d) must provide in writing its reasons and justification for believing that the delay will result in reduced price variations to customers.

(f) This *scheme* does not operate retrospectively. An adjustment to a DNSP's allowed revenue can only be made as a result of its performance in a period where *parameters* and values have been established under the *scheme* for the DNSP in advance of that period.

2.6 Transitional arrangements

(a) The AER recognises that transitional issues may arise from one *regulatory control period* to the next *regulatory control period* if the *scheme's parameters* or other attributes are altered.

(b) The AER will give consideration to an arrangement proposed under this *scheme* that reduces the impact of any transitional issues.

(c) Subject to any transitional arrangements set out in the *NEL* and the *NER*, the AER may consider and decide whether the *scheme* or a component of the *scheme* should be altered to address a transitional issue.

(d) The AER shall decide on the appropriateness of the arrangement to address a transitional issue on the basis of:

(1) materiality of the issue

(2) reasonableness and fairness to the DNSP and customers

(3) consistency with the objectives as set out in clause 1.5.

(e) The AER shall set out in writing its reasons for deciding on the appropriateness of the proposed transitional arrangements.

2.7 Suspension of scheme

(a) At any time during a *regulatory control period* in which a *scheme* applies to a DNSP, the AER may decide whether the *scheme* or a component of the *scheme* should be suspended for a *regulatory control period* or a portion of a *regulatory control period.*

(b) A DNSP proposing that the *scheme* or a component of the *scheme* be suspended must provide in writing its reasons for proposing the suspension.

(c) The AER will publish its reasons for deciding to suspend or to not suspend the *scheme*.

(d) Before making a decision to suspend a *scheme*, the AER will consult with the relevant DNSP and such other persons as it considers may be affected by and/or have an interest in such a decision.

3 Reliability of supply component

3.1 Performance incentive scheme parameters

(a) Appendix A defines the following reliability of supply *parameters*:

(1) *Unplanned SAIDI*

(2) *Unplanned SAIFI*

(3) *MAIFI*.

(b) Each of these *parameters* will apply during a *regulatory control period* except where the AER determines otherwise in its distribution determination for a DNSP.

(c) The electricity distribution network area shall be divided into segments by *network type*.

(d) The network area may be segmented by a method other than *network type* if the alternative method better meets the objectives set out in clause 1.5.

(e) *Performance targets* and *incentive rates* will be applied to each *parameter* segment.

(f) Where the DNSP demonstrates to the AER it is unable to measure *MAIFI*, *a* DNSP may propose a variation to exclude *MAIFI* in accordance with clause 2.2, for a *regulatory control period* or a portion of a *regulatory control period*.

3.2 Values for parameters

3.2.1 Performance targets

(a) The *performance targets* must be based on average performance over the past five *financial years* or other measurement period as described in clause 2.4(a) as appropriate, modified by the following:

(1) any reliability improvements completed or planned where the planned reliability improvements are:

(i) included in the expenditure program proposed by the DNSP in its *regulatory proposal*, or

(ii) proposed by the DNSP, and the cost of the improvements is allowed by the relevant regulator, in the DNSP's previous *regulatory proposal* or regulatory submission, and

(iii) expected to result in a material improvement in supply reliability.

(1A) an adjustment to correct for the *revenue at risk*, that is the sum of the *s-factors* for all *parameters*, to the extent it does not lie between the upper limit and the lower limit in accordance with clause 2.5(a).

(2) any other factors that are expected to materially affect network reliability performance.

(b) Where a DNSP proposes a *performance target* modified in accordance with clause 3.2.1(a), the DNSP must provide in writing an explanation of how the modified *performance target* has been calculated.

(c) Where five *financial years* of data is not available the AER may approve a *performance target* based on an alternative methodology or benchmark where the AER is satisfied that the *performance target* meets the objectives set out in clause 1.5.

3.2.2 Incentive rate

(a) Unless the AER decides otherwise in a relevant distribution determination, the *incentive rates* must be based on the value that customers place on supply reliability, referred to as the 'value of customer reliability' (VCR).

(b) Where the electricity distribution network is divided into segments by *network type*, the VCR to be used to determine *incentive rates* is:

(1) for the CBD segment, $95,700/MWh adjusted for *CPI* from the September quarter 2008 to the start of the relevant *regulatory control period*

(2) for all other *parameter* segments, $47,850/MWh adjusted for *CPI* from the September quarter 2008 to the start of the relevant *regulatory control period*.

(c) Where the electricity distribution network is divided into segments by a method other than *network type* in accordance with clause 3.1(d), the VCR to be used to determine *incentive rates* for *parameter* segments will be based on the VCR to be used under clause 3.2.2(b).

(d) An alternative VCR may apply to a *parameter* segment. Where a DNSP makes a proposal for an alternative VCR to apply, the proposal must be made in accordance with clause 2.2.

(e) The portion of the VCR assigned to the *unplanned SAIDI* and *unplanned SAIFI parameters* is determined by applying an appropriate weighting to each *parameter*.

(f) Where the electricity distribution network is divided into segments by *network type*, the weighting of each *parameter* segment between *unplanned SAIDI* and *unplanned SAIFI* will be:

(1) as set out in Table 1, or

(2) a value determined from an applicable assessment of the value that customers attribute to the level of service measured by each *parameter* proposed by the DNSP in accordance with clause 2.2.

Table 1 – Weightings for unplanned SAIDI and unplanned SAIFI

Parameter segment	Ratio of unplanned SAIDI to unplanned SAIFI
CBD	1.13
Urban	0.97
Rural (short and long)	0.92

(g) Where the electricity distribution network is divided into segments by a method other than *network type* in accordance with clause 3.1(d), the weighting will be a value determined from an applicable assessment of the value that customers attribute to the level of service measured by each *parameter* proposed by the DNSP in accordance with clause 2.2.

(h) The *incentive rate* for *unplanned SAIDI* is calculated by:

(1) multiplying the portion of VCR assigned to *unplanned SAIDI* (in $/MWh) by the average annual energy consumption by *network type* (in MWh) expected for the *regulatory control period*

(2) dividing by the average of the smoothed *annual revenue requirement* for the *regulatory control period* (in $, real referenced to the first *regulatory year* of the *regulatory control period*) as determined by the AER in the relevant distribution determination, and

(3) dividing by the number of minutes in the relevant *financial year*.

(i) The *incentive rate* for *unplanned SAIFI* is calculated by:

(1) multiplying the portion of VCR assigned to *unplanned SAIFI* (in $/MWh) by the average annual energy consumption by *network type* (in MWh) expected for the *regulatory control period*

(2) dividing by the average of the smoothed *annual revenue requirement* for the *regulatory control period* (in $, real referenced to the first *regulatory year* of the *regulatory control period*) as determined by the AER in the relevant distribution determination

(3) dividing by the number of minutes in the relevant *financial year*, and

(4) multiplying by the average of the annual *performance targets* for *unplanned SAIDI* in the *regulatory control period* and divide by the

average of the annual *performance targets* for *unplanned SAIFI* in the *regulatory control period*.[1]

(j) The *incentive rate* for *MAIFI* must be:

(1) 8% of the *incentive rate* for *unplanned SAIFI*, or

(2) a value determined from an applicable assessment of the value that customers attribute to a reduction in *MAIFI* proposed by the DNSP in accordance with clause 2.2.

(k) *Incentive rates* are calculated at the commencement of the *regulatory control period* and apply for the duration of the *regulatory control period*.

3.3 Exclusions

(a) The following may be excluded when calculating the revenue increment or decrement under the *scheme*:

(1) any day (midnight to midnight) where daily *unplanned SAIDI* for the electricity distribution network exceeds the *major event day* threshold as set out at appendix D

(2) *load shedding* due to a generation shortfall

(3) automatic *load shedding* due to the operation of under frequency relays following the occurrence of a power system under-frequency condition

(4) *load shedding* at the direction of the National Electricity Market Management Company (NEMMCO) or a *system operator*

(5) load interruptions caused by a failure of the shared transmission network

(6) load interruptions caused by a failure of transmission connection assets except where the interruptions were due to inadequate planning of transmission connections and the DNSP is responsible for transmission connection planning

(7) load interruptions caused by the exercise of any obligation, right or discretion imposed upon or provided for under *jurisdictional electricity legislation* or *national electricity legislation* applying to a DNSP.

[1] This figure will equate to the average *CAIDI* in the *regulatory control period*. *Unplanned SAIFI* must be determined to three decimal places to avoid rounding errors.

4 Quality of supply component

4.1 Performance incentive scheme parameters

No quality of supply *parameters* are currently specified for inclusion in the *scheme*.

5 Customer service component

5.1 Performance incentive scheme parameters

(a) Appendix A defines the following customer service *parameters*:

(1) telephone answering

(2) streetlight repair

(3) new connections

(4) response to written enquiries.

(b) The 'telephone answering' *parameter* referred to in clause 5.1(a)(1) will apply during a regulatory control period except where the AER determines otherwise in its distribution determination for a DNSP.

(c) The 'streetlight repair' and/or 'new connections' and/or 'response to written enquiries' *parameters* referred to in clauses 5.1(a)(2)–5.1(a)(4) may be proposed by a DNSP, in accordance with clause 2.2, to apply during the relevant *regulatory control period*.

(d) The AER may require a DNSP to apply any or all of the *parameters* referred to in clauses 5.1(a)(2)–5.1(a)(4) during the relevant *regulatory control period* where the AER considers it would satisfy the objectives of the *scheme* described in clause 1.5.

(e) The AER will only require a DNSP to include a *parameter* referred to in clauses 5.1(a)(2)–5.1(a)(4) during the relevant *regulatory control period* where the AER has classified the customer service being measured by the *parameter* as a *standard control service* in the relevant distribution determination.

(f) *Performance targets* and *incentive rates* will be applied to each *parameter*.

5.2 Revenue at risk

(a) Subject to clause 5.2(c), the maximum revenue increment or decrement (the *revenue at risk*) for all customer service *parameters* in aggregate for each *regulatory year* of the *regulatory control period* shall be 1%, that is, the sum of the *s-factors* associated with all customer service *parameters* must lie between +1% (the upper limit) and –1% (the lower limit).

(b) Subject to clause 5.2(c), the maximum revenue increment or decrement (the *revenue at risk*) for an individual customer service *parameter* for each *regulatory year* of the *regulatory control period* shall be 0.5%, that is, the *s-factor* associated with an individual customer service *parameter* must lie between +0.5% (the upper limit) and –0.5% (the lower limit).

(c) A DNSP may propose in accordance with clause 2.2 a different *revenue at risk* from that referred to in clauses 5.2(a) and/or 5.2(b) to apply where this would satisfy the objectives of the *scheme* described in clause 1.5.

5.3 Values for parameters

5.3.1 Performance targets

(a) The *performance targets* must be based on average performance over the past five *financial years* or other measurement period as described in clause 2.4(a) as appropriate.

(b) The *performance targets* are to be modified by the following, where applicable:

(1) any customer service improvements completed or planned where the planned customer service improvements are:

(i) included in the expenditure program proposed by the DNSP in its *regulatory proposal*, or

(ii) proposed by the DNSP, and the cost of the improvements is allowed by the regulator, in the DNSP's previous *regulatory proposal* or regulatory submission, and

(iii) where the customer service improvements are expected to result in a material improvement in customer service.

(1A) an adjustment to correct for the *revenue at risk*, that is the sum of the *s-factors* for all *parameters*, to the extent it does not lie between the upper limit and the lower limit in accordance with clause 2.5(a).

(1B) an adjustment to correct for the *revenue at risk*, that is the sum of the *s-factors* for all customer service *parameters*, to the extent it does not lie between the upper limit and the lower limit in accordance with clause 5.2(a).

(1C) an adjustment to correct for the *revenue at risk*, that is the *s-factor* associated with an individual customer service *parameter*, to the extent it does not lie between the upper limit and the lower limit in accordance with clause 5.2(b).

(2) any other factors that are expected to materially affect the service being measured by the *parameter*.

(c) Where a DNSP makes a proposal to vary a *performance target* in accordance with clause 5.3.1(b), the proposal must be made in accordance with clause 2.2.

(d) Where five years of data is not available the AER may approve a *performance target* based on an alternative methodology or benchmark where the AER is satisfied that the *performance target* meets the objectives set out in clause 1.5.

5.3.2 Incentive rate

(a) Unless the AER decides otherwise, the *incentive rate* for the 'telephone answering' *parameter* must be either:

(1) – 0.040% per unit of the 'telephone answering' *parameter*, or

(2) a value determined from an applicable assessment of the value that customers attribute to the level of service proposed.

(b) Where practicable, the *incentive rates* for the *parameters* referred to in clauses 5.1(a)(2)–5.1(a)(4) should be based on the value that customers attribute to the level of service proposed.

(c) Where the requirements in clause 5.3.2(a) cannot be complied with, the DNSP must propose an appropriate alternative methodology for setting an *incentive rate* that is consistent with the objectives set out in clause 1.5.

(d) Where a DNSP makes a proposal for the purposes of clause 5.3.2(c), the proposal must be made in accordance with clause 2.2.

(e) *Incentive rates* are calculated at the commencement of the *regulatory control period* and these rates apply for the duration of the *regulatory control period*.

5.4 Exclusions

(a) Where the impact of an event is to be excluded from the calculation of a revenue increment or decrement under the 'reliability of supply' component as provided for in clause 3.3, the impact of that event may be excluded from the calculation of a revenue increment or decrement for the 'telephone answering' *parameter* as appropriate.

(b) For other customer service *parameters*, the DNSP may make a proposal for exclusions if appropriate, as long as the proposal is consistent with the objectives set out in clause 1.5.

(c) Where a DNSP makes a proposal for the purposes of clause 5.4(b), the proposal must be made in accordance with clause 2.2.

6 Guaranteed service level component

6.1 Application

(a) Where *jurisdictional electricity legislation* imposes an obligation on a DNSP to operate a guaranteed service level scheme, clauses 6.2–6.4 do not apply to the DNSP.

(b) Should *jurisdictional electricity legislation* be altered within the current *regulatory control period* to no longer impose an obligation on a DNSP to operate a guaranteed service level scheme, the AER may decide to apply clauses 6.2–6.4 to the DNSP.

6.2 Performance incentive scheme parameters

(c) Appendix A defines the following *parameters*:

(1) frequency of interruptions, and

(2) streetlight repair, and

(3) new connections, and

(4) notice of *planned interruptions*, and

(5) duration of interruptions; or

(6) total duration of interruptions.

(d) Each of these *parameters* will apply during a *regulatory control period* except where the AER determines otherwise in a relevant distribution determination.

(e) A *parameter* should not apply during a *regulatory control period* where:

(1) the DNSP cannot measure service performance, or

(2) insufficient historical data is available to determine the DNSP's current service performance, or

(3) the cost of applying the *parameter* during the *regulatory control period* is likely to be greater than the cost customers are willing to pay for the inclusion of the measure, or

(4) the AER has classified the service being measured by the *parameter* as a *standard control service* in the relevant distribution determination.

(f) Customers may be segmented into groups by geographic area or by feeder type or by some other method. Different thresholds and GSL payment amounts may apply for each customer group.

6.3 Values for parameters

6.3.1 Thresholds

(a) The thresholds for the *parameters* are shown in Table 2.

Table 2 – GSL Parameter thresholds

Parameter	Threshold
Frequency of interruptions	CBD and Urban feeders – 9 interruptions Rural (short and long) feeders – 15 interruptions
Duration of interruptions	CBD and urban feeders – 12 hours Rural (short and long) feeders – 18 hours
Total duration of interruptions	Level 1 – 20 hours Level 2 – 30 hours Level 3 – 60 hours
Streetlight repair	5 days
New connections	Connection on or before the day agreed
Notice of planned interruptions	4 days, excluding Saturday, Sunday and any Public Holiday applicable to the customer's location

(b) A DNSP may propose or the AER may require a different threshold for a *parameter* where:

(1) the forecast cost of GSL payments is likely to be greater than the cost customers are prepared to pay, or

(2) the application of the threshold in Table 2 would require the DNSP to undertake expenditure in excess of the expected benefit to customers, or

(3) the services currently provided by the DNSP are significantly better than the threshold level for the *parameter*.

(c) Where a DNSP makes a proposal for the purposes of clause 6.3.1(b), the proposal must be made in accordance with clause 2.2.

6.3.2 Payment

(a) A GSL payment must be made to a customer when the service performance to that customer exceeds the GSL *parameter* threshold.

(b) Any payments required to be made by the DNSP to a customer under clause 6.3.2(a) must be paid by the DNSP as soon as practicable after the obligation arises.

(c) A DNSP is required to monitor service levels to promptly detect when actual service performance has exceeded the GSL *parameter* threshold.

(d) A DNSP may apply to the AER for an exclusion from clause 6.3.2(a) where the DNSP does not have the systems required to detect when a service exceeds the threshold.

(e) Where a DNSP has applied for an exclusion from clause 6.3.2(a), the AER may grant the DNSP an exemption from the requirement to make payments in accordance with clause 6.3.2(a) for a period of up to one *regulatory year*.

(f) During the period of an exemption granted by the AER, the DNSP must make GSL payments when it becomes aware that the service provided has exceeded the GSL *parameter* threshold. This includes when a customer shows reasonable evidence that a GSL *parameter* threshold has been exceeded.

(g) A DNSP must make GSL payments by:

(1) applying a credit to the customer's account, or

(2) posting or delivering a cheque to the customer, or

(3) electronic transfer of the payment to the customer's bank account, or

(4) a method agreed with the customer.

6.3.3 Payment amount

(a) GSL payments are not intended to compensate customers for loss suffered as a result of poor service. GSL payments are intended to be an acknowledgement of poor service.

(b) Payment amounts are shown in Table 3.

Table 3 – GSL Payment Amounts

Parameter	**Payment Amount** **A$ (including GST if applicable)**
Frequency of interruptions	$80
Duration of interruptions	$80
Total duration of interruptions	Level 1 – $100 Level 2 – $150 Level 3 – $300
Streetlight repair	$25
New connections	$50 per day to a maximum of $300
Notice of planned interruptions	$50

(c) A DNSP may propose or the AER may require alternative payment amounts where:

(1) the forecast number of payments is small and the DNSP or AER considers that a larger payment would provide a better incentive to meet the GSL targets, or

(2) the forecast number of payments is large and the DNSP or AER considers that a smaller payment would constrain the total forecast cost of GSL payments to a level that customers are prepared to pay.

(d) A DNSP may propose or the AER may require additional payment amounts in conjunction with additional thresholds for any *parameter*. That is, the DNSP or AER may propose that a customer who experiences a level of service that exceeds a second threshold is paid a larger amount than a customer who experiences a level of service that exceeds the specified threshold.

(e) Alternative payment amounts proposed under clauses 6.3.3(c) and 6.3.3(d) should recognise the intent of GSL payments as outlined in clause 6.3.3(a).

6.4 Exclusions

(a) Despite clause 6.3.2, a DNSP is not required to make GSL payments when the GSL threshold for the frequency of interruptions *parameter* or the duration of interruptions *parameter* or the total duration of interruptions *parameter* is exceeded as a result of any of the following events:

(1) any day (midnight to midnight) where daily *unplanned SAIDI* for the electricity distribution network exceeds the *major event day* threshold as set out in appendix D

(2) *load shedding* due to a generation shortfall

(3) automatic *load shedding* due to the operation of under frequency relays following the occurrence of a power system under-frequency condition

(4) *load shedding* at the direction of NEMMCO or a *system operator*

(5) load interruptions caused by a failure of the shared transmission network

(6) load interruptions caused by a failure of transmission connection assets except where the interruptions were due to inadequate planning of transmission connections and the DNSP is responsible for transmission connection planning

(7) load interruptions caused by the exercise of any obligation, right or discretion imposed upon or provided for under *jurisdictional electricity legislation* or *national electricity legislation* applying to a DNSP.

7 Information and reporting requirements

7.1 Information for annual compliance

(a) A DNSP must report on its annual performance against the *parameters* applicable to it as set out in the relevant distribution determination in accordance with any applicable *regulatory information instrument*.

(b) A DNSP must provide details annually of each of the exclusions under clauses 3.3, 5.4 and 6.4 that has applied in calculating the revenue increment or decrement or GSL payments made under the *scheme*.

7.2 Annual review

(a) The AER may review the service performance information relevant to the *scheme* that a DNSP is required to provide annually under any applicable *regulatory information instrument*.

(b) In undertaking the review referred to in clause 7.2(a), the AER may consider:

(1) the appropriateness and accuracy of the DNSP's data collection, reporting and recording processes and systems

(2) whether the performance data reported is consistent with the *parameter* definitions contained in appendix A and other elements contained in appendix C and the distribution determination

(3) whether the revenue increment or decrement proposed by the DNSP has been calculated in accordance with this *scheme*.

(c) The AER will advise the DNSP of the outcome of any review conducted under clause 7.2(a).

7.3 Changes in data collection

(a) A DNSP must notify the AER in writing as soon as it becomes aware of, or plans any material changes to data collection or recording methods used by the DNSP to record and report on the DNSP's performance against the DNSP's *parameters*.

(b) Any notice provided to the AER under clause 7.3(a) must include an assessment of whether the changes to the data collection or recording methods no longer allow the DNSP to accurately record and report on the DNSP's performance against one of the *parameters* applicable to the DNSP.

(c) The AER may amend this *scheme* as a result of the DNSP's new data collection methods.

Appendix A: Performance incentive scheme parameters—standard definitions

Reliability component

Parameter	Definition
Unplanned SAIDI (System Average Interruption Duration Index)	The sum of the duration of each unplanned sustained customer interruption (in minutes) divided by the total number of distribution customers. Unplanned SAIDI excludes momentary interruptions (one minute or less).
Unplanned SAIFI (System Average Interruption Frequency Index)	The total number of unplanned sustained customer interruptions divided by the total number of distribution customers. Unplanned SAIFI excludes momentary interruptions (one minute or less). SAIFI is expressed per 0.01 interruptions.
MAIFI (Momentary Average Interruption Frequency Index)	The total number of customer interruptions of one minute or less, divided by the total number of distribution customers.

Notes:

1. The number of distribution customers is calculated as the average of the number of customers at the beginning of the reporting period and the number of customers at the end of the reporting period.

2. Unmetered Street Lighting supplies are excluded. Other unmetered supplies can either be included or excluded from the calculation of reliability measures.

3. Inactive accounts are excluded.

4. In calculating MAIFI, each operation of an automatic reclose device is counted as a separate interruption. Sustained interruptions which occur when a recloser locks out after several attempts to reclose should be deleted from MAIFI calculations.

Network type	Definition
CBD feeder	a feeder supplying predominantly commercial, high-rise buildings, supplied by a predominantly underground distribution network containing significant interconnection and redundancy when compared to urban areas.
urban feeder	a feeder, which is not a CBD feeder, with actual maximum demand over the reporting period per total feeder route length greater than 0.3 MVA/km.
short rural feeder	a feeder which is not a CBD or urban feeder with a total feeder route length less than 200 km.
long rural feeder	a feeder which is not a CBD or urban feeder with a total feeder route length greater than 200 km.

Quality component

No *parameters* are defined.

Customer and GSL components

Parameter	Definition	Unit
Duration of interruptions	The duration of an unplanned interruption experienced by a customer.	minutes
Frequency of interruptions	The number of unplanned sustained interruptions experienced by a customer in a year.	number
New connections	The connection of electricity supply to a new customer's premises on or before the date agreed to with the customer. For the 'customer service' component, this is expressed as a percentage of the total number of new connections. Note: Does not include re-energisation of existing premises.	number or percentage of total new connections
Notice of planned interruptions	The delivery of notice to customers of a planned interruption on or before the threshold.	number
Response to written enquiries	The provision of a written response to a written enquiry on or before the defined threshold. Written enquiries and responses include email. For the 'customer service' component, this is expressed as a percentage of the total number of written enquiries.	percentage of total written enquiries
Streetlight repair	For the 'GSL' component, the repair of a public light within 'x' business days of each fault report or a period otherwise agreed between the distributor and the person, if that person is the occupier of an immediately neighboring residence or is the proprietor of an immediately neighboring business. For the 'customer service' component, the repair of a public light within 'x' business days of each fault, expressed as a percentage of the total number of public light faults.	number or percentage of total faults
Telephone answering	Calls to the fault line answered in 30 seconds where the time to answer a call is measured from when the call enters the telephone system of the call centre (including that time when it may be ringing unanswered by any response) and the caller speaks with a human operator, but excluding the time that the caller is connected to an automated interactive service that provides substantive information. This measure does not apply to: • calls to payment lines and automated interactive services; • calls abandoned by the customer within 30 seconds of the call being queued for response by a human operator. Where the time in which a telephone call is abandoned is not measured, then an estimate of the number of calls abandoned within 30 seconds will be determined by taking 20 per cent of all calls abandoned.	percentage of total calls

	Note: Being placed in a queuing system (automated or otherwise) does not constitute a response.	
Total duration of interruptions	The sum of the durations of all unplanned interruptions experienced by a customer in a year.	minutes

Appendix B: Calculating incentive rates

Clauses 3.2.2 and 5.3.2 set out how *incentive rates* are to be determined for the reliability of supply and customer service components of the *scheme*.

The *incentive rate* formulae for the *unplanned SAIDI* and *unplanned SAIFI parameters* are shown below:

$$ir_{SAIFI,n} = \frac{\left(\frac{\left(\frac{VCR_n * (1+CPI)}{1+w_n}\right) * C_n}{R}\right)}{(365.25*24*60)} * \frac{SAIDI_n}{SAIFI_n} * 0.01 * 100 \quad \text{..... (1)}$$

$$ir_{SAIDI,n} = \frac{\left(\frac{\left(VCR_n * (1+CPI) * \left(1 - \left(\frac{1}{1+w_n}\right)\right)\right) * C_n}{R}\right)}{(365.25*24*60)} * 100 \quad \text{..... (2)}$$

where:

ir	is the *incentive rate* (expressed in a percentage per unit of the *parameter*)
n	is the *network type*
VCR_n	is the VCR for *network type* n escalated to the start of the relevant *regulatory control period*
w_n	is the *network type* weighting for the *unplanned SAIDI* or *unplanned SAIFI parameter* from table 1 in the scheme
C_n	is the average annual energy consumption for *network type* n
R	is the average of the smoothed *annual revenue requirement* for the relevant *regulatory control period*
$SAIDI_n$	is the average of the *unplanned SAIDI* targets in the *regulatory control period* for *network type* n
$SAIFI_n$	is the average of the *unplanned SAIFI* targets in the *regulatory control period* for *network type* n.

Worked example

For the *unplanned SAIFI* parameter, assume that a DNSP has the attributes set out in the following table.

Attribute	**Value**
Start of regulatory period	2010
Network type	Urban feeders
VCR	$47,850 per MWh ($2008)
Average annual energy consumption by network type (i.e. urban feeders)	2,000,000 MWh
Average smoothed annual revenue requirement	$300,000,000
Average unplanned SAIFI target – urban feeders	1.150
Average unplanned SAIDI target – urban feeders	70.0

The *incentive rate* is determined in accordance with clause 3.2.2(i) as follows:

(1) determine the VCR at 2010:

$$47{,}850 * (1 + CPI) = (e.g.)\$52{,}000 / \text{MWh}$$

(2) determine the portion of VCR assigned to the *unplanned SAIFI parameter* for urban feeders *network type* from table 1:

$$\frac{52{,}000}{(1 + 0.97)} = 26{,}395.94$$

(3) multiply the portion of the VCR assigned to *unplanned SAIFI* (in $/MWh) by the average annual energy consumption for the *network type* (urban feeders) (in MWh) expected for the *regulatory control period*. Divide by the average of the smoothed *annual revenue requirement* for each *regulatory year* of the *regulatory control period* (in $, real referenced to the first *regulatory year* of the *regulatory control period*) as determined by the AER in the relevant distribution determination:

$$\frac{(26{,}395.94 * 2{,}000{,}000)}{300{,}000{,}000} = 175.97$$

(4) divide by the number of minutes in the relevant *financial year*:

$$\frac{175.97}{(365.25 * 24 * 60)} = 0.00033$$

(5) multiply by the average of the annual *performance targets* for *unplanned SAIDI* and divide by the average of the annual *performance targets* for *unplanned SAIFI* in the *regulatory control period*:

$$0.00033 * \left(\frac{70.0}{1.150} \right) = 0.0204\%$$

(6) expressed as a percentage for each 0.01 interruptions away from the *performance target*, the *incentive rate* is:

$0.02037 * 0.01 * 100 = 0.0204\%$ per unit of SAIFI (where SAIFI is measured in 0.01 interruptions)

where:

$$ir_{SAIFI,urban} = \frac{\left(\frac{\left(\frac{47850 * (1 + 0.0867)}{1 + 0.97} \right) * 2{,}000{,}000}{300{,}000{,}000} \right)}{(365.25 * 24 * 60)} * \frac{70.0}{1.150} * 0.01 * 100 = 0.0204\% \text{ per unit of SAIFI}$$

Similarly, the *incentive rate* for the *unplanned SAIDI* urban *network type* in this example is:

$$ir_{SAIDI,urban} = \frac{\left(\frac{\left(47850 * (1 + 0.0867) * \left(1 - \left(\frac{1}{1 + 0.97} \right) \right) \right) * 2{,}000{,}000}{300{,}000{,}000} \right)}{(365.25 * 24 * 60)} * 100 = 0.0325\% \text{ per unit of SAIDI}$$

Appendix C: Adjustments to allowed revenue

Calculating allowed revenue

Under the reliability of supply, quality of supply and customer service components of the *scheme*, a DNSP's annual revenue (through average tariffs for all customers) is increased (or decreased) based on changes in service performance from year to year. The *s-factor* applies only to *standard control services*.

Clause 6.2.6 of the *NER* requires that the control mechanism for *standard control services* must be of the prospective CPI minus X form, or some incentive-based variant of the prospective CPI minus X form. The *s-factor*, expressed as a percentage change in revenue, is incorporated into the control mechanism in accordance with the *NER* and the DNSP's distribution determination.

The value of the *s-factor* for each *regulatory year* of a *regulatory control period* is calculated in accordance with this appendix C.

Applying the s-factor to the control mechanism

An *s-factor* must be added to the control mechanism such that allowed revenue is incremented when service performance is better than *performance targets* and decremented when service performance is worse than *performance targets*.

The *s-factor* is added to the control mechanism in the following way. The *s-factor* is incorporated into the general form of a control mechanism as another multiplier, alongside the *CPI* minus X adjustments to the revenue (in the case of a fixed revenue cap), prices (in the case of a weighted average price cap), or average revenue (in the case of an average revenue cap).

The calculation is of the general form:

$$(1 + \Delta CPI_t) * (1 + S_t) \quad \text{..... (1)}$$

where:

ΔCPI is the annual percentage change in the consumer price index

S is the *s-factor* expressed as a percentage of revenue (or prices)

t is the *regulatory year*.

The exact way the *s-factor* is incorporated into the control mechanism will be set out in the DNSP's distribution determination.

Under a fixed revenue cap the allowed revenue for the first *regulatory year* is generally set equal to the smoothed revenue cap (taken from the post-tax revenue model) for the first *regulatory year* of the *regulatory control period*. The allowed revenue for each remaining *regulatory year* of the *regulatory control period* is determined by adjusting the previous *regulatory year's* allowed revenue for the annual percentage change in *CPI* and the X factor. The *s-factor* is incorporated into a

fixed revenue cap equation by adjusting the previous *regulatory year's* allowed revenue for the annual percentage change in *CPI*, the X factor and the *s-factor*:

$$AR_{t+1} = AR_t * (1 + \Delta CPI_t) * (1 - X_{t+1}) * (1 + S_t) \quad \text{(1A)}$$

where:

AR is the allowed revenue for a regulatory year

ΔCPI_t is the annual percentage change in the *CPI* from year t–1 to year t

X is the smoothing factor

S is the *s-factor*.

Under an average revenue cap the maximum allowable average revenue or revenue yield is a constraint on the revenue to be recovered from the sale of a unit of energy (typically expressed as dollars per megawatt hour). The average revenue cap equals the maximum allowable average revenue multiplied by the quantity of energy delivered. The maximum allowable average revenue for the next *regulatory year* of the *regulatory control period* is determined by adjusting the previous *regulatory year's* maximum allowable average revenue for the annual percentage change in *CPI* and the X factor. The *s-factor* is incorporated into an average revenue cap equation by adjusting the previous *regulatory year's* maximum allowable average revenue for the annual percentage change in *CPI*, the X factor and the *s-factor*:

$$MAAR_{t+1} = MAAR_t * (1 + \Delta CPI_t) * (1 - X_{t+1}) * (1 + S_t) \quad \text{(1B)}$$

where:

MAAR is the maximum allowable average revenue for a *regulatory year*.

A weighted average price cap regulates the tariffs of a basket of services where the individual tariff for each service is not directly controlled, but an overall constraint is imposed on the weighted average of all the tariffs that make up the basket. The tariffs that make up the basket in the next *regulatory year* of the *regulatory control period* are constrained by the previous *regulatory year's* tariffs adjusted for the annual percentage change in *CPI* and the X factor. The s-factor is incorporated into the weighted average price cap by adjusting the previous *regulatory year's* tariffs for the annual percentage change in *CPI*, the X factor and the *s-factor*:

$$\frac{\sum_{i=1}^{n}\sum_{k=1}^{m} p_{ik}^{t+1} * q_{ik}^{t-1}}{\sum_{i=1}^{n}\sum_{k=1}^{m} p_{ik}^{t} * q_{ik}^{t-1}} \leq (1 + \Delta CPI_t) * (1 - X_{t+1}) * (1 + S_t) \quad \text{(1C)}$$

Under a weighted average price cap the DNSP has *n* relevant tariff classes which each have *m* components:

p_{ik}^{t+1} is the proposed price for component *k* of the relevant tariff *i* for year $t+1$

p_{ik}^{t} is the actual price for component *k* of the relevant tariff *i* for year *t* (the year which immediately precedes year $t+1$)

q_{ik}^{t-1} is the audited quantity of component *k* of the relevant tariff *i* that was charged by the DNSP in year $t-1$(the year immediately preceding year *t*)

Removing the effect of the s-factor

The *s-factor* alters revenues (or prices) in the control mechanism for one *regulatory year*. Hence a mechanism is required to remove the revenue increment or decrement from the previous *regulatory year*.

The calculation to remove the revenue increment or decrement is:

$$S_t = \frac{(1+S_t^{'})}{(1+S_{t-1}^{'})} - 1 \quad \text{..... (2)}$$

where:

$S_t^{'}$ is the sum of the *s-factors* for all *parameters* for the *regulatory year t*, as determined in equation (3)

S'_{t-1} is the sum of the *s-factors* for all *parameters* for the *regulatory year t*-1, as determined in equation (3).

For the first time this scheme is first applied to a DNSP, S'_{t-1} is defined to be equal to zero in the first *regulatory year* of the first *regulatory control period*.

The operation of the s-bank mechanism

The *s-factor* may cause volatility in prices when service performance varies about the target performance from year to year. A DNSP may delay the action of a revenue increment or decrement or a portion of the revenue increment or decrement for one *regulatory year* using the *s-bank* mechanism.

The *s-bank* mechanism is incorporated into the calculation as follows:

$$S'_t = (S''_t - Sb_t) + Sb_{t-1} \quad \text{..... (3)}$$

where:

$S_t^{''}$ is the sum of the *s-factors* for all *parameters* for year *t*, before banking, as determined in equation (4A) and (4B)

Sb_t is the *s-bank* for the current *regulatory year t*

Sb_{t-1} is the *s-bank* for the previous *regulatory year t*–1.

Revenue at risk

The sum of the *s-factors* for all *parameters* (S_t'') is not to exceed or fall below, respectively, the upper or lower percentage limits of the *revenue at risk* as specified in clause 2.5(a) or as varied in accordance with clause 2.5(b) and specified in the relevant distribution determination.

Equation (4A) below places limits on the sum of the raw *s-factors* for all *parameters* (S_t''') to achieves this. If the sum of the raw *s-factors* for all *parameters* is equal to either the upper limit or lower limit or within the *revenue at risk* (e.g. equal to or between ± 5 per cent) then $S_t''' = S_t''$.

$$S_t''' = \min(\max(S_t^{ROS} + S_t'^{CS}, \underline{S}), \overline{S}) \quad \text{(4A)}$$

where:

$\underline{S}$ is the lower limit of the overall *revenue at risk* in accordance with clause 2.5

$\overline{S}$ is the upper limit of the overall *revenue at risk* in accordance with clause 2.5

S_t^{ROS} is the sum of the raw *s-factors* for the reliability of supply (ROS) *parameters*, as determined in equation (5A)

$S_t'^{CS}$ is the sum of the *s-factors* for all customer service (CS) *parameters*, as determined in equation (4B).

The sum of the *s-factors* for all customer service *parameters* ($S_t'^{CS}$) is not to exceed or fall below, respectively, the upper or lower percentage limits of the *revenue at risk* as specified in clause 5.2(a). Equation (4B) below places limits on the sum of the raw *s-factors* for all customer service *parameters* to achieve this.

$$S_t'^{CS} = \min(\max(S_t^{CS}, \underline{S}^{CS}), \overline{S}^{CS}) \quad \text{(4B)}$$

where:

$\underline{S}^{CS}$ is the lower limit of the *revenue at risk* for all customer service (CS) parameters in accordance with clause 5.2(a)

$\overline{S}^{CS}$ is the upper limit of the *revenue at risk* for all customer service parameters as set out in clause 5.2(a)

S_t^{CS} is the sum of the raw *s-factors* for customer service *parameters*, as determined in equation (5B).

The service standards factor (s-factor)

The *s-factor* for each *parameter* is calculated by comparing a DNSP's performance against its *parameters* and the *performance targets* and *incentive rates* included in the DNSP's distribution determination within a *financial year* or other period as determined under clause 2.4.

The raw *s-factor* is the sum of the *s-factors* for each *parameter*. Equation (4A) (4B) ensures that the raw *s-factor* result can not exceed the percentage of *revenue at risk* specified in clause 2.5 or the relevant distribution determination.

The sum of the raw *s-factors* for all reliability of supply *parameters* is calculated as follows:

$$S_t^{ROS} = \sum_p ir_p * [Tar_{p,t-1} - Act_{p,t-1}] \quad \text{(5A)}$$

where:

S_t^{ROS} is the sum of the raw *s-factors* for all reliability of service(ROS) *parameters*

p is the reliability of service performance *parameter*

ir_p is the *incentive rate* for *parameter p*

Act_p is the actual performance for *parameter p*

Tar_p is the target performance for *parameter p*

t is the *regulatory year t*, and t–1 is the year in which the performance *parameter* is measured.

The *s-factor* for an individual customer service *parameter* is not to exceed or fall below, respectively, the upper or lower percentage limits of the *revenue at risk* as specified in clause 5.2(b). Equation (5B) below places limits on the *s-factor* for each individual customer service *parameters* to achieve this.

$$S_t^{CS} = \sum_p \min(\max(ir_p * [Tar_{p,t-1} - Act_{p,t-1}], \underline{S}^{ICS}), \overline{S}^{ICS}) \quad \text{(5B)}$$

where:

S_t^{CS} is the sum of the *s-factors* for all customer service (CS) *parameters*

p is the customer service performance *parameter*

ir_p is the *incentive rate* for *parameter p*

Act_p is the actual performance for *parameter p*

Tar_p is the target performance for *parameter p*

$\underline{S}^{ICS}$ is the lower limit of the *revenue at risk* for an individual customer service (ICS) *parameters* as set out in clause 5.2(b)

$\overline{S}^{ICS}$ is the upper limit of the *revenue at risk* for an individual customer service *parameters* as set out in clause 5.2(b).

Equations (5A) and (5B) apply where there is a 12-month gap between the year of service performance and the application of the *s-factor*, e.g. if the end of the reporting period (usually a financial year) aligns with the start of a *regulatory year*.

If the end of the reporting period does not align with the start of a *regulatory year*, e.g. if the end of the reporting period is June 30 whereas the start of the *regulatory year* is 1 January, then there is less than a 12-month gap (in this example, a 6-month gap) between the end of the reporting period and the date of the application of the s-factor. In this instance, the t–1 terms in equations (5A) and (5B) should be replaced with t terms, where t is the *regulatory year* in which end of the reporting period occurs.

Overlap between regulatory control periods

A DNSP's performance in a *financial year* will not affect the allowed revenue until the *regulatory year* commencing on 1 January in the following year (a 6-month gap) or 1 July of the year after (a 12 month gap), as appropriate. This means that a DNSP's performance in the last year of its *regulatory control period* will affect its revenue in the following *regulatory control period*.

For example, if a DNSP has a *regulatory control period* of 5 years which runs between 1 January 2007 and 31 December 2012, its performance in the 2011–12 *financial year* will affect its revenue in the first *regulatory year* of the next *regulatory control period* (that is from 1 January 2012).

The DNSP's allowed revenue in the second *regulatory year* of the next *regulatory control period* (that is 2013) will be affected by its performance in the final six months of the last *regulatory control period* and the first six months of the next *regulatory control period*.

Alternatively, if a DNSP has a *regulatory control period* of 5 years between 1 July 2007 and 30 June 2012, its performance in the 2011–12 *financial year* will affect its revenues in the second *regulatory year* of the next *regulatory control period* (that is from 1 July 2014).

To account for any step change in the revenue (or prices) from one *regulatory control period* to the next, the 'raw' *s-factor* which is calculated for the last and second last *regulatory years* of the *regulatory control period* and which is applied in the first and second *regulatory years* of the next *regulatory control period* is:

$$S_t''' = \frac{S'_t}{(1 - X_0)} \quad \text{..... (6)}$$

where:

S'_t is the sum of the *s-factors* for all *parameters*, after application of the s-bank, as determined in equation (3)

X_0 is the percentage change between the *annual revenue requirement* in the last *regulatory year* of the previous *regulatory control period* and the *annual revenue requirement* for first *regulatory year* of the next *regulatory control period* taken from the post-tax revenue model. This is illustrated above in equations (1A), (1B) and (1C).

In this instance, the value of S_t''' is used in equation (2) in place of S'_t, for the purposes of calculating the s-factor for the second last and the last *regulatory year* of the current *regulatory control period* and the first year of the next *regulatory control period*.

Appendix D: Major event days

A *major event day* is defined in the Institute of Electrical and Electronics Engineers (IEEE) standard 1366-2003, IEEE Guide for Electric Power Distribution Reliability Indices. This standard was published in May 2004. The IEEE standard excludes natural events which are more than 2.5 standard deviations greater than the mean of the log normal distribution of five years' SAIDI data (the '2.5 beta method').

In calculating daily *unplanned SAIDI*, any interruption that spans multiple days is accrued to the day on which the interruption begins.

The *major event day* boundary is calculated at the end of each reporting period (typically one *regulatory year*) for use during the next reporting period using the 2.5 beta method as follows:

(1) Collect values of daily *unplanned SAIDI* over five sequential years ending on the last day of the last complete reporting period. If fewer than five years of historical data are available, the most recent data should be used, noting that the five-year information is not available.

(2) Only those days where an *unplanned SAIDI*/day value > 0 are considered (do not include days that did not have any interruptions).

(3) Calculate the natural logarithm (ln) of each daily *unplanned SAIDI* value in the data set.

(4) Find α (alpha), the average of the logarithms of the data set.

(5) Find β (beta), the standard deviation of the logarithms of the data set.

(6) The boundary for an extreme event or *major event day* (T_{MED}) is then calculated as follows:

(a) $T_{MED} = e^{(\alpha + 2.5\beta)}$

(7) Any day in the new reporting period where the total *unplanned SAIDI* exceeds this value of T_{MED} is classified as a *major event day*.

Any day where *unplanned SAIDI* exceeds the *major event day* boundary may be excluded when calculating the values of the *parameters* for the purpose of calculating the revenue increment or decrement resulting from this *scheme*.

Where an interruption on a *major event day* spans multiple days, the entire length of the interruption is excluded when calculating the values of the *parameters* for the purpose of calculating the revenue increment or decrement resulting from this *scheme*.

Appendix E: Worked example of s-factor calculation

Assume that the *scheme* for a DNSP consists of *unplanned SAIDI* and *unplanned SAIFI parameters* for the urban and short rural *network types* and the telephone answering and streetlight repair customer service *parameters*, with *incentive rates* (ir_p) and actual service performance against *performance targets* as set out in the following table.

Year	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**
SAIDI - urban										
Target performance	70.0	70.0	70.0	70.0	70.0	67.0	67.0	67.0	67.0	67.0
Actual performance	70.0	70.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0
Incentive rate	0.0325	0.0325	0.0325	0.0325	0.0325	0.0341	0.0341	0.0341	0.0341	0.0341
Raw S-factor	0.000%	0.000%	0.162%	0.162%	0.162%	0.068%	0.068%	0.068%	0.068%	0.068%
SAIDI - short rural										
Target performance	260.0	250.0	240.0	230.0	230.0	210.0	210.0	210.0	210.0	210.0
Actual performance	220.0	215.0	210.0	205.0	200.0	195.0	190.0	190.0	190.0	190.0
Incentive rate	0.0162	0.0162	0.0162	0.0162	0.0162	0.0170	0.0170	0.0170	0.0170	0.0170
Raw S-factor	0.649%	0.568%	0.487%	0.406%	0.487%	0.256%	0.341%	0.341%	0.341%	0.341%
SAIFI - urban										
Target performance	1.150	1.150	1.150	1.150	1.150	1.040	1.040	1.040	1.040	1.040
Actual performance	1.100	1.070	1.040	1.010	0.980	0.980	0.980	0.980	0.980	1.050
Incentive rate	0.0204	0.0204	0.0204	0.0204	0.0204	0.0214	0.0214	0.0214	0.0214	0.0214
Raw S-factor	0.001%	0.002%	0.002%	0.003%	0.003%	0.001%	0.001%	0.001%	0.001%	0.000%
SAIFI - short rural										
Target performance	1.800	1.800	1.800	1.800	1.800	1.800	1.800	1.800	1.800	1.800
Actual performance	1.900	1.850	1.800	1.750	1.700	1.700	1.700	1.700	1.700	1.700
Incentive rate	0.0102	0.0102	0.0102	0.0102	0.0102	0.0107	0.0107	0.0107	0.0107	0.0107
Raw S-factor	-0.001%	-0.001%	0.000%	0.001%	0.001%	0.001%	0.001%	0.001%	0.001%	0.001%
Telephone answering										
Target performance	70.000	70.000	70.000	70.000	70.000	70.000	70.000	70.000	70.000	70.000

Actual performance		84.000	77.000	70.000	63.000	56.000	60.000	65.000	70.000	70.000	70.000
Incentive rate		-0.0400	-0.0400	-0.0400	-0.0400	-0.0400	-0.0400	-0.0400	-0.0400	-0.0400	-0.0400
Raw S-factor		0.560%	0.280%	0.000%	-0.280%	-0.560%	-0.400%	-0.200%	0.000%	0.000%	0.000%
Cap on individual customer service S-factors		0.500%	0.280%	0.000%	-0.280%	-0.500%	-0.400%	-0.200%	0.000%	0.000%	0.000%
Streetlight repair											
Target performance		60.000	60.000	60.000	60.000	60.000	74.000	74.000	74.000	74.000	74.000
Actual performance		86.000	80.000	74.000	68.000	62.000	65.000	69.000	73.000	77.000	80.000
Incentive rate		-0.0200	-0.0200	-0.0200	-0.0200	-0.0200	-0.0200	-0.0200	-0.0200	-0.0200	-0.0200
Raw S-factor		0.520%	0.400%	0.280%	0.160%	0.040%	-0.180%	-0.100%	-0.020%	0.060%	0.120%
Cap on individual customer service S-factors		0.500%	0.400%	0.280%	0.160%	0.040%	-0.180%	-0.100%	-0.020%	0.060%	0.120%
Sum of capped individual customer service s-factors	equation (5B)	1.000%	0.680%	0.280%	-0.120%	-0.460%	-0.580%	-0.300%	-0.020%	0.060%	0.120%
Sum of raw reliability of supply raw s-factors	equation (5A)	0.649%	0.569%	0.651%	0.571%	0.654%	0.326%	0.411%	0.411%	0.411%	0.410%
Customer service S-factor with cap	equation (4B)	1.000%	0.680%	0.280%	-0.120%	-0.460%	-0.580%	-0.300%	-0.020%	0.060%	0.120%
S factor with overall cap	equation (4A)	1.649%	1.249%	0.931%	0.451%	0.194%	-0.254%	0.111%	0.391%	0.471%	0.530%
S-bank		1.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%
S factor after banking	equation (3)	0.649%	2.249%	0.931%	0.451%	0.194%	-0.254%	0.111%	0.391%	0.471%	0.530%
Delayed application by two years	equation (6)			0.649%	2.249%	0.931%	0.352%	0.151%	-0.254%	0.111%	0.391%
Final S factor	equation (2)			0.649%	1.590%	-1.289%	0.352%	-0.200%	-0.404%	0.366%	0.280%
Raw PTRM revenue		$ 200.00	$ 208.00	$ 216.32	$ 224.97	$ 233.97	$ 300.00	$ 312.00	$ 324.48	$ 337.46	$ 350.96
Final revenue	equation (1)	$ 200.00	$ 208.00	$ 217.72	$ 230.03	$ 236.15	$ 301.06	$ 312.47	$ 323.66	$ 337.83	$ 352.33
$ reward/penalty		**$0.000**	**$0.000**	**$1.404**	**$5.060**	**$2.179**	**$1.056**	**$0.471**	**-$0.824**	**$0.375**	**$1.373**

The following steps calculate the *s-factor* that is applied to revenues:

1. Determine the *s-factor* for each individual customer service *parameter* using equation (5B). Calculate the raw *s-factor* for each *parameter* by taking the difference between the target and actual performance for each of the *parameters* and multiply by the *incentive rate* for the relevant *parameter*. Determine that the individual *s-factors* for each customer service *parameter* does not exceed the upper or lower percentage limits on the *revenue at risk* (± 0.5 per cent).
2. Determine the sum of the raw *s-factors* for all reliability of supply *parameters* using equation (5A). Calculate the raw *s-factor* for each *parameter* by taking the difference between the target and actual performance for each of the *parameters* and multiply by the *incentive rate* for the relevant *parameter*.
3. Determine that the sum of the *s-factors* for all customer service *parameters* does not exceed the upper or lower percentage limits on the *revenue at risk* (± 1 per cent) using equation (4B).
4. Determine that the sum of the raw *s-factors* for all *parameters* is within the *revenue at risk* (± 5 per cent) using equation (4A).
5. Decide if the *s-bank* mechanism will be employed using equation (3), as shown in year 1. The use of the *s-bank* is optional and has the effect of delaying a portion of the revenue increment or decrement for one *regulatory year*.
6. Account for any step change in the revenue (or prices) from one *regulatory control period* to the next by using equation (6). The formula is applied to the first two years of the next *regulatory control period*.
7. Remove the effect of the *s-factor* from the previous *regulatory year* using equation (2).
8. The resulting adjusted *s-factor* is applied to the control mechanism, for example equation (1A), (1B) and (1C).

Glossary

This *scheme* uses the following definitions.

annual revenue requirement	has the meaning set out in the *National Electricity Rules*.
business day	has the meaning set out in the *National Electricity Rules*.
CAIDI (Customer Average Interruption Duration Index)	the sum of the duration of each sustained customer interruption (in minutes), divided by the total number of sustained customer interruptions (SAIDI divided by SAIFI). CAIDI excludes momentary interruptions (one minute or less duration).
CPI (consumer price index)	has the meaning set out in the *National Electricity Rules*. The CPI used to escalate the value of customer reliability to the start of the relevant regulatory control period should be the same that was used to roll forward the DNSP's regulatory asset base (using the roll forward model) in the relevant distribution determination.
distribution consultation procedures	has the meaning set out in the *National Electricity Rules*.
DNSP (distribution network service provider)	has the meaning set out in the *National Electricity Rules*.
financial year	has the meaning set out in the *National Electricity Rules*.
inactive account	a connection to the DNSP's network that is inactive, that is, does not have an active account with a retailer or is otherwise ineligible to take a supply of electricity.
incentive rate	the rate at which a revenue increment or decrement accrues due to a change in service performance.
interruption	an interruption is any loss of electricity supply to a customer associated with an outage of any part of the electricity supply network, including generation facilities and transmission networks, of more than 0.5 seconds, including outages affecting a single premises. The customer interruption starts when recorded by equipment such as SCADA or, where such equipment does not exist, at the time of the first customer call relating to the network outage. An

	interruption may be planned or unplanned, momentary or sustained. Does not include subsequent interruptions caused by network switching during fault finding. An interruption ends when supply is again generally available to the customer.
jurisdictional electricity legislation	has the meaning set out in the *National Electricity Law*.
load shedding	has the meaning set out in the *National Electricity Rules*.
MAIFI	has the meaning set out in appendix A.
major event day	has the meaning set out in appendix D.
NEL (National Electricity Law)	the *National Electricity Law* set out in the schedule to the National Electricity (South Australia) Act 1996 (SA) and applied in each of the participating jurisdictions.
national electricity legislation	has the meaning set out in the *National Electricity Law*.
national electricity market	has the meaning set out in the *National Electricity Law*.
NER (National Electricity Rules)	the rules made under Part 7 of the *National Electricity Law*.
network type	the type of network supplying customers being either CBD, urban, short rural or long rural feeders as defined in appendix A.
parameters	the performance measures defined in appendix A.
performance target	the level of performance that results in a DNSP neither receiving a financial penalty nor financial reward in the *regulatory year*.
planned interruption	an *interruption* due to a planned event.
regulatory control period	has the meaning set out in the *National Electricity Rules*.
regulatory information instrument	has the meaning set out in the *National Electricity Law*.

regulatory obligation or requirement	has the meaning assigned in the *National Electricity Law*.
regulatory proposal	has the meaning set out in the *National Electricity Rules*.
regulatory year	has the meaning set out in the *National Electricity Rules*.
revenue at risk	the amount by which a DNSP's revenue may increase or decrease as a result of the application of the *scheme.*
unplanned SAIDI	has the meaning set out in appendix A.
unplanned SAIFI	has the meaning set out in appendix A.
s-factor or service standards factor	the percentage revenue increment or decrement that applies in each *regulatory year*.
scheme	*service target performance incentive scheme*.
service target performance incentive scheme	the *service target performance incentive scheme* defined in the *National Electricity Rules*.
standard control service	has the meaning set out in the *National Electricity Rules*.
system operator	has the meaning set out in the *National Electricity Rules*.
unplanned event	an event that causes an *interruption* where the customer has not been given the required notice of the *interruption*
unplanned interruption	an *interruption* due to an *unplanned event*.