Draft Decision

Ausgrid distribution determination

2015–16 to 2018–19

Attachment 11: Service target performance incentive scheme

November 2014

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Note

This attachment forms part of the AER's draft decision on Ausgrid's 2015–19 distribution determination. It should be read with other parts of the draft decision.

The draft decision includes the following documents:

Overview

Attachment 1 – Annual revenue requirement

Attachment 2 – Regulatory asset base

Attachment 3 – Rate of return

Attachment 4 – Value of imputation credits

Attachment 5 – Regulatory depreciation

Attachment 6 – Capital expenditure

Attachment 7 – Operating expenditure

Attachment 8 – Corporate income tax

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Contents

Shortened forms

Shortened form	Extended form
AARR	aggregate annual revenue requirement
AEMC	Australian Energy Market Commission
AEMO	Australian Energy Market Operator
AER	Australian Energy Regulator
ASRR	aggregate service revenue requirement
augex	augmentation expenditure
capex	capital expenditure
CCP	Consumer Challenge Panel
CESS	capital expenditure sharing scheme
CPI	consumer price index
CPI-X	consumer price index minus X
DRP	debt risk premium
DMIA	demand management innovation allowance
DMIS	demand management incentive scheme
distributor	distribution network service provider
DUoS	distribution use of system
EBSS	efficiency benefit sharing scheme
ERP	equity risk premium
expenditure assessment guideline	expenditure forecast assessment guideline for electricity distribution
F&A	framework and approach
MRP	market risk premium

Shortened form	Extended form
NEL	national electricity law
NEM	national electricity market
NEO	national electricity objective
NER	national electricity rules
NSP	network service provider
opex	operating expenditure
PPI	partial performance indicators
PTRM	post-tax revenue model
RAB	regulatory asset base
RBA	Reserve Bank of Australia
repex	replacement expenditure
RFM	roll forward model
RIN	regulatory information notice
RPP	revenue pricing principles
SAIDI	system average interruption duration index
SAIFI	system average interruption frequency index
SLCAPM	Sharpe-Lintner capital asset pricing model
STPIS	service target performance incentive scheme
WACC	weighted average cost of capital

Shortened form	Extended form

11 Service target performance incentive scheme

We published the current version of our national Service Target Performance Incentive Scheme for electricity DNSPs (STPIS) in November 2009. This scheme provides a financial incentive for DNSPs to maintain and improve their performance.[1] The STPIS balances the incentive in the regulatory framework for DNSPs to reduce costs at the expense of service performance. Cost reductions are beneficial to both DNSPs and their customers when service performance is maintained or improved.

The STPIS establishes targets based on historical performance, and provides financial rewards for DNSPs exceeding performance targets and financial penalties for DNSPs failing to meet targets. These rewards and penalties are calculated by taking into account the value of customer reliability (VCR). This aligns the DNSPs' incentives with the long term interests of consumer, which is consistent with the NEO.

The STPIS has two components, the s-factor component and the guaranteed service levels (GSL) scheme. The s-factor component adjusts the revenue that a DNSP earns depending on reliability of supply and customer service performance. The GSL scheme sets threshold levels of service for DNSPs to achieve and requires direct payment to customers who experience service worse than the predetermined level.

We have not previously applied our national STPIS to the NSW or ACT DNSPs and we determined that no STPIS would apply to the NSW or ACT DNSPs in the transitional regulatory control period.[2] That is, the NSW and ACT DNSPs are not currently subject to financial penalty or reward through the s-factor component. However, jurisdictional GSL arrangements do apply.

In our Stage 2 Framework and Approach (F&A), we proposed to apply the s-factor component of our national STPIS to the NSW and ACT DNSPs for the 2015–19 regulatory control period. We considered this to be suitable given we now have sufficient historical data (collected over the 2009–14 regulatory control period) with which to set service performance targets. We did not propose to apply the guaranteed service level component (GSL) if the NSW and ACT DNSPs remain subject to jurisdictional GSL arrangements.[3]

11.1 Draft decision

Consistent with our Stage 2 F&A and Ausgrid's proposal, we will apply the s-factor component of our national STPIS to Ausgrid for the 2015–19 regulatory control period. We will not apply the GSL component to Ausgrid as the existing NSW GSL arrangement will continue to apply. We propose to apply the STPIS to Ausgrid in accordance with the details set out below.

11.1.1 Revenue at risk

The revenue at risk caps the risk of the STPIS to Ausgrid. The penalty or reward of the STPIS is calculated as a percentage adjustment to Ausgrid's total revenue. We accept Ausgrid's proposal that the revenue at risk for each regulatory year of the 2015–19 regulatory control period will be capped at

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[1]   AER, *Electricity distribution network service providers—service target performance incentive scheme*, 1 November 2009. (AER, *Electricity distribution STPIS*, Nov 2009).
[2]   AER, *Transitional decision for NSW and ACT DNSPs*, 16 April 2014, p. 49.
[3]   AER, *Stage 2 framework and approach NSW distributors, January 2014*, pp. 14–15; AER, *Stage 2 framework and approach ActewAGL*, January 2014, pp. 14–15.

±2.5 per cent. Within this there will be a cap of ±2.25 per cent for the reliability of supply component and ±0.25 per cent for the customer service component.[4]

11.1.2 Performance targets

Reliability of supply

We will apply the System Average Interruption Duration Index (SAIDI) and System Average Interruption Frequency Index (SAIFI) of the reliability of supply component to Ausgrid. We accept Ausgrid's proposed 2.5 beta method to derive the major event day thresholds (MED) in accordance with Appendix D of the STPIS. However, we do not accept Ausgrid's proposed performance targets for reliability of supply component because Ausgrid's proposal was based on an additional $28.3 million of capex allowance to improve reliability for the 2015–19 regulatory control period. We do not accept this additional reliability improvement capex and we have removed the associated reliability improvement from our targets. This means the targets set below are largely based on its historical performance over the 2009–14 period with some adjustments as discussed below.

We applied trend analysis to assess and account for Ausgrid's reliability improvement expenditure in the previous regulatory period. Table 11-1 sets out our draft decision on Ausgrid's performance targets for reliability of supply component.

Table 11-1 **Our indicative performance targets for Ausgrid's reliability of supply component[5]**

Year	2015/16	2016/17	2017/18	2018/19
Unplanned SAIDI				
CBD	20.51	20.51	20.51	20.51
Urban	65.92	65.92	65.92	65.92
Short rural	165.79	165.79	165.79	165.79
Long rural	466.91	466.91	466.91	466.91
Unplanned SAIFI				
CBD	0.085	0.085	0.085	0.085
Urban	0.737	0.737	0.737	0.737
Short rural	1.596	1.596	1.596	1.596
Long rural	3.471	3.471	3.471	3.471

Source: AER analysis.

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[4]   Ausgrid, *Attachment 3.02 – proposed application of STPIS for the 2014–19 period*, May 2014, p. 1.
[5]   We have taken Ausgrid's estimated 2013–14 data to set the indicative performance targets for this draft decision. We will set the performance targets for reliability of supply parameters based on the actual 2013–14 data for the final decision once we have verified the data.

Customer service component

We will apply the telephone answering parameter to Ausgrid. We accept Ausgrid's proposed performance target that 75 per cent of calls will be answered within 30 seconds.

11.1.3 Incentive rates

The incentive rates represent the penalties or rewards that Ausgrid will receive for each unit of variation in performance from the relevant performance target. Instead of applying the VCR prescribed in clause 3.2.2 of the STPIS, we consider the most recent VCR should be applied as it better reflects customers' current value for reliability.

We note that AEMO has recently carried out a VCR review and published the final results from this review in September 2014.[6] We consider the revised AEMO VCR values represent the best available information for this purpose because the review process was comprehensive and included survey of NSW consumers and relies on more recent information on the preferences of NSW consumers than the VCRs prescribed in the STPIS. Table 11-2 presents our indicative incentive rates to apply to Ausgrid's SAIDI and SAIFI targets. They are based on the 2014 AEMO NSW VCR and the average of the smoothed annual revenue determined in this draft decision.[7]

Table 11-2   Our indicative incentive rates on Ausgrid's reliability of supply targets

Network type	CBD	Urban	Short rural	Long rural
Unplanned SAIDI	0.010020	0.046502	0.006271	0.000056
Unplanned SAIFI	2.139630	4.287983	0.708092	0.008202

Source: AER analysis.

Broadly these VCRs stemming from the recent AEMO work are lower than the previous VCRs reflecting a lower customer willingness to pay for reliability improvements. This leads to lower incentive rates and smaller penalties and rewards for each unit of variation in performance from the targets set.

The incentive rate for the telephone answering parameter will be –0.04 per cent per unit of the telephone answering parameter, which is consistent with Ausgrid's proposal and clause 5.3.2 of the STPIS.[8]

11.2   Ausgrid's proposal

Ausgrid broadly accepted our proposed application of the STPIS for the 2015–19 regulatory control period. It proposed that only unplanned SAIDI and unplanned SAIFI of the reliability of supply component would be subject to revenue at risk as it did not have sufficient historical MAIFI data. It also proposed to apply the telephone answering parameter under the customer service component.[9]

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[6]   AEMO, *Value of customer reliability review final report*, September 2014.
[7]   We will update the incentive rates based on the average of the smoothed annual revenue determined in the final decision and the revised SAIDI and SAIFI performance targets based on the actual data for 2013–14.
[8]   Ausgrid, *Attachment 3.02 – proposed application of STPIS for the 2014–19 period*, May 2014, p. 8.
[9]   Ausgrid, *Attachment 3.02 – proposed application of STPIS for the 2014–19 period*, May 2014, pp. 2–3.

Ausgrid proposed a revenue at risk of ±2.5 per cent, which comprised of ±2.25 per cent for reliability of supply parameters and ± 0.25 per cent for the telephone answering parameter.[10]

For the reliability of supply component, Ausgrid proposed to derive the MED thresholds using the 2.5 beta method, which is consistent with appendix D of the STPIS. It used its reliability forecast system to derive its proposed performance targets. Table 11-3 below sets out Ausgrid's proposed performance targets for unplanned SAIDI and unplanned SAIFI. It also proposed to calculate the incentive rates in accordance with clause 3.2.2 of the STPIS and use the VCR prescribed in the STPIS.[11]

Table 11-3   Ausgrid's proposed performance targets for the reliability of supply component

Year	2014/15	2015/16	2016/17	2017/18	2018/19
Unplanned SAIDI (minutes)					
CBD	24.77	23.41	21.18	18.87	18.79
Urban	69.00	67.63	66.33	64.94	63.92
Short rural	167.07	163.68	160.70	157.85	155.00
Long rural	517.47	517.47	517.47	517.47	517.47
Unplanned SAIFI					
CBD	0.17	0.17	0.16	0.16	0.16
Urban	0.83	0.82	0.81	0.80	0.80
Short rural	1.83	1.83	1.83	1.82	1.82
Long rural	4.07	4.07	4.07	4.07	4.07

Source: Ausgrid, *Attachment 3.02 – proposed application of STPIS for the 2014–19 period*, May 2014, p.5.

For the customer service component, Ausgrid proposed to exclude reliability of supply exclusions from the calculation of telephone answering performance, consistent with clause 3.3 of the STPIS. It submitted that its historical call centre performance was aided by its ability to transfer calls to the retail line under the current Transitional Service Agreement (TSA). The TSA will expire in November 2014, therefore it is expecting a reduction in its telephone answering performance. Ausgrid proposed to set the telephone answering target at 75 per cent and will establish a data capture period of 12 months following the completion of the TSA to predict performance of a network only business. It also

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[10]   Ausgrid, *Attachment 3.02 – proposed application of STPIS for the 2014–19 period*, May 2014, p. 1.
[11]   Ausgrid, *Attachment 3.02 – proposed application of STPIS for the 2014–19 period*, May 2014, pp. 3–6.

proposed to apply the incentive rate of –0.04 per cent per unit of the telephone answering parameter consistent with clause 5.3.2(a)(1) of the STPIS.[12]

11.3 AER's assessment approach

In developing and implementing the STPIS, we must take into account:

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

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

(3) the past performance of the distribution network; and

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

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

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

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

Clause 2.1(d) of the STPIS requires us to determine the following in accordance with the NER and the implementation of the STPIS:

(1) each applicable component and parameter to apply to a DNSP including the method of network segmentation for the reliability of supply component

(2) the revenue at risk to apply to each applicable component and parameter

(3) the incentive rate to apply to each applicable parameter including the value of customer reliability (VCR) to be applied in accordance with clause 3.2.2(d) and appendix B

(4) the performance target to apply to each applicable parameter in each regulatory year of the regulatory control period

(5) any decision with respect to the transitional arrangements set out in clause 2.6

(6) the threshold to apply to each applicable GSL parameter

(7) the payment amount to apply to the applicable GSL parameter

(8) the major event day boundary to apply to a DNSP:

(a) where the DNSP has proposed a major event day boundary that is greater than 2.5 standard deviations from the mean; or

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[12]   Ausgrid, *Attachment 3.02 – proposed application of STPIS for the 2014–19 period*, May 2014, pp.7-8.

(b) where the major event day boundary that applied to the DNSP in previous distribution determinations was greater than 2.5 standard deviations from the mean; or

(c) where the DNSP has proposed a major event day boundary that is greater than 2.5 standard deviations from the mean and where in previous distribution determinations the major event day boundary that has applied to the DNSP was greater than 2.5 standard deviations from the mean.

We have outlined our likely approach to the application of the STPIS in the Stage 2 F&A. We have adopted the position in the F&A paper, unless new information has become available which warrants a reconsideration of this position. In such instance, we have considered the relative merits of the alternative against the objectives of the STPIS.

11.3.1 Interrelationships

In applying the STPIS we must consider any other incentives available to the distributor under the rules or relevant distribution determination.[13] One of the objectives of the STPIS is 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.[14] For the 2015–19 regulatory control period, the STPIS will interact with the Capital Expenditure Sharing Scheme (CESS).[15] However, for this period we will not apply the expenditure benefit sharing scheme (EBSS) which applies to opex as we have set the opex allowance exogenously.[16]

The CESS rewards distributors whose capital expenditure becomes more efficient. In setting the STPIS performance targets, we will consider both completed and planned reliability improvements expected to materially affect network reliability performance.[17] By setting the performance targets in such a way, any incentive a DNSP may have to reduce capital expenditure at the expense of target service levels will be offset by the STPIS penalty.

We have not funded Ausgrid with capex or opex allowances to improve its supply reliability for the 2015–19 regulatory control period. Therefore if Ausgrid were to improve its reliability, it should fund the investment itself, which it could do from STPIS rewards. This means it will only earn a financial reward from the STPIS after the investment has delivered a material improvement to the reliability outcomes. Our proposed incentive rates will ensure that this financial reward is reflective of customers' value on reliability improvement. The STPIS will ensure that any investment decision to improve reliability will be made efficiently after taking into account the VCR. This leads to more efficient investment outcomes that meet the long term interest of consumers.

11.4 Reasons for draft decision

The following section sets out our consideration in applying the STPIS to Ausgrid for the 2015–19 regulatory control period.

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[13]   NER, cl. 6.6.2(b)(3)(iv).
[14]   Clause 1.5(b)(5) of the STPIS.
[15]   The Efficiency Benefit Sharing Scheme will not operate for the 2015–19 regulatory control period.
[16]   AER, *Overview, Ausgrid distribution determination 2014-15 to 2018-19*, November 2014
[17]   Included in the distributor's approved forecast capex for the subsequent period.

11.4.1 Applicable components and parameters

We have stated in Stage 2 F&A that:[18]

- performance targets would be set for both SAIDI and SAIFI under the reliability of supply component, with financial incentives attached to each.

- Ausgrid's network would be divided into four feeder types (CBD, urban, short rural and long rural).

- we will apply the telephone answering parameter under the customer service component to the NSW DNSPs in the 2015–19 regulatory control period.

- we would not apply the GSL component of the STPIS to NSW DNSPs while the jurisdictional GSL scheme remains in place.

As we have not identified any reasons that we should depart from the above positions, we will apply the SAIDI and SAIFI reliability of supply parameters and the telephone answering customer service parameter to Ausgrid. We will not apply the GSL component of the STPIS to Ausgrid in the 2015–19 regulatory control period as the existing NSW GSL arrangement will continue to apply.

The CCP suggested that we should consider the inclusion of a public lighting element into the STPIS as it would provide DNSPs with incentives to respond appropriately to the needs of consumers, until there is more contestability.[19] Origin suggested that we should consider broadening the scope of the STPIS to include measures reflecting services that customers value more, this includes timeframe required to visit a customer's premise and re-billing caused by metering errors.[20] We consider these issues would be better addressed when we review our national STPIS. Given there is inadequate time to review our national STPIS to consider these issues before finalising our determinations for the NSW DNSPs, we will not apply those suggested additional components to Ausgrid.

11.4.2 Revenue at risk

Revenue at risk caps the potential rewards and penalties that Ausgrid would receive under the scheme. The STPIS allows us to vary the revenue at risk where this would satisfy the objectives of the scheme. In setting the revenue at risk, we must take into account the benefits to consumers that are likely to result from the scheme, in particular, that the benefits are sufficient to warrant any reward or penalty under the scheme for the DNSPs.

We proposed to set the revenue at risk for the NSW DNSPs within the range of ± 5 per cent in the Stage 2 F&A paper. In Ausgrid's regulatory proposal, it considered the ±5 per cent revenue at risk to be excessive given the implementation issues with transitioning to a new scheme.[21] Ausgrid proposed to apply a revenue at risk of ±2.5 per cent. Within this there will be a cap of ±2.25 per cent for the reliability of supply component and ±0.25 per cent for the customer service component.[22]

Through its customer engagement activity, Ausgrid found that there was little support for reliability improvement if it involved bill increases.[23] The CCP further suggested that consumers may prefer lower prices for reduced reliability.[24] Under this circumstance, we consider applying lower revenue at

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[18]   AER, *Stage 2 framework and approach Ausgrid, Endeavour Energy and Essential Energy*, January 2014, pp.14–15.
[19]   CCP, *CCP1 submission to AER re NSW DNSPs' regulatory proposals 2014–19*, 15 August 2014, p. 39.
[20]   Origin, *Submission to Ausgrid, Endeavour, Essential initial 2015-19 regulatory proposal*, August 2014, p. 37.
[21]   Ausgrid, *Attachment 3.02 – proposed application of STPIS for the 2014–19 period*, May 2014, p. 2.
[22]   Ausgrid, *Attachment 3.02 – proposed application of STPIS for the 2014–19 period*, May 2014, p. 1.
[23]   Ausgrid, *Ausgrid's regulatory proposal*, 30 May 2014, p. 12.
[24]   CCP, *CCP1 submission to AER re NSW DNSPs' regulatory proposals 2014–19*, 15 August 2014, p. 12.

risk would better meet the objectives of the scheme and long term interest of consumers as it limits customers' exposure to potential price increases if there is further reliability improvement. Further, as discussed in section 11.4.3, Ausgrid has spent a total of $1.7–2.1 billion on reliability and security improvement projects. There is uncertainty of what this expenditure would deliver in terms of supply reliability in the 2015–19 regulatory control period. We have adjusted Ausgrid's performance targets for completed reliability improvement projects that are expected to result in a material improvement in supply reliability. This intended to mitigate the risks of customers paying twice for service improvements that they have already paid. Further, the application of a lower powered scheme in this instance will reduce the risk of consumers and Ausgrid for paying or receiving inadequate rewards or penalties under the adjusted performance targets.

We accept Ausgrid's proposal that the revenue at risk for each regulatory year of the 2015–19 regulatory control period will be capped at ±2.5 per cent. Within this there will be a cap of ±2.25 per cent for the reliability of supply component and ±0.25 per cent for the customer service component. We consider this lower powered incentive would balance the risk to both consumers and Ausgrid and thus better meet the objectives of the STPIS.

11.4.3 Reliability of supply component

We will apply unplanned SAIDI and unplanned SAIFI parameters under the reliability of supply component to Ausgrid for the 2015–19 regulatory control period. Unplanned SAIDI measures the sum of the duration of each unplanned sustained customer interruption (in minutes) divided by the total number of distribution customers. Unplanned SAIFI measures the total number of unplanned sustained customer interruptions divided by the total number of distribution customers.

MED exclusions

The STPIS allows certain events to be excluded from the calculation of the s-factor revenue adjustment. These exclusions include the events that are beyond the control of Ausgrid, such as the effects of transmission network outages and other upstream events. They also exclude the effects of extreme weather events that have the potential to significantly affect Ausgrid's STPIS performance.

Ausgrid proposed to calculate MED thresholds using 2.5 beta method in accordance with appendix D of the STPIS.[25] This is consistent with the position in our Stage 2 F&A.[26] We will apply the exclusions as proposed by Ausgrid and have incorporated our calculation of exclusions into the setting of STPIS targets for this draft decision. Table 11-4 sets out our calculated MED thresholds calculated in accordance with Appendix D of the STPIS.

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[25]   Ausgrid, *Ausgrid's regulatory proposal*, 30 May 2014, p. 4.
[26]   AER, *Stage 2 framework and approach Ausgrid, Endeavour Energy and Essential Energy*, January 2014, p. 14.

Table 11-4   Our calculated MED thresholds (T$_{MED}$)

Regulatory year	T$_{MED}$
2009/10	3.745
2010/11	3.345
2011/12	3.181
2012/13	2.714
2013/14	2.617

Source: AER analysis

Performance targets

In the Stage 2 F&A, we proposed to set the performance targets based on Ausgrid's average performance over the past five regulatory years. As we are setting the performance targets for 2015/16 regulatory year onwards, we consider the most recent data is desirable and it is also consistent with the STPIS. We will use historical data for the 2009–10 to 2013–14 regulatory years as the base to forecast service performance instead of the data for the 2008–09 to 2012–13 period as proposed by Ausgrid.[27]

The STPIS requires us to take into account any regulatory obligation or requirement to which Ausgrid is subject to. Ausgrid is required to meet the minimum network overall reliability standards prescribed in schedule 2 of the NSW licence conditions for electricity distributors.[28] We note Ausgrid is currently performing better than these prescribed minimum requirement as illustrated in Figure 11-1 to Figure 11-3. The NSW licence conditions indicate that the DNSP has discretion to plan its investment for compliance with these licence conditions to suit its individual circumstances if it is economically efficient to do so.[29] Ausgrid proposed to set its performance targets based on its Reliability Forecast System (RFS) model for each of the feeder categories that takes into account completed and planned reliability improvement. [30]

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[27]   We have used Ausgrid's estimated data for 2013/14, we will update the SAIDI and SAIFI targets based on Ausgrid's actual data for 2013/14 in the final decision once we have reviewed and confirmed the data.

[28]   *Reliability and performance licence conditions for electricity distributors – the Hon Anthony Roberts MP Minster for Resources & Energy*, 1 July 2014.

[29]   *Reliability and performance licence conditions for electricity distributors explanatory note*, Commencement date 1 July 2014, p. 3.
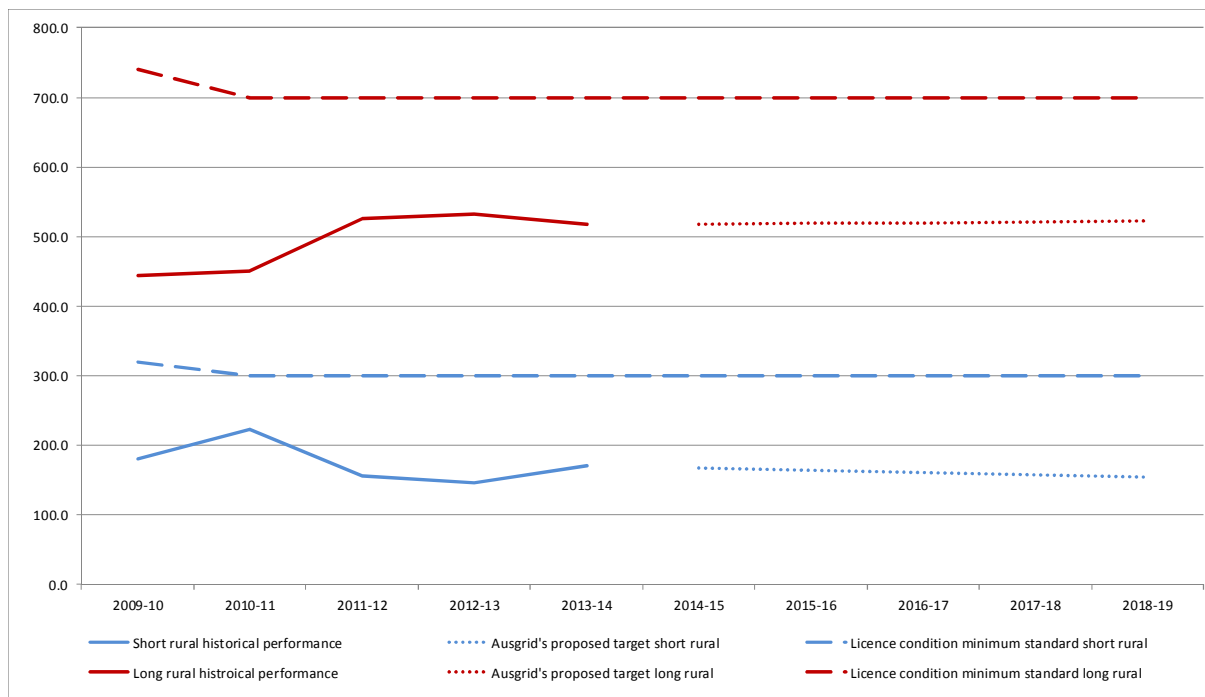
[30]   Ausgrid, *Ausgrid's response to the AER's information of 7 July 2014*, 22 July 2014, p. 5.

Figure 11-1   Ausgrid's unplanned SAIDI performance, proposed target and minimum standards for CBD and urban areas (minutes)
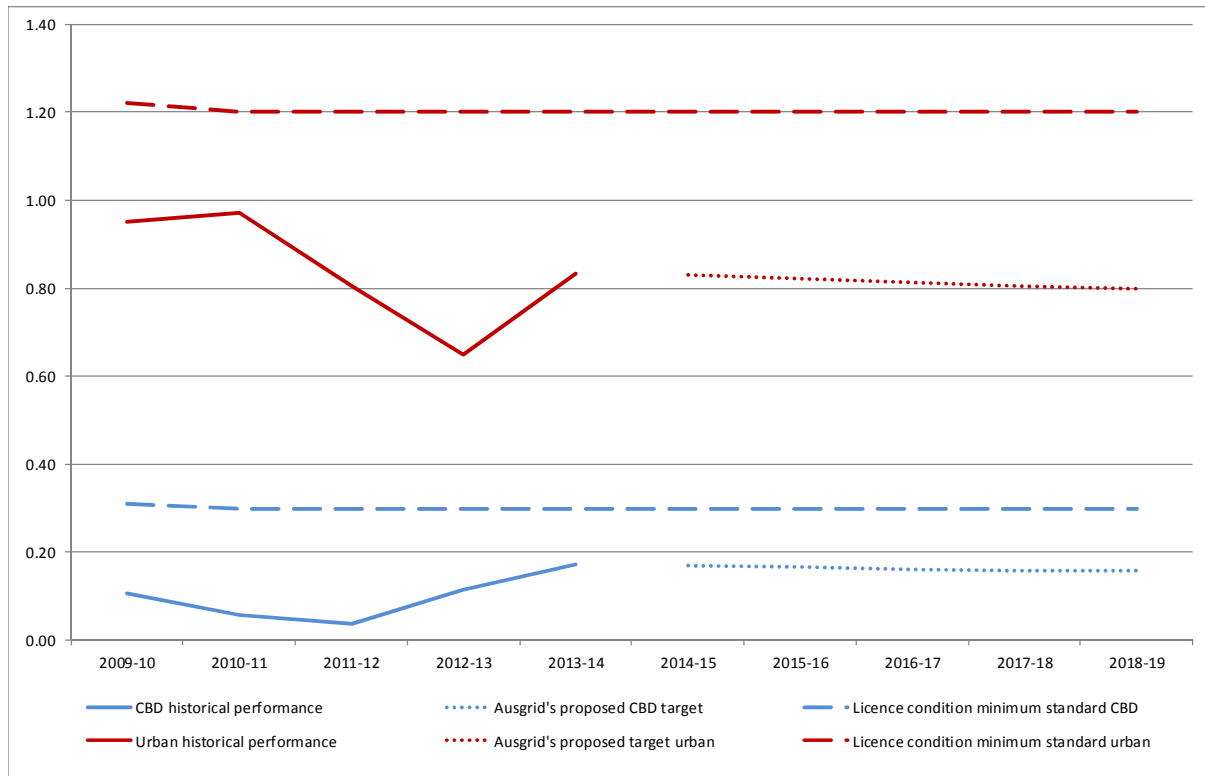

Source: Ausgrid, *revised RIN table 6.2.1*; AER analysis.

Figure 11-2   Ausgrid's unplanned SAIDI performance, proposed target and minimum standards for short rural and long rural areas (minutes)
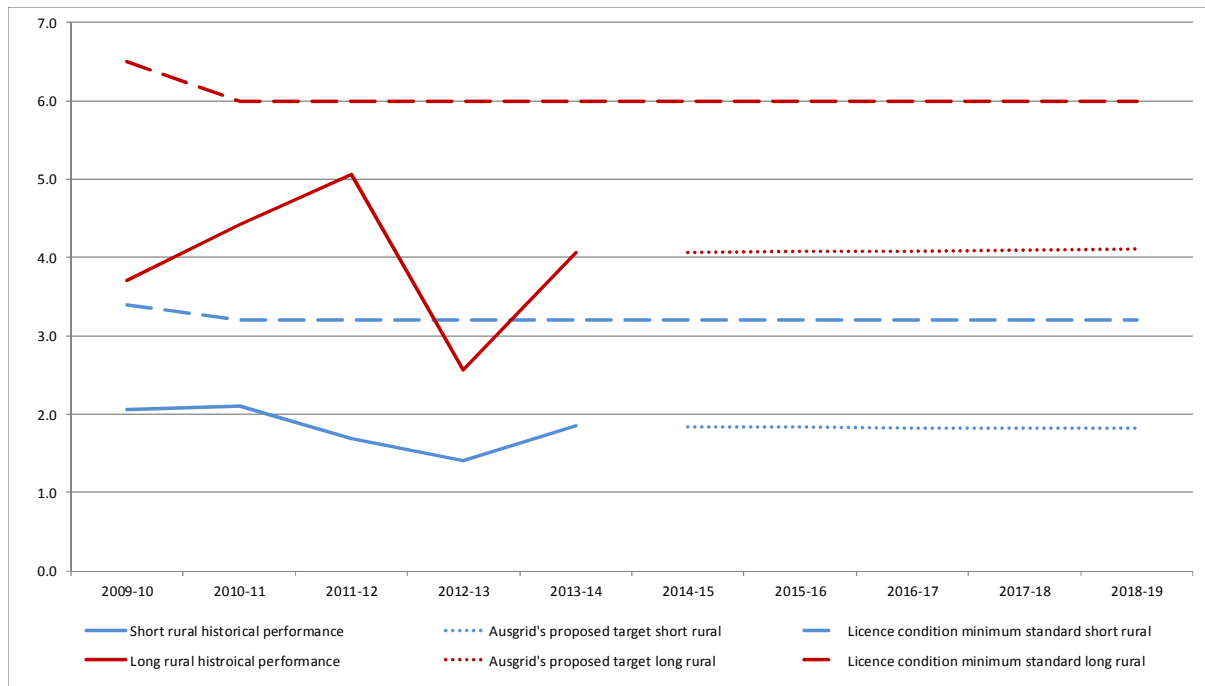

Source: Ausgrid, *revised RIN table 6.2.1*; AER analysis.

Figure 11-3   **Ausgrid's unplanned SAIFI performance, proposed target and minimum standards for CBD and urban areas (number of interruptions)**

Source: Ausgrid, *revised RIN table 6.2.2*; AER analysis.

Figure 11-3   **Ausgrid's unplanned SAIFI performance, proposed target and minimum standards for short rural and long rural areas (number of interruptions)**

Source: Ausgrid, *revised RIN table 6.2.2*; AER analysis.

Clause 3.2.1(a) of the STPIS states that performance targets for the reliability of supply parameters must be established with reference to average historical performance modified to account for completed or planned reliability improvements and any other factor expected to materially affect network reliability performance.

We do not have a preferred method for how this modification should be undertaken. However, such modification must take account of expenditure programs completed in the previous regulatory period or planned to be undertaken in the next regulatory control period, and the benefits, in terms of improved reliability outcomes, these programs are expected to deliver to the DNSP's network. Any proposed modification will need to be supported by statistical analysis.

The EUAA noted the NSW Government has removed various planning standards and made its reliability standards more flexible. It suggested that we should ensure the DNSPs' proposals would reflect the recent changes to reliability standards.[31] The key determinant of a DNSP's reliability performance is its existing network assets and their configuration, which is the result of the DNSP's historical investment and its operating practices. Most of these assets have an expected life in excess of 50 years, therefore by discounting for uncontrollable external impacts such as weather variations, the DNSP's reliability level should not change abruptly. Setting the performance targets based on historical average and adjusted for the results of completed and planned reliability improvement ensures customers do not pay for historical reliability investment twice.

We note a key driver of the NSW DNSPs' expenditure in the 2009–14 regulatory control period was to augment their networks to meet the previous N-1 deterministic planning standard.[32] Ausgrid reported it has spent around $1.3–1.6 billion of capex to meet this planning standard in the 2009–14 regulatory control period. It has also spent an additional $406–497 million of capex in the same period that would have an impact on reliability.[33] That is, Ausgrid has spent a total of $1.7–2.1 billion to improve security and reliability of its network during the 2009–14 regulatory control period. The NSW Government has removed this N-1 deterministic planning standard from the licence conditions since 1 July 2014.

Ausgrid submitted that only $53.8 million out of this reported $1.7–2.1 billion was dedicated to deliver reliability improvement outcomes. It considered the primary driver of the investment in planning standards was to improve system security not customer reliability. However, it did not suggest that investment in system security will not assist or have any impact on reliability performance at times of outages. It proposed to set its performance targets based on its RFS model.[34]

We have reviewed Ausgrid's RFS model and noted its proposed targets are based on an additional capex of $28.3 million over the 2014–19 period to improve individual feeder and individual customer performance.[35] We have not approved this spending in our capex allowance as we have only provided an allowance sufficient for Ausgrid to meets its regulatory obligations. The STPIS program should provide the incentive (or penalty) for Ausgrid to improve (or degrade) network reliability after taking into account the VCR. As such, we do not accept Ausgrid's proposed modifications to the reliability of supply targets.

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[31] EUAA, *Submission to NSW electricity distribution revenue proposals (2014/15 to 2018/19),* 8 August 2014, pp. 4 & 12.

[32] Design, r*eliability and performance licence conditions for distribution network service providers – Ian Macdonald, MLC Minister for Energy,* 1 December 2007, Schedule 1.

[33] Ausgrid, *Ausgrid's response to the AER's information of 7 July 2014*, 22 July 2014, pp.2 and 9. Note Ausgrid reported a total reliability impact capex of $1.162–1.421 billion, however it includes a big proportion of augex. We consider the augex associated with reliability improvements would be captured by the reported N-1 capex and should not be double counted. We have removed the relevant augmentation component in the reported reliability impact capex.

[34] Ausgrid, *Ausgrid's response to the AER's information of 7 July 2014*, 22 July 2014, pp. 4–9.

[35] Ausgrid, *Attachment 5.26 – Overview of the reliability investment plan for 2014–19*, May 2014, p. 2.

In addition, we do not consider the $53.8 million capex, which is less than 3 per cent of the reported total reliability and security spending, represents the reasonable proportion of the capital investment that will likely have an impact on supply reliability for the 2009–14 regulatory control period. We consider security is closely linked to reliability and N-1 investment should deliver material reliability improvement. Degradation in system security is likely to increase risk of prolonged interruptions to consumers or even equipment damage following a contingency event. The AEMC and some service providers also support this view.[36] While individually, a single N-1 investment project may only address 1 in 10 year events, collectively however, the volume of works undertaken in the $1.3–1.6 billion N-1 program is expected to have identifiable and material impacts in supply reliability for each regulatory year subsequent to their completion.

Theoretically, Ausgrid should only invest in reliability and security improvement projects when it considers it is economically efficient to do so. That is the benefits to consumers from the investment should outweigh the cost of such investment. However, this was not the case when Ausgrid undertook those $1.7–2.1 billion investments. We estimated the investment of this magnitude should deliver a system SAIDI improvement of around 90 minutes based on the VCR set out in the STPIS.[37] We recognise that Ausgrid was obliged to invest to meet the N-1 requirements in a deterministic manner. While we do not expect the historical investment will actually deliver 90 minutes of improvement, we do expect that a material improvement will be delivered in the near future.

The application of our STPIS from 2015–16 onwards will ensure that past capital expenditure that resulted in reliability improvements are retained because customers are paying for such historical investment on an ongoing manner. In the absence of reliable expenditure data associated with reliability improvement and a robust method that can precisely quantify the impacts of such investment, we consider it is reasonable to examine Ausgrid's observed historical reliability performance and modify the performance targets based on the observed trends. We consider the historical performance for the 2009–14 regulatory control period is relevant as this reflects the significantly higher investment made to meet the previous N-1 deterministic planning standard. The EMRF supported the use of historical SAIDI and SAIFI as they represent the unreliability that consumers actually incur.[38]

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[36]   AEMC, Rule determination national electricity amendment (network service provider expenditure objectives) rule 2013, 19 September 2013, p. 17.

[37]   We used $1.9 billion, which is the average of the estimated investment range and converted this amount to the annual cost to customers based on a WACC of 10.02 per cent as determined in the 2009–2014 NSW distribution determination and an assumed asset life of 50 years. This amount is then divided by the customers' value of each lost minute calculated using the VCR set out in the STPIS escalated by the CPI.
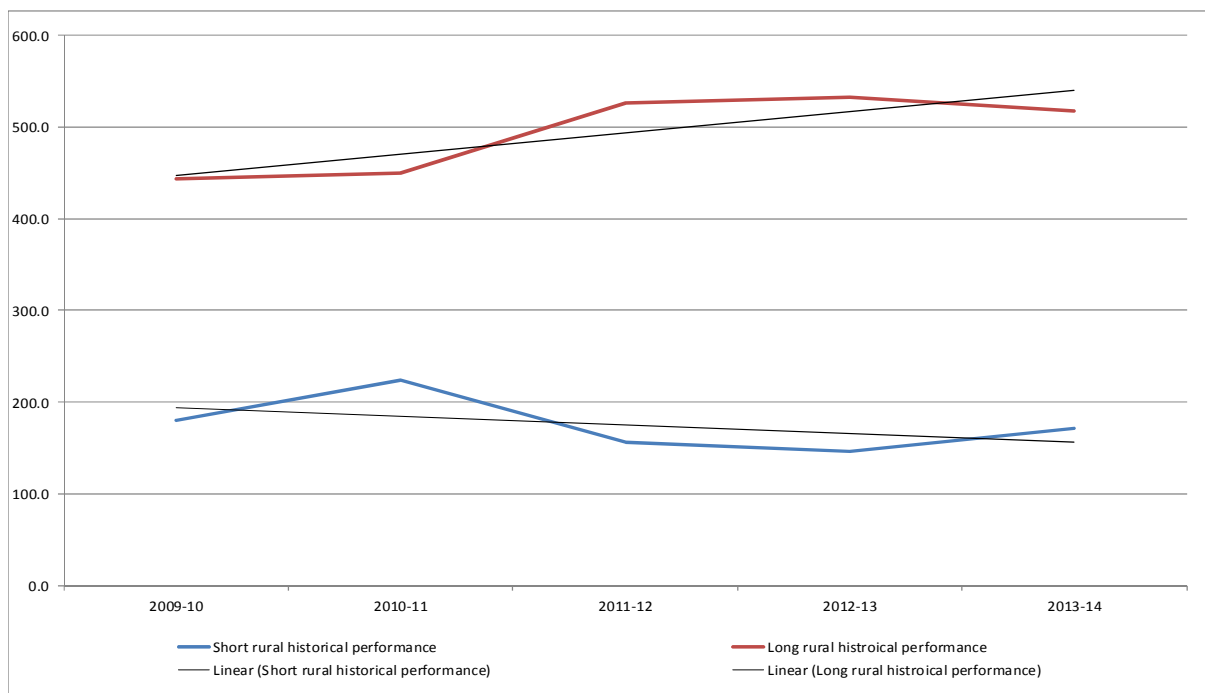
[38]   EMRF, *Submission on NSW electricity distribution revenue reset*, July 2014, p. 86.

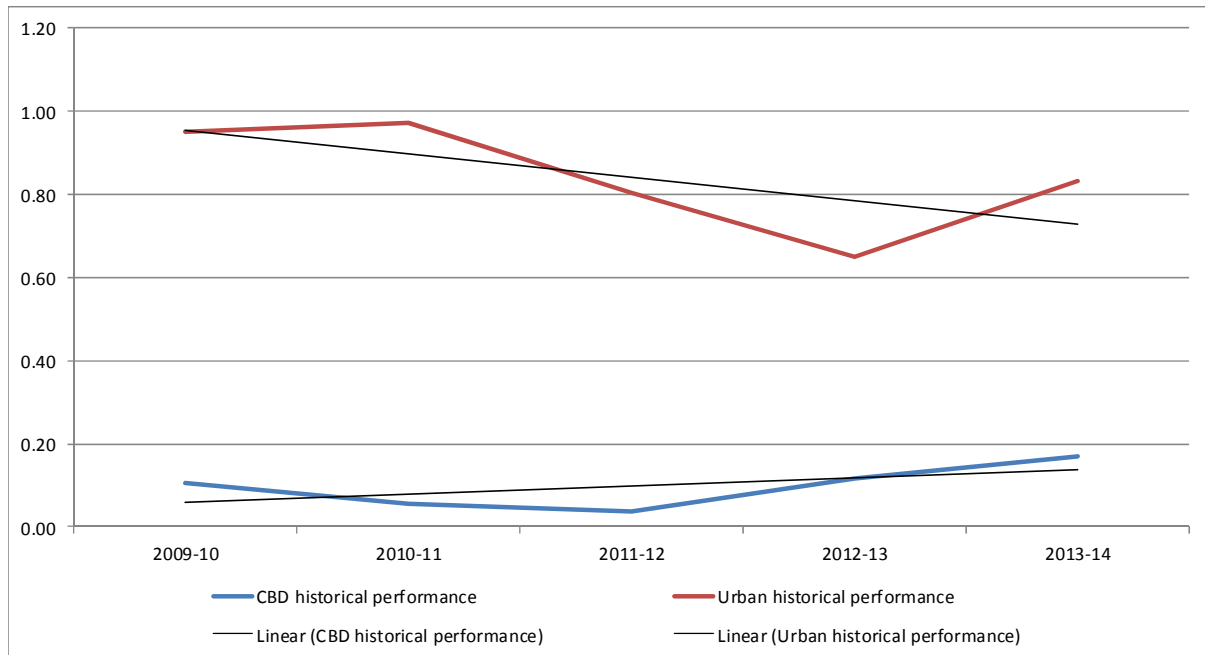**Figure 11-4   Ausgrid's unplanned SAIDI historical performance and trends for CBD and urban areas (minutes)**
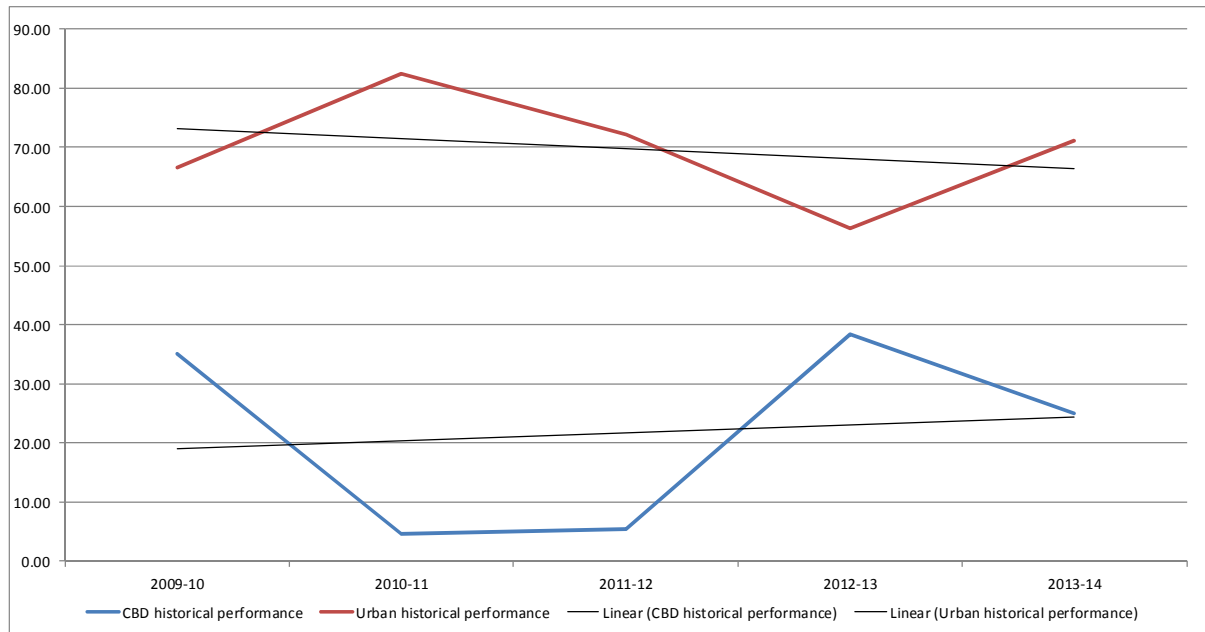
Source: Ausgrid, *revised RIN table 6.2.1*; AER analysis.

Figure 11-5   Ausgrid's unplanned SAIDI historical performance and trends for short rural and long rural areas (minutes)
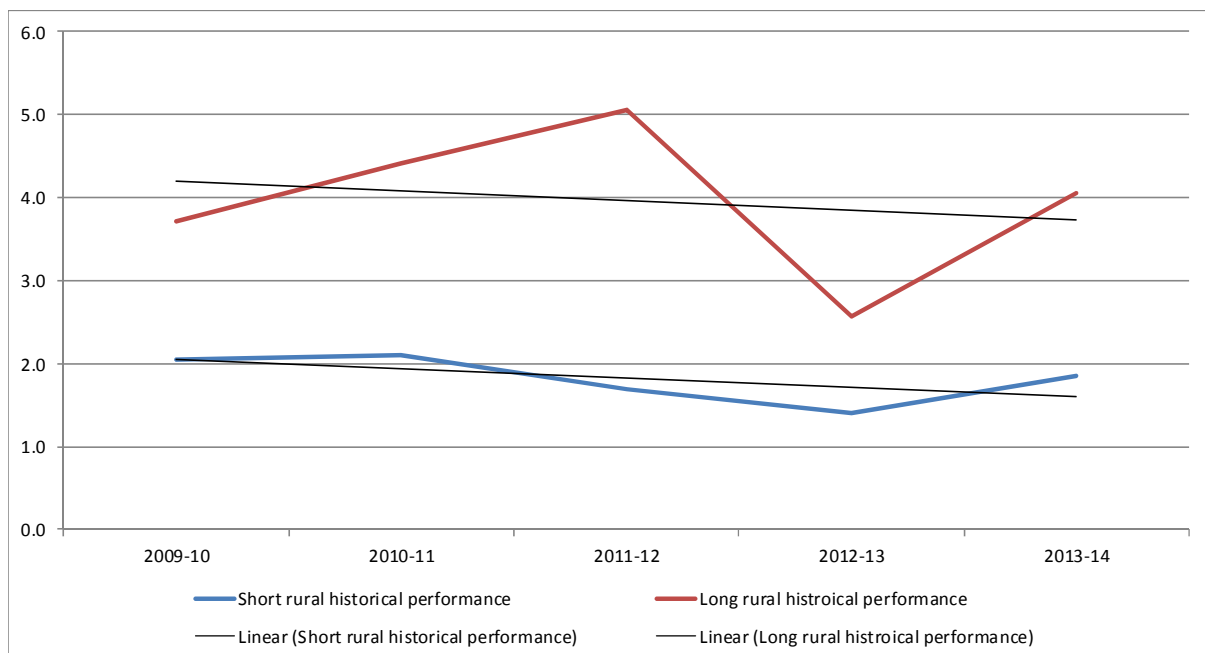

Source: Ausgrid, *revised RIN table 6.2.1*; AER analysis.

Figure 11-6   Ausgrid's unplanned SAIFI historical performance and trends for CBD and urban areas (number of interruptions)

Source: Ausgrid, *revised RIN table 6.2.2*; AER analysis.

Figure 11-7   Ausgrid's unplanned SAIFI historical performance and trends for short rural and long rural areas (number of interruptions)
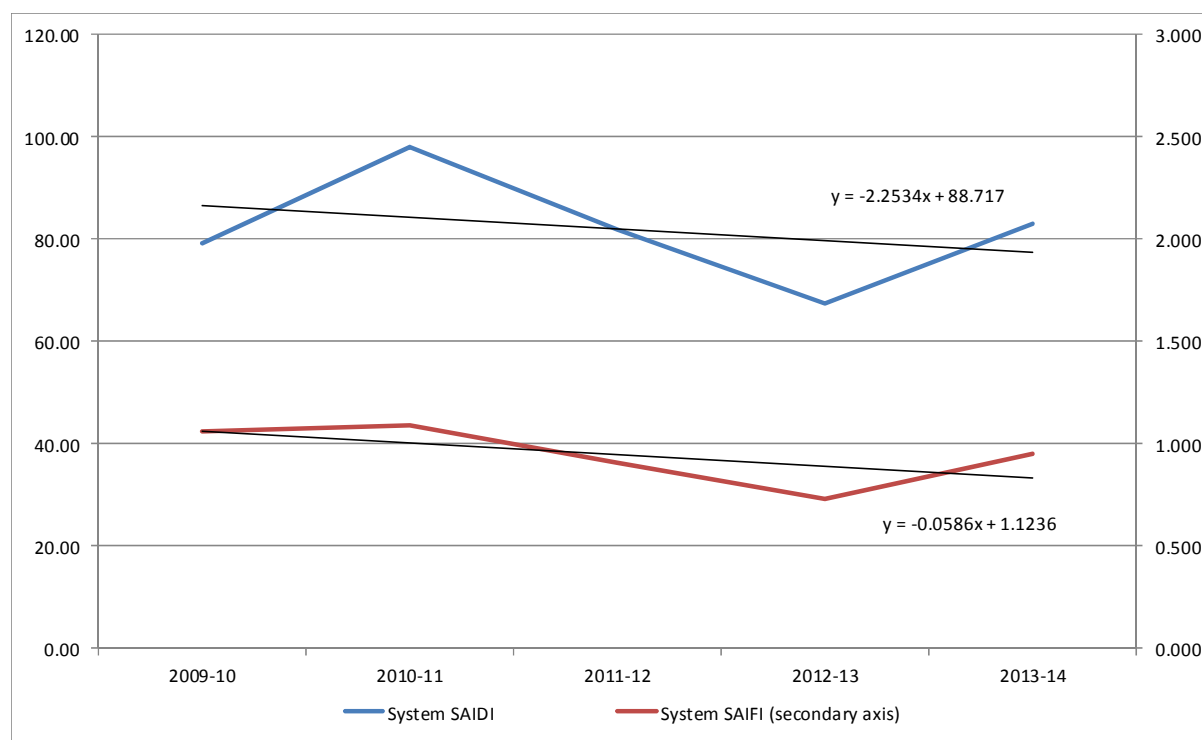

Source: Ausgrid, *revised RIN table 6.2.2*; AER analysis.

The straight line trends in Figure 11-4 to Figure 11-7 indicate Ausgrid's unplanned SAIDI performance has improved in urban and short rural feeder types in the past five regulatory years and its unplanned

SAIFI performance has improved in all except for the CBD feeder type.[39] We observe significant variability in reliability performance for Ausgrid's CBD and long rural feeder types. This is because they are relatively small and are highly impacted by individual events. As such, instead of using Ausgrid's performance trends by individual feeder type, we have used Ausgrid's system SAIDI and SAIFI trends to form the basis of our adjustment. This allows us to apply modest adjustments to Ausgrid's performance targets across all feeder types.

Ausgrid's unplanned system SAIDI and SAIFI trends are showing improving reliability performance in the past five years as illustrated in Figure 11-8. The system SAIDI at the end of the trend line is 77.45, which is 5.50 per cent lower than the average system SAIDI over the past five regulatory years. Therefore, we have applied 5.50 per cent reduction to the average unplanned SAIDI targets for each of Ausgrid's feeder types. Similarly, the system SAIFI at the end of the trend line is 0.831, which is 12.38 per cent lower than the average system SAIFI over the past five regulatory years. As a result, we have applied 12.38 per cent reduction to the average unplanned SAIFI targets for each of Ausgrid's feeder types. Table 11-5 sets out our proposed unplanned SAIDI and SAIFI targets for Ausgrid.

Figure 11-8   Ausgrid's historical system unplanned SAIDI and SAIFI and trends

Source: Ausgrid, *revised RIN tables 6.2.1 and 6.2.2*; AER analysis.[40]

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[39]   We have used Ausgrid's estimated data for 2013/14, we will update the SAIDI and SAIFI targets based on Ausgrid's actual data for 2013/14 in the final decision once we have reviewed and confirmed the data. We will also review the historical data based on our calculated MED thresholds after we have received the revised 2003–08 unplanned SAIDI data.

[40]   Note instead of using the total SAIDI and SAIFI number reported by Ausgrid in RIN tables 6.2.1 and 6.2.2, we calculated the system SAIDI and SAIFI based on the reported SAIDI and SAIFI for each individual feeder type and the customer numbers for each feeder type reported in RIN table 6.2.5.

Table 11-5   Our proposed indicative performance targets for Ausgrid's reliability of supply component[41]

	Performance target based on five year average	Our proposed performance target	Difference (%)
Unplanned SAIDI			
CBD	21.70	20.51	5.50
Urban	69.75	65.92	5.50
Short rural	175.44	165.79	5.50
Long rural	494.08	466.91	5.50
Unplanned SAIFI			
CBD	0.097	0.085	12.38
Urban	0.842	0.737	12.38
Short rural	1.821	1.596	12.38
Long rural	3.961	3.471	12.38

Source: AER analysis.

We consider the adjustments that we are making to Ausgrid's performance targets are conservative. We are uncertain of the extent and time lag between the completion of new projects and the measured SAIDI and SAIFI performance. Therefore we have not applied any lagged effects using the trend analysis. Any lagged effect would further reduce the performance targets (ie is more stringent) than what we have proposed. Given there is uncertainty of what the N-1 expenditure would deliver in terms of supply reliability in the 2015–19 regulatory control period, we consider it is reasonable to apply a lower revenue at risk and lower incentive rates to reduce the risk to consumers and Ausgrid. These are discussed in section 11.4.2 and the section below.

Incentive rates

Clause 6.6.2(b)(3) of the NER stipulates that we must take into account the willingness of the customer to pay for improved service performance when developing and implementing a STPIS. The incentive rates in the STPIS are based on measures of customers willingness to pay for performance, specifically, the value that customers place on supply reliability, referred to as the VCR.

In the Stage 2 F&A, we proposed to apply the method and VCR values in the STPIS to calculate the incentive rates.[42] Ausgrid proposed to apply the VCR as set out in clause 3.2.2(b) of the STPIS and

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[41]   We have taken Ausgrid's estimated 2013/14 data to set the indicative performance targets for this draft decision. We will set the performance targets for reliability of supply parameters based on the actual 2013/14 data for the final decision once we have verified the data.

calculate the incentive rates in accordance with appendix B of the STPIS. It has investigated the possibility of selecting an alternative VCR and found there was no substantial reason to do so. However, it noted this view may change once the national VCR review is completed by AEMO and the ENA.[43]

The CCP did not support NSW DNSP's finding that consumers wish to maintain current levels of reliability as consumers were not asked the right questions. The CCP believed that consumers highly value lower prices and may prefer lower prices even if that meant a greater risk of slightly reduced reliability.[44] Similarly, AGL doubted NSW DNSP's ability to link changes in customers' value of reliability to relevant changes in costs using customers' responses.[45]

Clause 3.2.2(a) of the STPIS allows us to apply alternative incentive rates that are not based on the VCR set out in clause 3.2.2(b) of the scheme. When we developed the STPIS, we considered the VCR figures should be based on the most recent documented and robust work on reliability incentive rates.[46] The VCR set out in the current STPIS was based on the 2008 Victorian study conducted by Charles River Associates (CRA) for VENCorp.[47] We propose to apply the 2014 AEMO NSW VCR to calculate the incentive rates for Ausgrid as it better meets the STPIS objective.[48]

We note the AEMO has carried out a review of the VCR and published the final results in September 2014. It surveyed approximately 3000 residential, business and direct connect customers across all NEM states. It adopted a survey-based choice modelling and contingent valuation approach to derive the VCR values. Its assessment found that residential VCR values have not substantially changed since the 2007–08 values, however, VCR values for the commercial and agricultural sectors are notably lower than the 2007–08 values. It considered that this was the result of increased electricity costs and the implementation of energy efficiency savings by businesses in these sectors.[49]

We propose to apply the 2014 AEMO NSW VCR to calculate the incentive rates for Ausgrid as it better meets the STPIS objective.[50] We consider the AEMO's revised VCR values are robust as it has taken meticulous steps to ensure the accuracy of those values. In particular, we note in delivering the final results, the AEMO:[51]

- published an Issues Paper in March 2013, seeking stakeholders' submission on how best to determine the VCR and how would the VCR should be applied

- published a Directions Paper in May 2013, setting out its proposal on how best to measure the VCR

- published a Statement of Approach in November 2013, building on the stakeholder feedback and issues raised over the review process, including consultation with the ABS. The Statement of Approach was complemented by a methodology paper provided by Professor Riccardo Scarpa, setting out the underlying survey design and methodology for calculating VCR values based on a choice modelling technique.

[42]   AER, *Stage 2 framework and approach 2014–2019 Ausgrid, Endeavour Energy and Essential Energy*, January 2014, p. 14.
[43]   Ausgrid, *Attachment 3.02 – proposed application of STPIS for the 2014–19 period*, May 2014, p. 5.
[44]   CCP, *CCP1 submission to AER re NSW DNSPs' regulatory proposals 2014–19*, 15 August 2014, pp. 11–2.
[45]   AGL, *Submission on NSW electricity distribution networks regulatory proposals: 2014-19*, 8 August 2014, pp.12–13.
[46]   AER, *Electricity distribution network service providers Service target performance incentive scheme*, Final decision, June 2008, p. 17.
[47]   AER, *Explanatory statement proposed amendment service target performance incentive scheme*, February 2009, p.16.
[48]   Note the AEMO NSW VCR represents customers' willingness to pay in both the NSW and the ACT.
[49]   AEMO, *Value of customer reliability review final report*, September 2014, pp. 1–3.
[50]   Note the AEMO NSW VCR includes survey results of consumers of the ACT.
[51]   AEMO, *Value of customer reliability review final report*, September 2014, pp.6–8.

- commissioned a market research firm to undertake pilot surveys in November and December 2013

- held a stakeholder workshop in January 2014 to discuss issues arising from the pilot surveys. The AEMO also updated Statement of Approach detailing the changes made to the survey approach in light of the outcomes from the pilot study

- conducted main surveys from March to July 2014 in line with the approach set out in the updated Statement of Approach

- modelled and analysed results in August and September 2014 and sought Dr Bill Kaye-Blake of PwC in NZ to review the final results.

The 2014 AEMO study is the first time that a VCR study has been carried out to deliver such values on a NEM wide basis. We consider that AEMO's NSW VCR value better reflects the willingness of customers to pay for the reliable supply in the NSW compared to the prescribed VCR that was based on the Victorian study. The AEMO surveys were undertaken in the middle of this year, which would more accurately reveal customers' current value of supply reliably. The sample size of the AEMO surveys is significantly larger than the 2008 CRA study and in presenting its final results, the AEMO has also engaged and consulted with stakeholders extensively. As a result, we consider the 2014 AEMO VCR values provide more reliable and robust results than that set out in the STPIS. The revised AEMO VCR values are lower than the previous values, which is in line with the CCP view that consumers now places less value for reliability.

We propose to apply the 2014 values determined by the AEMO as the value that customers place on supply reliability in NSW as follows:

- $76,700/MWh for CBD feeder type, and[52]

- $38,350/MWh for all other feeder types.[53]

We consider these values better meets the STPIS objectives as they take into account the most recent customers' willingness to pay for improved performance in the delivery of services. Table 11-2 sets out our indicative incentive rates to apply to Ausgrid's SAIDI and SAIFI targets calculated based on these revised VCR values.

11.4.4 Customer service component

The telephone answering parameter measures the proportion of calls forwarded to an operator that are answered in 30 seconds. In the Stage 2 F&A, we proposed to apply the telephone answering parameter to the NSW DNSPs and to set the performance target on average performance over the past five regulatory years.[54] We consider this remains to be the reasonable approach in setting the telephone answering target for Ausgrid.

Ausgrid proposed to set the telephone answering target at 75 per cent instead of using the average performance for the last five years. It is expecting a decline in its telephone answering performance as its current agreement that allows Ausgrid to transfer calls to the retail line will expire in November

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[52] The value of consumer reliability for the CBD feeder type is double the amount of the value for urban and rural customers. This is consistent with the VCR values set out in the STPIS.
[53] This is AEMO's reported NSW VCR value excluding direct connect customers.
[54] AER, *Stage 2 framework and approach paper*, January 2014, p. 14.

2014. It further noted its customer engagement surveys have not indicated that customers would be willing to pay more for improved service levels.[55]

We recognise Ausgrid's telephone answering performance might decline with the expiry of its TSA. As the opex allowance that we have provided in this draft decision is based on the efficient benchmark findings, we should also assess Ausgrid's proposed telephone answering performance target with consideration of an equivalent efficient business. The Victorian DNSPs' performance target provides a reasonable benchmark because they are generally more efficient in network operations.

We consider a reasonable benchmark is the average telephone answering performance of all the Victorian DNSPs as no individual Victorian DNSP represents similar network composition to that of Ausgrid. Table 11-6 indicates the average telephone answering performance target of the Victorian DNSPs is 68.53 per cent. As Ausgrid's proposed performance target is better than the comparable benchmark, we accept Ausgrid's proposed telephone answering target of 75 per cent.

Table 11-6   Current telephone answering performance targets for the Victorian DNSPs

	Telephone answering target (%)
CitiPower	71.52
Powercor	64.84
Jemena	61.16
SP AusNet	82.31
United Energy	62.83
Average	**68.53**

Source: AER, Final decision Victorian electricity distribution network service providers distribution determination 2011–2015, October 2010, p. 730.

Consistent with Ausgrid's proposal and clause 5.3.2(a)(1) of the STPIS, an incentive rate of –0.04 per cent per unit will apply to Ausgrid's telephone answering parameter.

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[55]   Ausgrid, *Attachment 3.02 – proposed application of STPIS for the 2014–19 period*, May 2014, pp. 7–8.