Appendix R:

SPI PowerNet Pty Ltd

Transmission Revenue Reset (TRR) 2014/15 – 2016/17

Availability Incentive Scheme Opex Forecast

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ISSUE/AMENDMENT STATUS

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Availability Incentive Scheme (AIS) Opex Forecast (2014-17)

1 Summary

The Availability Incentive Scheme (AIS) forms part of SP AusNet's network agreement with AEMO. The current version of the AIS was introduced in 2002. SP AusNet will be subject to the AIS, in addition to the AER's Service Target Performance Incentive Scheme (STPIS), in the 2014-17 regulatory control period.

The AIS specifies penalty rates for asset outages. The penalty rates differ by individual assets and by the time at which an outage is taken. There are three defined periods under the AIS –peak, intermediate and off-peak.

SP AusNet receives an annual AIS opex allowance as part of its revenue cap, and pays AEMO monthly rebates that reflect the penalty incurred. The difference between the amount received in regulated revenues and the amount paid out as penalties is the total incentive paid to SP AusNet under the scheme.

SP AusNet's total liability under the AIS is capped at $15.8m ($2013-14). SP AusNet proposes an opex allowance of $2.9m per annum ($8.6m over the period), which would be the maximum reward SP AusNet could receive under the scheme. The scheme has therefore become extremely asymmetric.

The AIS opex forecast is set out in Table 1 below.

Table 1 – AIS Forecast ($'000, real 2013-14)

	2014-15	2015-16	2016-17	Total
AIS rebate opex	2,855	2,855	2,855	8,565

2 Forecasting Methodology

SP AusNet's proposed AIS opex forecast reflects the rebates SP AusNet expects to pay in the 2014-17 period, given the forecast capex and maintenance program for 2014-17 and the historic rebates paid between 2008 and 2013.

SP AusNet has also identified five proposed capex projects on lines where there will be a significant conflict between the incentives provided by the Availability Incentive Scheme and the Market Impact Component (MIC). As a result of this conflict, it is expected that higher AIS rebates will be incurred than are reflected by historic performance data. This is because the MIC incentives are likely to lead to outages being taken at sub-optimal times under the AIS. For this reason, the AIS forecast for these lines projects is based on a bottom up build of outage hours and a 25% uplift has been applied.

SP AusNet's monthly returns split the AIS rebate according to its drivers. A different forecasting methodology has been applied, depending on the driver. These methodologies are outlined in the table below.

Table 2 – AIS Forecasting Approach by AIS Rebate Driver

Driver		Forecasting approach	Justification
Planned maintenance Unplanned maintenance	Maintenance	Calculate the $ of rebate paid in 2008/09 to 2012/13 per $ of maintenance expenditure, and apply to maintenance expenditure forecast for 2014-17.	There is a link between rebates paid under the AIS and the amount of maintenance activity undertaken.
Construction	Capex	Calculate the $ of rebate paid in 2008/09 to 2012/13 per $ of capex, and apply to capex forecast for 2014-17, except for the five lines projects where there will be a significant conflict between incentives provided by	It is reasonable to assume that rebates paid under the AIS are linked to the amount of capital works undertaken. This approach to forecasting AIS rebates driven by capital works was accepted by the

		the AIS and the MIC. For these five lines projects, forecast the number of AIS hours and add a 25% uplift to account for impact of the MIC as it is likely some outages will be taken during sub-optimal AIS times.	AER in the 2008-14 determination. Uplift to lines projects is reasonable due to the conflicting incentives of the two incentive schemes. SP AusNet has previously raised this conflict with both the AER and AEMO.
Minor plant failure Major plant failure	Plant failure	Apply annual average rebate incurred for plant failure applies in the 2014-17 period.	Plant failure is unpredictable and varies year-on-year. Therefore the best indicator of the future impact will be the historic average of rebates paid.

3 Forecast

The annual AIS rebate forecast by driver is presented in the table below. The derivation of the forecast for each driver is detailed in the following sections.

Table 3 – Annual AIS rebate forecast by driver ($, real 2013-14)

Driver	Annual forecast
Maintenance	833,482
Capex	1,894,915
Plant Failure	126,634
Total	**2,855,032**

3.1 Maintenance

Historic rebates driven by maintenance yielded an average of $0.0211 of rebate per $ maintenance expenditure incurred in 2008-13, as shown in the table below.

Table 4 – Maintenance rebate forecast ($, real 2013-14)

Regulatory year	Actual rebate (maintenance)	Actual expenditure (maintenance)	$ maintenance rebate per $ maintenance expenditure
2008/09	575,419	40,441,400	0.0142
2009/10	615,431	41,058,485	0.0150
2010/11	951,112	34,865,286	0.0273
2011/12	613,437	30,552,298	0.0201
2012/13	919,280	32,008,018	0.0287
		Average	**0.0211**

Applying the average $ rebate per $ maintenance incurred to the total maintenance expenditure forecast of $118,734,367 for 2014-17 yields $833,482 per annum.

3.2 Capex

The AIS rebate forecast driven by capital works was derived using a hybrid methodology:

- For the majority of the capex program, historic rebate data was used to calculate an average $ of rebate paid per $ of capex spent. This was then applied to the capex forecast for 2014-17.
- For the five lines projects mentioned above, a bottom up build of required outage hours was calculated and costed using AIS rates. A 25% uplift to this cost was then applied to account for the impact of the MIC incentives on AIS costs, as outages may be taken during sub-optimal AIS time periods.

The historic rebate data yielded an average value of $0.0109 rebate paid per $ capex incurred in 2008-13, as shown in the table below.

Table 5 – Capex rebate forecast ($, real 2013-14)

Regulatory year	Actual rebate (capex)	Actual expenditure (network capex)	$ capex rebate per $ capex (as incurred)
2008/09	666,906	90,880,940	0.0073
2009/10	1,638,220	111,794,622	0.0147
2010/11	1,408,814	101,960,883	0.0138
2011/12	1,614,166	125,720,014	0.0128
2012/13	902,980	159,302,203	0.0057
		Average	**0.0109**

This was applied to the network capex forecast (as incurred) for the 2014-17 of $4.85m, less the capex forecast for the five lines projects set out below ($1.33m). This yielded an AIS forecast of $1,709,649 per annum.

A bottom-up build of required outages was carried out for the five lines projects shown in the table below.

Table 6 – 2014-17 AIS forecast for five lines capex projects ($, real 13-14)

Lines project	Total outage hours	AIS rate ($/hr)	Total AIS penalty ($)	With 25% MICs uplift ($)
HYTS-APD	80	2,724	217,920	223,368
HWPS-HWTS	80	465	37,200	38,130
HWPS-ROTS	30	1,064	31,920	32,718
YPS-ROTS 5&6	60	2,478	148,680	152,397
HWPS-YPS	20	446	8,920	9,143
		Total	**444,640**	**555,800**

The total AIS forecast driven by capital works is therefore $1,709,649 + 1/3($55,800) = $1,894,915 per annum.

3.3 Plant Failure

Plant failure is unpredictable and varies over time. There is not a clear link between the quantity of works undertaken and the rebate paid. For this reason, SP AusNet considers the expected impact of plant failure on AIS rebates can most accurately be forecast by the historic average of rebates associated with plant failure in 2008-13.

Table 7 – Plant failure rebate forecast ($, real 2013-14)

Regulatory year	Actual rebate (plant failure)
2008/09	284,303
2009/10	155,596
2010/11	56,682
2011/12	74,774

Availability Incentive Scheme (AIS) Opex Forecast (2014-17)

2012/13	61,817
Average	**126,634**