



## **2016–2020 Price Reset**

### **Appendix H Service target performance incentive scheme**

**April 2015**

**Powercor**  
**2016–2020 Price Reset**  
**Service target performance incentive scheme**

**Table of contents**

<b>1</b>	<b>SERVICE TARGET PERFORMANCE INCENTIVE SCHEME .....</b>	<b>3</b>
1.1	Reliability of supply targets.....	3
1.2	SAIFI definition .....	5
1.3	MAIFI .....	6
1.4	Quality of supply targets .....	6
1.5	Major event day threshold.....	7
1.6	Incentive rates.....	7
1.7	Revenue at risk.....	9

# Powercor

## 2016–2020 Price Reset

### Service target performance incentive scheme

## 1 Service target performance incentive scheme

This appendix sets out how we propose the Service Target Performance Incentive Scheme (**STPIS**) will apply for the 2016-2020 regulatory control period.

We propose that the STPIS apply in accordance with the STPIS Guideline<sup>1</sup>, subject to the following exceptions:

- the incentive rates for the reliability parameters are calculated based on the relevant Value of Customer Reliability (**VCR**) values from Australian Energy Market Operator's (**AEMO**) 2014 report;<sup>2</sup>
- the reliability targets for unplanned System Average Interruption Duration Index (**SAIDI**), unplanned System Average Interruption Frequency Index (**SAIFI**), for each network segment, are calculated based on the historical five year average performance over the period 2010-2014 adjusted to account for the deterioration in network performance that will occur as a result of the significant reduction in the VCR used for network planning purposes and the STPIS incentive rates;
- unplanned SAIFI be defined to exclude outages of less than three minutes' duration, consistent with the Australian Energy Market Commission (**AEMC**) recommendations;
- the Momentary Average Interruption Frequency Index (**MAIFI**) is not included in the STPIS; and
- the major event day threshold is calculated to exclude events that are more than 2.8 standard deviations greater than the mean of the log normal distribution of five regulatory years' SAIDI data. The AER approved the use of 2.8 standard deviations for Powercor in the 2011-2015 final determination.

This appendix also addresses:

- section 23 of the Regulatory Information Notice issued to Powercor under Division 4 of Part 3 of the NEL; and
- the requirements in schedule 6.1 of the National Electricity Rules (**Rules**).

### 1.1 Reliability of supply targets

Our proposed targets for unplanned SAIDI and unplanned SAIFI are calculated for each of the following network segments:

- urban;
- rural short; and
- rural long.

We have no Central Business District (**CBD**) zone within our network area.

For each network segment and reliability metric (SAIDI and SAIFI), the targets are calculated by:

- first, calculating the historical average performance over the five regulatory years, 2010-2014 inclusive. The historical average is calculated by excluding the impact of excluded events, which are identified in accordance with clause 3.3 and appendix D of the STPIS Guideline;

---

<sup>1</sup> AER, *Electricity distribution network service providers, Service target performance incentive scheme*, Final decision November 2009.

<sup>2</sup> AEMO, *Value of Customer Reliability Review*, September 2014.

## Powercor

### 2016–2020 Price Reset

#### Service target performance incentive scheme

- second, calculating the historical average performance relating to reliability events caused by asset failures over the five years 2010-2014. This excludes reliability events caused by other factors such as third party incidents, animals, vegetation or weather;
- third, calculating an adjustment for the impact on network reliability performance likely to occur as a result of the reduced VCR which is applied to calculate the STPIS incentive rates and to assess the net benefits of network investment under the Regulatory Investment Test for Distribution (RIT-D) using the following formula:

$$\frac{\text{Incentive old VCR} \div \text{Incentive new VCR}}{\text{Transition period}} \times \text{Average historical asset failure performance} \times 2.5 \text{ years}$$

- fourth, calculating the 2016-2020 targets by adding the above adjustment to the historical average performance over the 2010-2014 period.

This above adjustment formula is appropriate because:

- it is based on the relative change in the STPIS incentive rates that results from the change in VCR and therefore reflects the proportional change in the relative annual incentive to maintain reliability;
- it is only applied to the aspect of reliability performance that relates to asset failure which is impacted by the change in the VCR used for network planning purposes;
- a transition period of 40 years is applied as the impact of the reduced VCR will take some time to have full effect on network performance. Applying a 40 year transition ensures consistency with the AER's standard asset life assumption;
- as the targets are fixed for the five year regulatory control period, we multiply the annual adjustment by 2.5 years to reflect the average impact over the five year regulatory control period; and
- it ensures that by the end of the transition period, the targets fully reflect a level of network reliability performance that is consistent with the new VCRs.

It is important that the targets are adjusted to account for the reduced VCR. As a result of the significant reduction in the VCR, many projects required to maintain current network performance will no longer meet the RIT-D and/or will not provide net economic benefits to consumers. Consequently, these projects will not proceed. As a result, customers will gradually receive a lower level of network reliability performance. This outcome is a fair reflection of the lower value that customers place on reliability as indicated by the reductions in the VCR.

Adjusting the targets to account for changes in reliability resulting from the reduced VCRs is consistent with the objectives of the scheme set out in the STPIS Guideline, including:

- clause 1.5(b)(1) which states that the AER must take into account the need to ensure the benefits to consumers likely to result from the scheme are sufficient to warrant any reward or penalty under the scheme. As noted above, as a result of the reduced VCRs many projects required to maintain reliability will no longer be assessed as net benefit positive; and
- clause 1.5(b)(2) which states that the AER must take into any regulatory obligation or requirement to which the DNSP is subject. As noted above, we are required to use the RIT-D to assess the net economic benefits of major augmentation projects, and as a result of the reduced VCR many projects required to maintain reliability will not proceed.

**Powercor**  
**2016–2020 Price Reset**  
**Service target performance incentive scheme**

Current network reliability performance is a reflection of the higher VCR that applied for network planning purposes in the current regulatory control period. Failure to adjust the targets above historic levels in response to the reduced VCR would unduly penalise distributors, through the STPIS, for not undertaking investments which do not meet the net benefit test under the RIT-D and are not STPIS benefit positive. Failing to adjust the targets for the reduced VCR would therefore be inconsistent with the STPIS objectives.

Note that the proposed targets are not adjusted:

- for completed or planned material reliability improvements. We did not receive expenditure allowances in the 2011-2015 regulatory determination for the purpose of undertaking material reliability improvements;
- to correct for the revenue at risk. The sum of our s-factor parameters did not exceed the upper or lower limits of revenue at risk in any of the 2010-2014 regulatory years; and
- for any other factors which are expected to materially affect network reliability performance.

Our proposed targets are set out in table 1.1. The calculations are provided in the attached model *PAL STPIS targets*.

**Table 1.1 Proposed SAIDI and SAIFI targets**

Parameter	Segment	2016–2020
Unplanned SAIDI	Urban	86.51
Unplanned SAIDI	Rural short	116.98
Unplanned SAIDI	Rural long	280.76
Unplanned SAIFI	Urban	1.088
Unplanned SAIFI	Rural short	1.399
Unplanned SAIFI	Rural long	2.434

Source: PAL STPIS targets model

**1.2 SAIFI definition**

We propose the definition of unplanned SAIFI be amended to exclude outages of less than three minutes’ duration, rather than the current definition which only excludes outages of less than one minute duration. A three minute duration would create stronger incentives for distributors to invest in automation technologies that enable faster restoration times. This is because there is a greater range of cost effective options in the design of distribution automation systems for achieving restoration times less than three minutes, compared with achieving restoration times less than one minute. Our proposal is therefore consistent with clause 1.5(b)(1) of the objectives of the scheme as benefits to consumers likely to result from faster restoration times would be sufficient to warrant the rewards to distributors available under the scheme.

Our proposal is consistent with the AEMC’s recommendation that the definition of SAIFI be amended to exclude outages of less than three minutes.<sup>3</sup> As noted by the AEMC, the current Institute of Electrical and Electronic Engineering (IEEE) standard defines a sustained interruption as being greater than five minutes and OFGEM changed its definition of a sustained interruption from one to

<sup>3</sup> AEMC, *Distribution Reliability Measures*, September 2014, p.9.

## **Powercor**

### **2016–2020 Price Reset**

#### **Service target performance incentive scheme**

three minutes in order to provide an incentive for distribution automation systems that could speed up restoration of supply for some customers.<sup>4</sup>

#### **1.3 MAIFI**

We propose that MAIFI should not apply for the 2016-2020 regulatory control period.

As noted above, there are few cost effective technical solutions available for us to improve MAIFI (particularly based on the current definition of less than one minute) and those solutions that are available have already been taken up. The new technologies which are available for improving short duration interruptions enable interruptions to be reduced to less than three minutes but not less than one minute.

Irrespective of how it is defined, the inclusion of MAIFI in the STPIS only acts to undermine the positive incentive to improve SAIFI. It is not efficient to completely eliminate all outages, therefore customers' interests are best promoted by creating positive incentives for distributors to invest in the available technologies which minimise outage duration. This is best achieved through the exclusion of MAIFI from the STPIS.

Our proposal is consistent with the STPIS objectives, in particular clauses 1.5(b)(1) and 1.5(b)(7), this is because removing MAIFI from the scheme ensures that the incentive rate for SAIFI improvements is directly aligned with consumers' willingness to pay for improved reliability performance, based on the VCRs used to calculate the SAIFI incentive rates. Currently the incentive for SAIFI improvements is less than the benefits to customers due to the partially offsetting MAIFI disincentive.

The exclusion of MAIFI is also consistent with the AER's Framework and Approach Paper and the AER's Draft Decision for NSW/ACT electricity distribution networks.

#### **1.4 Quality of supply targets**

We propose to continue applying the telephone answering service parameter as a part of the customer service component of the STPIS. This parameter is considered a stable measure of performance when assessing customer service.

The proposed telephone answering target is calculated in accordance with section 5.3.1 of the STPIS Guideline as follows:

- the target is calculated as the historical average performance over the past five regulatory years, 2010 to 2014 inclusive; and
- the target is adjusted by removing from the historical performance data the impact of excluded events, which are identified in accordance with clause 3.3 and appendix D of the STPIS Guideline. We do not propose any additional exclusions.

The telephone answering target is not adjusted:

- for completed or planned material customer service improvements. We did not receive expenditure allowances in the 2011-2015 regulatory determination for the purpose of undertaking material customer service improvements;
- to correct for the revenue at risk:
  - the sum of our s-factor parameters did not exceed the upper or lower limits of revenue at risk in any of the 2010-2014 regulatory years;

---

<sup>4</sup> AEMC, *Distribution Reliability Measures*, September 2014, p.13.

## Powercor

### 2016–2020 Price Reset

#### Service target performance incentive scheme

- the individual s-factor parameter for telephone answering did not exceed the upper or lower limit of revenue at risk in any of the 2010-2014 regulatory years; and
- the sum of all customer service s-factor parameters did not exceed that upper or lower limit of revenue at risk in any of the 2010 to 2014 regulatory years; and
- for any other factors which are expected to materially affect network reliability performance.

Our proposed telephone answering target is 70.07 per cent.

We do not propose including any other quality of supply parameters in the scheme.

#### 1.5 Major event day threshold

We have determined the 2016 Major Event Day (**MED**) threshold in accordance with appendix D of the STPIS Guideline, subject to the following exceptions:

- using the five years of daily unplanned SAIDI data from 2010 to 2014, as the 2015 data is not available; and
- applying a 2.8 beta parameter. We propose to continue using the beta parameter of 2.8 as approved by the AER for the 2011-2015 regulatory determination.<sup>5</sup> Appendix D of the STPIS Guideline specifies that a distributor with a beta threshold greater than 2.5 may propose to reduce its beta threshold in the subsequent regulatory period. We do not propose reducing our beta threshold and have therefore applied a beta parameter of 2.8.

The MED threshold is therefore calculated as follows:

- five years of daily raw unplanned SAIDI over the period 2010 to 2014 inclusive;
- excluding days where the unplanned SAIDI daily value is less than zero;
- transforming the daily unplanned SAIDI data based on a 2.8 beta parameter;
- estimating alpha as the average of the transformed daily unplanned SAIDI data;
- estimating beta as the standard deviation of the daily unplanned SAIDI data; and
- calculating the MED threshold as  $e^{(\alpha+2.8\beta)}$ .

The calculations are provided in the attached model, PAL STPIS targets.

Our proposed 2016 MED threshold is 8.80 SAIDI minutes.

For the regulatory years 2017 to 2020, we will recalculate the MED threshold in accordance with the STPIS Guideline using the most recent five years of unplanned SAIDI data and a 2.8 beta parameter.

#### 1.6 Incentive rates

##### 1.6.1 SAIDI and SAIFI incentive rates

Our proposed incentive rates for unplanned SAIDI and unplanned SAIFI for each network segment are calculated in accordance with clause 3.2.2 and Appendix B of the STPIS Guideline; subject to the following exception:

---

<sup>5</sup> AER, *Final decision, Victorian Electricity distribution network service providers Distribution determination 2011-2015*, October 2010, p.683.

## Powercor

### 2016–2020 Price Reset

#### Service target performance incentive scheme

- the VCR for each network segment is \$41,500 (\$/kwh) based on AEMO’s state aggregate VCR (excluding direct connects) for Victoria of \$39,500 (\$/kwh)<sup>6</sup> plus two years of inflation.

It is appropriate to apply the relevant AEMO VCR values in the STPIS as these are the most up to date estimates and are consistent with the VCRs that are now being used by us for network planning purposes.

Applying the AEMO VCR values is consistent with the objectives of the STPIS, in particular:

- clause 1.5 (b)(1) of the STPIS Guideline which states that the AER must take into account the need to ensure the benefits to consumers likely to result from the scheme are sufficient to warrant any reward or penalty under the scheme; and
- clause 1.5(b)(6) of the STPIS Guideline which states that the AER must take into account the willingness of the customer or end user to pay for improved performance in the delivery of services.

In accordance with the Guideline, our proposed incentive rates for unplanned SAIDI and unplanned SAIFI are calculated for each network segment as follows:

- the proportion of the VCR applied to unplanned SAIDI and unplanned SAIFI is determined by applying the weightings set out in Table 1 of the STPIS Guideline. We do not propose any alternative weighting; and
- the formulae specified in appendix B of the STPIS Guideline based on:
  - the targets set out in Table 1.1;
  - the average of the annual smoothed revenue requirement for the 2016-2020 regulatory control period as set out in chapter 13; and
  - the average annual energy consumption by network segment over the 2016-2020 regulatory control period as provided in the attached model, *PAL STPIS incentive rates*.

The resulting incentive rates are set out in Table 1.2. The calculations are provided in the attached model *PAL STPIS incentive rates*.

**Table 1.2 Our proposed incentive rates**

Parameter	Segment	2016–2020
Unplanned SAIDI	Urban	0.0341%
Unplanned SAIDI	Rural short	0.0183%
Unplanned SAIDI	Rural long	0.0121%
Unplanned SAIFI	Urban	2.7953%
Unplanned SAIFI	Rural short	1.6594%
Unplanned SAIFI	Rural long	1.5181%
Telephone answering	Network	-0.0400%

Source: PAL STPIS incentive rates model.

#### 1.6.2 Customer service incentive rates

Our proposed telephone answering incentive rate is -0.04 per cent per unit, in accordance with clause 5.3.2(a)(1) of the STPIS Guideline.

<sup>6</sup> AEMO, *Value of Customer Reliability Review*, September 2014, p. 30.



**Powercor**  
**2016–2020 Price Reset**  
**Service target performance incentive scheme**

**1.7 Revenue at risk**

Our proposed aggregate revenue at risk for all s-factor parameters is five per cent, based on:

- a cap on the reliability components of +/- 4.5 per cent of annual revenue; and
- a cap on the telephone answering services parameter of +/- 0.5 per cent of annual revenue.

Our proposed revenue at risk is consistent with clauses 2.5 and 5.2 of the STPIS Guideline.