Final decision

Electricity distribution network service providers

Service target performance incentive scheme

May 2009

AUSTRALIAN ENERGY REGULATOR

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1 Introduction

The Australian Energy Regulator (AER) is responsible for the economic regulation of distribution network service providers (DNSPs) in the National Electricity Market (NEM), in accordance with the National Electricity Rules (NER).

Under chapter 6 of the NER, the AER is required to develop and publish a service target performance incentive scheme (STPIS or scheme) for DNSPs. On 26 June 2008 the AER published the first version (version 1.0) of the STPIS for DNSPs. Since publishing version 1.0 of the STPIS the AER has become aware of a material issue regarding the scheme concerning the interaction between the cap on revenue at risk and the equation for the calculation of the s-factor.

The AER has sought to address this issue by revising and making appropriate amendments to version 1.0 of the scheme. The key changes to the scheme include:

- Amendments to the s-factor calculation: the AER has amended the method by which the s-factor is calculated. The s-factor calculation in version 1.0 of the STPIS was computed primarily on changes in performance from one year to the next (rather than on performance relative to the target). The s-factor was also applied cumulatively—that is, the allowed revenues (and prices) were altered by the s-factor and continued at the altered level until the end of the regulatory control period. The AER has altered the s-factor calculation so that a DNSP's rewards and penalties are now computed on the basis of deviations in actual performance from target performance. Also, the amended s-factor is no longer applied cumulatively rather revenues (and prices) are altered for one year.

- Amendments to the cap on revenue at risk: the AER has increased the amount of revenue at risk under the scheme from ±3 per cent to ±5 per cent. This amendment is designed to counter the decrease in the power of the incentive that occurs under some circumstances due to the amended s-factor calculation. Notwithstanding the specified revenue at risk in the scheme, a DNSP may propose that the cap be changed or removed as part of its regulatory proposal.

- Amendments to the major event day calculation: the AER has amended how the major event day boundary is to be calculated which applies to events excluded from the scheme.

The AER has also made other amendments to further clarify the operation of the scheme. This final decision sets out the reasons for all of the amendments to the scheme and the AER's consideration of submissions received from stakeholders.

A number of submissions also commented on aspects of the scheme that were not the subject of the proposed amendments. These comments are outside the scope of the consultation process and are outlined in section 6 of this final decision. Generally, these comments concerned matters that will be considered through the application of the scheme in regulatory determinations or matters that were considered by the AER when the STPIS (version 1.0) was developed. It is noted that the AER published consultation papers on the development of the STPIS (version 1.0) in November 2007 and in April 2008, calling for public submissions, and held a public stakeholder forum in April 2008

to discuss the development of the scheme. Further information about the AER's consultation process for the development of version 1.0 of the scheme is available on the AER's website; www.aer.gov.au.

When developing version 1.0 of the STPIS the AER had regard to the NER requirements as set out in the final decision to version 1.0 of the STPIS. The AER has also had regard to the NER requirements when developing the amendments set out in this final decision. The AER considers that the amendments are consistent with the AER's stated objectives as set out at clause 1.5 of the scheme.

Clause 11.16.5 of the NER sets out transitional arrangements particular to the Queensland DNSPs Energex and Ergon Energy. The AER will take into account these transitional arrangements at the time it applies this scheme to Energex and Ergon Energy in their 2010–15 distribution determinations in accordance with clauses 2.2 and 2.6(a) of the scheme.

Pursuant to clause 6.6.2(b)(1) of the NER the AER has consulted with the authorities responsible for the administration of relevant jurisdictional electricity legislation in developing and implementing this STPIS.

2 Background

The AER published version 1.0 of the STPIS for DNSPs in June 2008 following public consultation which began in November 2007 with the release of an issues paper. A proposed scheme was published in April 2008 and the scheme was finalised in June 2008. The scheme was developed following consultation with stakeholders and the authorities responsible for the administration of relevant jurisdictional electricity legislation in accordance with clauses 6.6.2(b)(1) and 6.16 of the NER.

The AER published proposed amendments to the scheme in February 2009 to facilitate the public consultation process under the NER's distribution consultation procedures. This final decision document sets out the AER's consideration of issues raised in submissions received from stakeholders and the AER's decision on amendments to the scheme.

The STPIS is part of the suite of regulatory arrangements designed to streamline and improve the quality of economic regulation of energy networks, reduce regulatory costs and enhance regulatory certainty, consistent with the Council of Australian Government's objectives for regulation of electricity distribution businesses. While the regulatory regime as a whole encourages a business to improve its operating and capital efficiency, the STPIS is designed to ensure that this increase in efficiency is not at the expense of deterioration in service performance for customers. Further, the STPIS is designed to encourage a business to improve its service performance where customers are willing to pay for these improvements. The AER considers that in so doing the STPIS plays an important part in balancing the incentives on regulated businesses to ensure outcomes are consistent with the national electricity objective in section 7 of the National Electricity Law (NEL), in terms of efficient price and non-price outcomes for the long-term benefit of users.

3 Rule requirements

Clause 6.6.2 of the NER requires the AER to develop and publish a STPIS and sets out the requirements the AER must comply with in doing so.

When amending the STPIS, the distribution consultation procedures, as set out in rule 6.16 of the NER, require the AER to publish the proposed amendments to the STPIS, an explanatory statement and an invitation for submissions. Stakeholders must be allowed at least 30 business days to make submissions to the AER. Within 80 business days of publishing the proposed STPIS the AER must publish its final decision and STPIS. As already noted, the AER is required by the NER to consult on the proposed STPIS with the authorities responsible for the administration of relevant jurisdictional electricity legislation.

In addition to the specific rules for the scheme set out at clause 6.6.2 of the NER, the scheme has been designed to be consistent with the building block proposal requirements as set out in clause S6.1.3 of the NER.

4 Basis and design of the scheme

As noted in the final decision to version 1.0 of the STPIS, the rationale for the scheme is to balance the incentive for DNSPs to reduce their expenditure with the need to maintain and improve their service performance for customers. This can be achieved through the provision of non-financial incentives such as monitoring and publicly reporting against specified service standards, or through financial incentives such as rewards and penalties based on the service outcomes delivered.[1] DNSP service standards are currently set by jurisdictional governments and regulators under jurisdictional electricity legislation.

The STPIS, through the s-factor component, provides a financial incentive for DNSPs to maintain and improve service performance by assigning rewards or penalties to a DNSP where performance is better or worse than the target performance level.

The STPIS also contains a guaranteed service level (GSL) component which is designed to improve service to customers receiving poor service and act as a recognition payment to customers that have received poor service.

The following provides an outline of the key design features of the s-factor and GSL components of the amended scheme.

4.1 S-factor component

- The s-factor component is symmetrical as penalties are incurred at the same rate as rewards. This symmetry provides the incentive for a DNSP to maintain and improve service performance. Customers benefit from the scheme's application by receiving improved service levels, or lower prices that reflect diminished service levels from the target.

- The s-factor is determined primarily on the basis of deviations in actual performance from underlying performance targets. A DNSP's performance targets are established at the commencement of the regulatory control period.

- The scheme provides incentives for a DNSP to make sustained improvements in service performance because a DNSP delivering sustained improvements above target performance will continue to receive financial rewards from the scheme until the end of the regulatory control period. The DNSP will stop receiving financial rewards when actual performance reverts to target performance. A DNSP will receive a financial penalty where actual performance is below target performance.

- There is a 6 month or 12 month delay from the year in which performance was measured to when the s-factor is applied depending on whether the regulatory control period begins on 1 January or 1 July.

- Performance targets are based on the average performance over the past five years adjusted for any planned reliability improvements and having regard to any instance

[1] The AER will publicly report on the service performance of DNSPs in the future. The AER is consulting separately with DNSPs and other stakeholders on the reporting measures through consultation on the AER's future annual reporting arrangements for DNSPs.

where the cap on revenue at risk has been breached in the previous regulatory control period.

- Incentive rates for reliability parameters are based on customers' willingness to pay for service improvements.

- The overall cap on the revenue at risk of the s-factor component is 5 per cent. There is a 1 per cent cap on the customer service component of the scheme and a 0.5 per cent cap on any individual customer service parameter.

- Outlier performance (e.g. due to extreme weather or events) will be excluded by using the 2.5 beta method described in the US Institute of Electrical and Electronics Engineers (IEEE) Standard 1366-2003. In addition, the scheme identifies a list of events outside the control of the DNSP that may be excluded from the scheme.

- Application of the s-factor or a portion of the s-factor can be delayed in any one year, for one additional year to smooth the impact on customer prices (s-bank mechanism).

4.2 GSL component

The only change to this component in the amended scheme is the clarification of the exclusion criteria in clauses 6.4 and the incentive scheme parameter in clause 6.2. The exclusion clarification was applied to both the s-factor and GSL components.

- The GSL component has a role in both improving service to customers receiving poor service and providing recognition to customers, through an appropriate payment, that have received poor service.

- The expected volume of GSL payments is estimated using current performance and is included in the annual revenue requirement set in the distribution determination made by the AER.

- GSL parameters, thresholds and payment amounts in the STPIS have been based on existing jurisdictional arrangements. The AER publicly consulted on these parameters, thresholds and payment amounts as part of consultation for the development of version 1.0 of the STPIS.

- Payments are required to be made to customers automatically as opposed to on application from the customer.

- The GSL component of the scheme is uncapped.

- The GSL component applies different thresholds of performance to different parts of the network for the frequency and duration of interruptions parameters.

- The GSL component uses the same exclusion criteria that apply to the s-factor component.

- The GSL component will not be applied where a DNSP is subject to a jurisdictional GSL scheme.

5 Issues raised in submissions and AER response

This section outlines the issues raised in submissions from stakeholders in response to the AER's proposed amendments to the STPIS published in February 2009. A summary of each issue raised that relates to the proposed amendments and the AER's response is provided below.

5.1 Adjustments to allowed revenue

5.1.1 Applying the s-factor to the control mechanism

The AER proposed to include greater detail on how the s-factor is incorporated into the various control mechanisms that are currently applied to standard control services.

Stakeholder comments

Energex, Ergon Energy and Jemena Electricity Networks supported the inclusion of additional details and equations relating to how the s-factor is incorporated into the control mechanism.[2] No stakeholders opposed the inclusion of these details.

AER response

The AER considers it appropriate to include these extra details in the amended STPIS.

5.1.2 Removing the effect of the s-factor

The AER proposed to amend the s-factor mechanism that calculated each years performance relative to the previous years performance. The removal of this element of the scheme is discussed in section 5.1.2 of the AER's explanatory statement.[3] This element was amended in the scheme as businesses were given an incentive to strategically lower their service standards in a year, after breaching the lower revenue at risk cap, in order to make future years targets more readily achievable. The amended scheme removes this incentive by calculating each year's performance relative to the benchmark rate set in each businesses regulatory determination.

The AER proposed to remove the carry forward mechanism from equation (2) as it simplified the operation of the scheme and better achieved the objectives of the scheme. In theory version 1.0 of the STPIS potentially had a maximum revenue at risk cap of ±15 percent (that is if a maximum revenue at risk of -3 per cent is achieved for each year of the regulatory period the maximum penalty would be -15 per cent) to an absolute revenue at risk cap of ±3 per cent for the regulatory period.[4]

The AER further considered the level of the revenue at risk cap due to the removal of the roll forward mechanism and the diminished incentive. The AER proposed to amend the maximum amount of revenue at risk applicable under the STPIS from ±3 per cent to

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2 Energex, submission, p. 2; Ergon Energy, submission, p. 4; Jemena Electricity Networks, submission, p. 1.

3 AER, *Proposed: Electricity distribution network service providers: Service Target Performance Incentive Scheme*, February 2009, pp. 7–10.

4 AER, *Proposed: Electricity distribution network service providers: Service Target Performance Incentive Scheme*, February 2009, pp. 7–10.

±5 per cent to offset the possible decline in the power of the incentive resulting from the removal of the roll forward mechanism.

Stakeholder comments

A number of stakeholders supported the removal of the carry forward mechanism from the STPIS stating that it simplified the scheme, reduced the potential for large revenue adjustments to accumulate and created a clear and immediate linkage between service performance and financial outcomes.[5]

The Victorian Department of Primary Industries (DPI) expressed concern at the removal of the carry forward mechanism. It stated that the STPIS needs to effectively offset the incentives created by the efficiency benefit sharing scheme (EBSS) by allowing DNSPs to retain the rewards and penalties earned. The DPI considered that there is the potential that DNSPs will have an incentive to achieve operating expenditure (opex) efficiency gains at the expense of service levels.[6]

The DPI and SP AusNet considered that a cap on the revenue at risk should be removed from the scheme. The DPI stated that the imposition of a cap on the s-factor potentially reduces the incentive a DNSP has to improve service performance.[7] SP AusNet stated that the proposed scheme provides a DNSP with adequate mechanisms to control risk without the need for a cap on the amount of revenue at risk.[8]

A number of stakeholders expressed concern over the level of revenue at risk being increased by the AER and stated that the cap should remain at ±3 per cent rather than being increased to ±5 per cent.[9]

AER response

The AER considers the amended s-factor mechanism that calculates each years performance relative to a benchmark rate set in the regulatory determination to be appropriate.

The AER considers that the removal of the carry forward mechanism simplifies the operation of the STPIS and achieves the objectives of the scheme as set out in the explanatory statement.[10]

The DPI raised concerns about the perverse interaction of the EBSS and STPIS due to the removal of the roll forward mechanism. The AER undertook sensitivity analysis comparing the operation of version 1.0 and the amended scheme to determine any potential for perverse incentives. The AER has concluded that the removal of the carry forward mechanism would not cause adverse interaction between the STPIS and EBSS

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5 Energex, submission, pp. 2–4; EnergyAustralia, submission, p. 2; Ergon Energy, submission, p. 4; Department of Employment, Economic Development and Innovation (Queensland), submission, p. 1; United Energy, submission, p. 3.

6 Department of Primary Industries (Victoria), submission, p. 3.

7 Department of Primary Industries (Victoria), submission, pp. 2–4.

8 SP AusNet, submission, p. 2.

9 Jemena Electricity Networks, submission, p. 3; United Energy, submission, pp. 4–5; Energex, submission, pp. 2–3; Integral Energy, submission, p. 2; Origin Energy, submission, pp. 1–2; ETSA Utilities, submission, p. 6.

10 AER, *Explanatory Statement: Proposed Amendment: Service Target Performance Incentive Scheme*, February 2009, pp. 7–10.

if the amount of revenue at risk is increased to maintain the power of the incentive or the value of customer reliability (VCR) is set at a higher level. Therefore, the AER recognises the need to set performance targets for each business at an appropriate level and to maintain the power of the incentive, through the revenue at risk and VCR, at a sufficiently high level to preclude perverse outcomes.

To account for this conclusion the AER has increased the level of the revenue at risk from ±3 per cent to ±5 per cent in the amended STPIS. The AER has increased the revenue at risk cap as the VCR is set by the latest robust independent research. The AER notes that the highest reward or penalty issued to date under a jurisdictional s-factor scheme has been 2.6 per cent of revenue.[11] The AER considers, when accounting for current jurisdictional schemes' reliability rates, that the revenue at risk cap of ±5 per cent is unlikely to be consistently breached in the next regulatory period.

As discussed in section 5.4.3 of this final decision, the AER has inserted clauses in the amended scheme to allow for the consideration of any breach of the revenue at risk cap in setting future performance targets under the scheme. The AER will assess any breach of the revenue at risk cap on a case by case basis and will require information about the cause of any breach from a DNSP.

AER scenario analysis has also established that based on historical performance, distribution businesses operating under a jurisdictional STPIS would be unlikely to gain consistent improvement in service performance that would violate the revenue at risk cap of ±5 per cent. Under the AER's STPIS, the AER would expect that in the majority of cases these firms would operate around their target within the revenue at risk cap with performance improvement occurring under the scheme.

In the jurisdictions where the STPIS has been (or will be) introduced for the first time, that is New South Wales, Queensland and the Australian Capital Territory, where no other reliability scheme similar to the STPIS has been applied, a DNSP could conceivably achieve results that breach the cap consistently in the next regulatory control period due to lower levels of reliability in the current regulatory period. Therefore the potential for perverse results between the EBSS and the STPIS is greater in such a situation. The AER will have regard to the minimum service levels required by jurisdictional regulations to help account for this potential issue, when setting the STPIS performance targets. In general the AER will seek to apply the STPIS flexibly to provide appropriate incentives for DNSPs given their service performance history, future regulatory obligations and investment plans.

The AER also notes that clause 2.5(b) of the scheme provides flexibility for each of the distribution businesses to propose an alternate cap to the ±5 per cent cap specified in the STPIS, including the removal of the cap, where this would satisfy the scheme's objectives.

5.1.3 The operation of the s-bank mechanism

The AER proposed to remove the weighted average cost of capital (WACC) term (1 + pre-tax WACC) from the s-bank equation (equation (3)) on the basis that the

[11] That is, a 2.6 per cent penalty for SP AusNet in 2002 and again in 2004 under the ESCV's service performance incentive scheme in Victoria.

consumer price index (CPI) minus X adjustment already provided a DNSP sufficient compensation for the time value of money.

Stakeholder comments

Energex, Ergon Energy and ETSA Utilities considered it appropriate to remove the (1 + pre-tax WACC) term from the s-bank equation.[12]

ETSA Utilities also proposed that the s-bank mechanism be modified to allow a maximum percentage of revenue at risk or to hold more than one year's incentive.[13]

AER response

The s-bank mechanism allows a DNSP to delay a revenue increment or decrement or a portion of a revenue increment or decrement for one regulatory year, in accordance with clauses 2.5(d) and 2.5(e) and appendix C of the scheme, for the purposes of reducing price variations to customers.

During the development of version 1.0 of the scheme a number of stakeholders, including ETSA Utilities, requested the inclusion of the s-bank mechanism as applied in Victoria.[14] The AER considered it appropriate to include the s-bank mechanism in version 1.0 of the scheme and in the amended scheme.[15]

Additionally, for the reasons discussed in section 5.1.2 above, the AER does not consider the increase in the amount of revenue at risk applicable under the scheme to be a compelling reason to alter the s-bank mechanism. Overall, the AER remains of the view that the s-bank mechanism as proposed in the amended scheme is sufficient.

5.1.4 Revenue at risk

The AER proposed to add two equations to the scheme to clarify the operation of the cap on the revenue at risk of the entire scheme (±5 per cent) and the cap on customer service parameters (±1 per cent). These equations place limits on the s-factors to ensure that the s-factor applied to revenues does not exceed the revenue at risk.

The AER's consideration of the increase in the overall revenue at risk from ±3 per cent to ±5 per cent is set out above in section 5.1.2.

Stakeholder comments

Ergon Energy supported the inclusion of equation (4A) and (4B) in the scheme.[16] No stakeholders opposed the inclusion of these equations.

AER response

The AER considers it appropriate to include equations (4A) and (4B) in the amended STPIS.

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12 Energex, submission, p 4; Ergon Energy, submission, p. 4; ETSA Utilities, submission, p. 7.
13 ETSA Utilities, submission, p. 7.
14 ETSA Utilities, *Submission Electricity Distribution Network Service Providers Service Target Performance Incentive Scheme Issues Paper*, February 2008, p. 10.
15 AER, *Proposed Electricity distribution network service providers: Service target performance incentive scheme Explanatory statement and Discussion paper*, April 2008, p. 25.
16 Ergon Energy, submission, p. 5.

5.1.5 The service standard factor—s-factor formula

The AER proposed to amend the s-factor formula (equation (5A)) to correct a number of perverse incentive properties in situations where the revenue at risk cap is breached. The AER also proposed to add equation (5B) to the scheme to clarify the operation of the cap on an individual customer service parameter (±0.5 per cent). This equation places limits on the s-factors to ensure that the s-factor applied to revenues does not exceed the revenue at risk.

Stakeholder comments

Ergon Energy, ETSA Utilities and United Energy supported the proposed amendments to the s-factor formula stating that it simplifies the scheme.[17] No other stakeholders commented on these amendments.

AER response

The AER considers it appropriate to include these amendments into the amended STPIS. The AER notes that a number of minor changes have been made to the notation of some equations in appendix C of the scheme and this is discussed below in section 5.1.7.

5.1.6 Overlap between regulatory control periods

The AER proposed to amend the description of X_0 as applied in equation (6) in appendix C of the scheme to more generally reflect X_0 given the different control mechanisms that may be applied to DNSPs under clause 6.2.5(b) of the NER.

Stakeholder comments

Ergon Energy supported the inclusion of equation (6) but questioned the final paragraph of appendix C which stated that the overlap adjustment is required for the purposes of calculating the s-factor in the second last and last year of the regulatory control period and the first year of the regulatory control period.[18] It considered that equation (6) should not apply in the first year of the next regulatory control period.

United Energy supported the inclusion of equation (6) but questioned whether the adjusted $S_t^{'''}$ values should be used when calculating $S_t^{'}$ stating that $S_t^{'}$ only needs to be adjusted in the last year of the regulatory control period.[19]

AER response

The AER considers that equation (6) of the scheme is only intended to apply in the second last and last year of a regulatory control period. The reference to equation (6) applying in the first year for the next regulatory control period was an error and the text in appendix C has been corrected as follows to reflect this.

> 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*.

[17] Ergon Energy, submission, p. 5; ETSA Utilities, submission, p. 6; United Energy, submission, pp. 5–8.
[18] Ergon Energy, submission, p. 5.
[19] United Energy, submission, pp. 6–7.

Equation (6) is to be used where a DNSP's service performance is measured in a financial year or portion of a financial year but is to be applied to revenues in the next regulatory control period (the regulatory control period after the regulatory control period in which service performance is measured). For example, for a DNSP whose regulatory year runs from 1 July to 30 June (a financial year) equation (6) is to be used in the second last and last regulatory year of a regulatory control period.

The exception is a DNSP whose regulatory year runs from 1 January to 31 December (a calendar year). In this case equation (6) is to be used in the second last and last regulatory year of a regulatory control period with the addition of a 6 month timing adjustment.[20] The AER notes that this 6 month timing adjustment will only affect the Victorian DNSPs.

The AER will set out the exact methodology of this adjustment for the Victorian DNSPs as part of its distribution determination.

5.1.7 Timing and equation notation

The AER noted that the timing and notation of the equations of the scheme was such that the year *t*–1 was the year in which the service performance was measured and year *t*+1 is the year in which the revenue increment or decrement is applied, that is, service performance measured in 2008–09 would be applied to revenues in 2010–11.

Stakeholder comments

Ergon Energy stated that the equation subscripts in equations (1A), (5A) and (5B) in appendix C are inconsistent with appendix E.[21]

United Energy made a number of suggestions for the s-factor formula and equation notation. It noted that the incentive rate for parameter *p* (ir_p) in equations (5A) and (5B) do not contain a time index (*t*).[22]

AER response

The AER notes that appendix C does not exactly align with appendix E, as the revenues set out in appendix E did not include an adjustment for CPI. The AER has adjusted appendix E so it correctly aligns with appendix C.

The amended notation for equations (1A), (5A) and (5B) proposed by Ergon Energy is inconsistent with section 5.1.7 of the proposed amended STPIS. In appendix C of the scheme any reference to year *t*–1 refers to the year in which the service performance was measured. Accordingly, year *t* is the year the service performance is reported, reviewed and approved and year *t*+1 is the year the s-factor (S_t) is applied to revenues. To avoid any potential confusion the notation of the scheme's equations is set out below.

[20] A similar adjustment for X_0 will need to be implemented to recognise the service performance measured in the current regulatory control period which is added to revenues in the next regulatory control period.

[21] Ergon Energy, submission, p. 6.

[22] United Energy, submission, pp. 5–8.

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

$$S_t^{'} = \left(S_t^{''} - Sb_t\right) + Sb_{t-1} \quad \text{..... (3)}$$

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

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

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

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

$$S_t^{'''} = \frac{S_t^{'}}{\left(1 - X_0\right)} \quad \text{..... (6)}$$

The AER does not believe that the (ir_p) in equations (5A) and (5B) requires a specific time notation since incentive rates will be established in the distribution determination and are then fixed for the duration of a regulatory control period. The AER has added text to the definitions of (ir_p) in appendix C stating that the applicable incentive rates are calculated in accordance with clauses 3.2.2 and 5.3.2.

5.2 Major event day definition

The AER proposed to make the following three amendments to the calculation and implementation of the major event day boundary (MED or T_{MED}):

- Deletion of step 2 from the methodology for establishing the major event day boundary to align the STPIS with the IEEE standard and to improve the accuracy of the major event day boundary.
- An amendment to provide that the major event day boundary will be calculated annually using the last five years SAIDI data, consistent with the IEEE standard.
- Added text to appendix D clarifying that when a major event day spans multiple days, the entire length of the interruption is excluded when calculating the value of the parameters for the purpose of calculating the revenue increment or decrement resulting from the scheme.

Stakeholder comments

The majority of stakeholders supported the proposed amendments to the calculation and implementation of the major event day boundary which clarifies and amends the operation of this provision.[23]

The DPI expressed concern that excluding the entire length of an interruption does not give distributors adequate incentive to take strong measures to re-establish supply.[24] The DPI suggested that the AER retain discretion over the duration of exclusions taking into account the reasonable measures distributors may take to rectify outages in major event scenarios.[25]

AER response

The MED boundary in the STPIS is to be determined using the 2.5 beta method as set out in appendix D of the scheme. The AER does not consider it appropriate to make discretionary decisions on whether certain events should or should not be excluded as a MED as this places considerable uncertainty on the operation of the scheme. As noted by the AER in 2008 when version 1.0 of the STPIS was developed, the IEEE 2.5 beta method has been adopted for the exclusion framework in the STPIS because the method is easy to understand, simple to administer and avoids the complexity of defining exclusion criteria for a range of events that might be excluded, together with the high administration burden likely to be associated with such an approach.

On that basis, any day where unplanned SAIDI exceeds the value of the major event day boundary may be excluded when calculating the values of parameters under the scheme.

The distribution STPIS was not designed to ensure that businesses return customers to service in the shortest possible timeframe when the duration of an interruption exceeds a MED boundary (typically extreme infrequent events). The STPIS is designed to return the network to service in minimal time when any normal (non-MED) interruption occurs. The AER notes in each jurisdiction DNSP service standards (including minimum service levels) are currently set by jurisdictional governments and regulators under jurisdictional electricity legislation.

5.3 The value of customer reliability

The AER has adopted the updated VCR values calculated in the 2008 Charles River Associates (CRA) study for VENCorp.[26] The AER considers that this report represents the most recent documented and robust research on reliability incentive rates.

Stakeholder comments

Jemena Electricity Networks and United Energy expressed concern over the level of the VCR adopted by the AER but provisionally accepted the level of these rates.[27]

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23 Energex, submission, p. 4; EnergyAustralia, submission, p. 2; Ergon Energy, submission, pp. 6–7; Integral Energy, submission, p. 2; Jemena Electricity Networks, submission, p. 2; United Energy, submission, p. 3.

24 Department of Primary Industries (Victoria), submission, pp. 4–5.

25 Department of Primary Industries (Victoria), submission, pp. 4–5.

26 VENCorp, Values of customer reliability used by VENCorp for electricity transmission planning, consultation paper, 5 September 2008, p. 1.

The DPI and ETSA Utilities supported the adoption of the VCR set out in CRA's 2008 study.[28]

The Queensland Department of Employment Economic Development and Innovation (DEEDI) and Energex questioned the statistical accuracy of the CRA report on the basis of the sample size used in the study. Energex sought clarification of the derivation of the revised CBD network segment and supported the option to propose alternate VCR to the AER.[29]

AER response

The CRA report represents the most recent robust study of reliability incentive rates. This is the reason it was included in the amended scheme and the AER considers the revised VCR to be appropriate. This is consistent with the AER's intentions in version 1.0 of the scheme where it was noted an updated VCR, where properly derived, would be applied when available.[30] As well, the AER notes under clause 3.2.2 of the scheme the distribution businesses can propose an alternate VCR. As previously noted, the AER would expect a DNSP to demonstrate why the VCR in the scheme is not appropriate and how an alternative VCR is consistent with the objectives of the scheme. The AER considers that any future assessments of the VCR would need to be objective and consider input from relevant stakeholders.

5.4 Other amendments and clarifications

5.4.1 Calculating incentive rates

The AER proposed to make the following three amendments to the calculation of the incentive rate for the reliability of supply parameters in the amended scheme:

- Clauses 3.2.2(h)(1) and 3.2.2(i)(1) and appendix B were amended to reflect the intent of the scheme that the average annual energy consumption input used to calculate incentive rates for the reliability of supply parameters should be an input according to network type.

- Clauses 3.2.2(h)(2) and 3.2.2(i)(2) and appendix B were amended to correct an inconsistency with respect to the revenue input used to calculate the incentive rate for the reliability of supply parameters. The average of the smoothed annual revenue requirement for the regulatory control period is to be used to calculate the incentive rate for the reliability of supply parameters.

- Clause 3.2.2(i)(4) was amended so that the average of the annual unplanned system average interruption duration index (SAIDI) and the unplanned system average interruption frequency index (SAIFI) performance targets be used to calculate the incentive rates for any applicable reliability of supply parameters.

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27 United Energy, submission, p. 3; Jemena Energy Networks, submission, p. 3.

28 Department of Primary Industries (Victoria), submission, p. 5; ETSA Utilities, submission, p. 7.

29 Department of Employment, Economic Development and Innovation (Queensland), submission, p. 2; Energex, submission, p. 5.

30 AER, *Electricity distribution network dervice providers: Service target performance incentive scheme: Final Decision*, June 2008, pp. 17-18

Stakeholder comments

Energex and Ergon Energy supported the proposed amendments to the calculation of incentive rates for the unplanned SAIDI and unplanned SAIFI parameters.[31] No stakeholders opposed the inclusion of these amendments.

AER response

The AER considers it appropriate to include these amendments in the amended STPIS.

5.4.2 Deletion of clauses 1.8(b) and 1.8(d)

The AER considered that clauses 1.8(b) and 1.8(d) of the scheme unnecessarily restricted both the AER's and a DNSP's ability to amend and apply the scheme, and was potentially inconsistent with the NER. Under clause 6.6.2(c) of the NER, the AER is allowed to amend the STPIS in accordance with the distribution consultation procedures set out at rule 6.16. The AER considered that these procedures are sufficient to ensure that any amendment to the scheme is appropriately consulted on and proposed to delete clauses 1.8(b) and clause 1.8(d) in the amended scheme.

Stakeholder comments

Ergon Energy supported the AER's deletion of clauses 1.8(b) and 1.8(d) in the amended STPIS.[32]

The DEEDI, EnergyAustralia and Energex expressed concern with the timing of the proposed amendments to the scheme and lack of certainty it provides DNSPs currently preparing their regulatory proposals.[33] EnergyAustralia also stated that the AER should seek the agreement of the affected DNSPs before it wishes to amend the scheme.[34]

AER response

The AER is not required by either the NEL or the NER to impose restrictions in relation to when it can amend or replace the STPIS. Nor is there any requirement for the AER to seek the agreement of DNSPs with respect to the amending the scheme.

The AER has consulted with stakeholders as required by the distribution consultation procedures set out in rule 6.16 of the NER. The AER has considered issues raised by stakeholders in submissions in the developing this final decision.

The AER acknowledges that the timing of the current amendments is not ideal, in particular for DNSPs preparing regulatory proposals. However, as mentioned above, the primary reason behind the amendments is to remove potentially unintended consequences associated with the interaction of the revenue at risk cap and the calculation of the s-factor. After becoming aware of this issue the AER considered it necessary to amend the scheme.

The AER therefore considers it appropriate to delete clauses 1.8(b) and 1.8(d) in the amended STPIS.

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31 Energex, submission, pp. 5–6; Ergon Energy, submission, p. 8.
32 Ergon Energy, submission, p. 8.
33 Department of Employment, Economic Development and Innovation (Queensland), submission, p. 2; EnergyAustralia, submission, p. 4; Energex, submission, pp. 6–7.
34 EnergyAustralia, submission, p. 4.

5.4.3 Insertion of clauses 3.2.1(a)(1A), 5.3.1(b)(1A), 5.3.1(b)(1B) and 5.3.1(b)(1C)

The AER proposed to insert clauses 3.2.1(a)(1A), 5.3.1(b)(1A), 5.3.1(b)(1B) and 5.3.1(b)(1C) in the amended scheme to allow for the adjustment of the revenue at risk, through the sum of the s-factors, by accounting for any breaches of the cap. The AER will assess any breaches of the revenue at risk cap when using historical data to set performance targets for the regulatory control period after the cap was breached.

Stakeholder comments

Ergon Energy and ETSA Utilities sought clarification of how these clauses would be applied by the AER.[35]

Energex stated that such adjustments should only apply to frequent breaches of the revenue at risk cap.[36]

AER response

The AER has inserted these clauses to allow for the possibility of considering breaches of the revenue at risk cap in setting future performance targets under the scheme. The AER will assess any breach of the revenue at risk cap on a case by case basis and does not consider it appropriate to adopt a mechanistic approach to applying such an adjustment. The AER will require information about the cause of any breach from a DNSP.

The AER agrees that frequent breaches of the revenue at risk cap would be of more concern than a single breach. For example, if a distribution business frequently breaches the revenue at risk cap by out-performing its performance targets this may indicate the performance targets are too easy for that business.

5.4.4 Amendments to clauses 5.1(e) and 6.2(4)

The AER proposed to amend clauses 5.1(e) and 6.2(4) to align the terminology in the STPIS with that in the NER by replacing the references to 'effective competition' with 'standard control services'.

Stakeholder comments

Energex and Ergon Energy supported the inclusion of the amendments to clauses 5.1(a) and 6.2(4).[37] No stakeholders raised concerns with the inclusion of these amendments.

AER response

The AER considers it appropriate to include the amended clauses 5.1(e) and 6.2(4) in the amended STPIS.

5.4.5 Insertion of appendix E

The AER included a new appendix E that provided a detailed worked example of the operation of the equations set out in appendix C.

35 Ergon Energy, submission, p. 9; ETSA Utilities, submission, p. 6.
36 Energex, submission, p. 7.
37 Energex submission, p. 8; Ergon Energy, submission, p. 9.

Stakeholder comments

Ergon Energy stated that the equation subscripts in equations (1A), (5A) and (5B) in appendix C are inconsistent with appendix E.[38]

Energex, EnergyAustralia and Ergon Energy supported the inclusion of appendix E. EnergyAustralia also requested that the AER provide an electronic copy to stakeholders.[39]

AER response

Appendix E contains a two-period worked example of the STPIS. For simplicity, CPI was not included in the escalation of revenues and as a result equation (1A), (1B) and (1C) in appendix C did not align with appendix E. The AER has adjusted appendix E to align it with appendix C where revenues are now escalated by CPI, the X factor and the s-factor.

The AER considers it appropriate to include appendix E in the amended STPIS. An electronic copy of appendix B and appendix E is available on the AER's website; www.aer.gov.au.

5.4.6 Calculation of the SAIFI

Stakeholder comments

EnergyAustralia, Citipower and Powercor Australia stated that appendix E contained an error in the calculation of the s-factor for the unplanned SAIFI parameters.[40]

AER response

The AER acknowledges that the resulting s-factor calculations for the unplanned SAIFI parameters in appendix E of the proposed amended scheme were underweighted by a factor of 100 and that this was unintended.

The AER clarified in appendix A of the proposed amended STPIS that the unplanned SAIFI reliability of supply parameters are expressed as per 0.01 interruptions, that is, 0.01 interruptions equals one unit of unplanned SAIFI.[41]

The calculation of the incentive rate for the unplanned SAIFI parameters, set out in appendix B of the proposed amended scheme, included a multiplier of 0.01.[42] Given that unplanned SAIFI is expressed and measured as per 0.01 interruptions this multiplier is not necessary as unplanned SAIFI is already in the correct unit of measurement. The AER considers it appropriate to remove the 0.01 multiplier from incentive rate calculation in appendix B of the amended scheme. The effect of this removal flows through to appendix E.

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38 Ergon Energy, submission, p. 6.
39 EnergyAustralia, submission, p. 3.
40 EnergyAustralia, submission, p. 3; Citipower and Powercor Australia, submission, p. 1.
41 AER, *Proposed amended Electricity distribution network service providers service target performance incentive scheme*, February 2009, p. 22.
42 AER, *Proposed amended Electricity distribution network service providers service target performance incentive scheme*, February 2009, pp. 26–28.

5.4.7 Exclusions

The AER has refined the exclusions framework in clauses 3.3 and 6.4 of the amended scheme to clarify that it will not allow exclusions that do not meet the IEEE major event day exclusion threshold for outages that occur on a distribution networks that are unrelated to the load shedding/interruptions described in clause 3.3(a) and 6.4(a).

In the AER's opinion this clarification is required to make clear the operation of the scheme in the event of a distribution network suffering an outage on the same day as the load shedding/interruptions described in clause 3.3(a) and 6.4(a) of the scheme. That is, it was not apparent in version 1.0 of the scheme or in the proposed amended scheme that the AER would not allow an exclusion for any distribution interruption that was not the direct result of the load shedding interruptions described in clause 3.3 and 6.4 of the scheme.

5.4.8 GSL performance incentive scheme parameters

The AER has altered the GSL performance incentive scheme parameters in clause 6.2(c) of the amended scheme to correct a drafting error in version 1.0 of the scheme. Clarification has been added to state that the parameters that apply are set out in clauses 6.2(c)(1) to 6.2(c)(4) and either clause 6.2(c)(5) or 6.2(c)(6).

5.4.9 Updated glossary definition for unplanned outages

The AER's original definition for unplanned events only excluded events where the customer has received notice of the planned interruption. To clarify, the AER has altered its definition for unplanned event outages to explicitly exclude customer requested outages from unplanned outages.

6 Other issues raised outside the scope of the proposed amendments

As discussed in the introduction to this final decision, the AER received a number of submissions on issues which did not relate to the proposed amendments. These issues, which are set out below, have not been considered as part of this final decision.

Stakeholder	Issue
EnergyAustralia and Integral Energy	NSW Design, Reliability and Performance license conditions feeder definitions and exclusions should apply to the scheme.
Energex	Proposed an alternate measure, average speed of answer, for the telephone answering parameter as opposed to the grade of service measure.
Office of the Tasmanian Economic Regulator	Tasmania has moved to a different definition for its feeder termed 'communities' for targeted application of the STPIS.
Citipower and Powercor	Financial year vs calendar year use of the STPIS and regulatory control period. Exclusion for failure on an 'other connected network.' This is for inter-distribution connections.
ETSA Utilities	Abnormal impact exclusions for third party events beyond ETSA's control. Use of the Box Cox approach instead of the natural logarithm in the IEEE methodology.
Independent Competition and Regulatory Commission (ICRC)	ICRC does not support the use of incentive regulation to provide reliability improvements in the National Electricity Market. ICRC was also concerned with the weight applied to the GSL measure of 1 per cent.
Jemena Electricity Networks (Victoria)	Jemena raised concerns that the scheme considers each reclose to be a separate MAIFI event.
United Energy	Bonuses should be greater than penalties as the costs of improvement are greater than the bonus that can be achieved. United Energy proposed that rather than continuing with the *t*–6 calculation of the Victorian STPIS reward until 2018 (for 2010 performance) revenues in the 2011–15 regulatory control period (for Victoria) could be adjusted for the net present value of the *t*–6 formulation at the time of the distribution determination for that regulatory control period.
SPA Consulting	Street light maintenance should have a GSL component added. GSL component for written and electronic communication. Maximum time of 21 days from time of audit acceptance until time of connection for projects carried out on the basis of developer Design and Construct of network connection assets. The AER should amend the GSL payment amount.

Appendix A: Submission received on the proposed amended STPIS

The following parties provided submissions on the AER's proposed amended STPIS published on 19 March 2009:

- CitiPower and Powercor Australia
- Department of Primary Industries (Victoria)
- Department of Employment, Economic Development and Innovation (Queensland)[43]
- Energex
- EnergyAustralia
- Ergon Energy
- ETSA Utilities
- Independent Competition and Regulatory Commission
- Integral Energy
- Jemena Electricity Networks (Victoria)
- Office of the Tasmanian Economic Regulator
- Origin Energy
- SP AusNet
- SPA Consulting
- United Energy

[43] Formerly the Department of Mines and Energy (Queensland).

Appendix B: Addressing the NER requirements

The following table sets out how the AER has met the relevant NER requirements in developing the amended STPIS.

Rule requirement	AER response
Clause 6.6.2(b)(1)	
The AER must consult with the authorities responsible for the administration of relevant jurisdictional electricity legislation.	The AER has consulted with the authorities responsible for the administration of relevant jurisdictional electricity legislation in the development of the amendments to the STPIS. The AER contacted these authorities to facilitate the consultation process. A number of authorities provided submissions on the proposed amended STPIS and met with AER staff to discuss the proposed amendments to the scheme.
Clause 6.6.2(b)(2)	
The AER must ensure that service standards and service targets (including guaranteed service levels) set by the scheme do not put at risk the DNSP's ability to comply with relevant service standards and service targets (including guaranteed service levels) as specified in jurisdictional electricity legislation.	Service standards and service targets as specified in jurisdictional legislation will be funded through the capital and operating expenditure requirements of a DNSP. The impact of these improvements will be considered when setting performance targets under the STPIS. The amendments to the STPIS do not put at risk a DNSP's ability to comply with relevant service standards and service targets specified in jurisdictional electricity legislation. The GSL component of the scheme will not apply where a jurisdictional GSL scheme is imposed, therefore, the STPIS will not put at risk a DNSP's ability to comply with GSLs in jurisdictional electricity legislation.
Clause 6.6.2(b)(3)(i)	
The AER must take into account 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.	The amended STPIS provides a symmetrical financial incentive for DNSPs to maintain and improve service performance. Customers benefit from the scheme's application by receiving improved service levels, or lower prices that reflect diminished service levels. The AER considers that the benefits likely to result from the amended STPIS are sufficient to warrant any reward or penalty under the scheme.
Clause 6.6.2(b)(3)(ii)	
The AER must take into account any regulatory obligation or requirement to which the DNSP is subject.	The AER has set out that it will take into account any regulatory obligations or requirements in setting performance targets under the scheme. As noted above, the GSL component of the STPIS will not apply where a jurisdictional scheme is in place. The amendments to the STPIS have not altered how the AER will take account of any regulatory obligations or requirements.

Clause 6.6.2(b)(3)(iii) The AER must take into account the past performance of the distribution network.	Performance targets under the amended scheme are to be set at the average of the last five years performance, adjusted for any planned reliability improvements or any other factors that are expected to materially affect network reliability performance. GSL payments and thresholds have been developed and based on existing jurisdictional GSL arrangements and thus are generally based on the levels of service that DNSPs are currently subject to under these arrangements.
Clause 6.6.2(b)(3)(iv) The AER must take into account any other incentives available to the DNSP under the NER or a relevant distribution determination.	In amending the STPIS, the AER has taken into account incentives provided under the CPI minus X regulatory framework, the efficiency benefit sharing scheme and demand management incentive scheme as set out in the NER and developed by the AER.
Clause 6.6.2(b)(3)(v) The AER must take into account 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.	Incentive rates are calculated based on customer's willingness to pay and the scheme is symmetrical, i.e. penalties are incurred at the same rate as rewards, there is a strong incentive for a DNSP not to reduce costs at the expense of service levels. The STPIS is flexible to allow incentive rates to be increased or decreased as appropriate. This will be decided as part of the distribution determination. A ±5 per cent cap on the revenue at risk is applied under the amended STPIS. This establishes the maximum reward a DNSP can earn from improved service levels and limits the penalty incurred from diminishing service levels. The rationale for the cap is discussed in the final decision for version 1.0 of the scheme. The amendments made to the s-factor formula improve the balance between the financial incentives under a capped scheme.
Clause 6.6.2(b)(3)(vi) The AER must take into account the willingness of the customer or end user to pay for improved performance in the delivery of services.	The incentive rates are calculated using the VCR which reflects customers' willingness to pay for improved levels of service. The AER has updated the VCR values set out in version 1.0 of the scheme as it believes the most recent documented and robust data should be used to reflect the VCR.
Clause 6.6.2(b)(3)(vii) The AER must take into account the possible effects of the scheme on incentives for the implementation of non-network alternatives.	The AER has taken into account the possible effects of the STPIS on incentives for the implementation of non-network alternatives. The AER intends that the STPIS be as neutral as possible regarding the level of reliability provided by network solutions vis-à-vis non-network alternatives. The amendments to the STPIS do not affect a DNSPs incentive to implement non-network alternatives.

Appendix C: Service target performance incentive scheme

This appendix is provided as an attachment to this final decision document.

Shortened forms

AER	Australian Energy Regulator
CPI	consumer price index
CRA	Charles River Associates
DNSP	distribution network service provider
DEEDI	Department of Employment, Economic Development and Innovation (Queensland)
DPI	Department of Primary Industries (Victoria)
EBSS	efficiency benefit sharing scheme
GSL	guaranteed service level
IEEE	Institute of Electrical and Electronic Engineers (USA)
MAIFI	momentary average interruption frequency index
NEL	National Electricity Law
NEM	National Electricity Market
NER	National Electricity Rules
opex	operating expenditure
s-factor	service standards factor
SAIDI	system average interruption duration index
SAIFI	system average interruption frequency index
SCNRRR	Steering Committee of National Regulatory Reporting Requirements
STPIS	service target performance incentive scheme
VCR	value of customer reliability
WACC	weighted average cost of capital