



SPI POWERNET
A subsidiary of Singapore Power International

SPI PowerNet

Performance Against

Service Standards

2003

27 February 2004

1. RESULTS FOR CALENDAR YEAR 2003

SPI PowerNet's detailed results for 2003 are shown in the tables attached in Appendix A. The results are presented with and without exclusions.

Without exclusions, the scheme would result in a penalty of \$195,345. With exclusions, the scheme would result in a bonus of \$202,349. Exclusions are dealt with in detail in section 2.

The following commentary is provided on the individual measures. It should be noted that SPI PowerNet is not currently reporting against inter regional and intra-regional constraint measures (measures 4 and 5 in the ACCC service standards framework).

1.1 Total Circuit Availability

Target = **99.20%**

Result (without exclusions) = **99.272%**

Result (with exclusions) = **99.328%**

This target was met with and without exclusions.

1.2 Peak Critical Availability

Target = **99.90%**

Result (without exclusions) = **99.767%**

Result (with exclusions) = **99.827%**

Target was not met by only 0.073%. Availability outcomes were driven by planned capital and maintenance outages. In particular, there were large increases in capex outages to incorporate the increased capex program in this regulatory period relative to the previous regulatory period. Nonetheless, the company has responded to incentives and much higher levels of availability were achieved for the peak period relative to off-peak periods.

1.3 Peak Non-Critical Availability

Target = **99.85%**

Result (without exclusions) = **99.321%**

Result (with exclusions) = **99.841%**

Target was not met by only 0.009%. Availability outcomes were driven by planned capital outages. In particular, there were large increases in capex outages to incorporate the increased capex program in this regulatory period relative to the previous regulatory period. As for the Critical elements measure above, the company has responded to incentives and much higher levels of availability were achieved for the peak period relative to off-peak periods.

1.4 Intermediate Critical Availability

Target = **99.85%**

Result (no exclusions) = **99.479%**

Target was not met by 0.371%. Availability outcomes were driven by planned capital outages. In particular, there were large increases in capex outages to incorporate the increased capex program in this regulatory period relative to the previous regulatory period. Again, the company achieved higher levels of availability for the intermediate period relative to off-peak periods.

1.5 Intermediate Non-Critical Availability

Target = **99.75%**

Result (no exclusions) = **99.338%**

Target was not met by 0.412%. Availability outcomes were driven by planned maintenance outages.

1.6 System Minutes

Target >0.05 minutes per annum = **2** Result = **3**

Target >0.30 minutes per annum = **1** Result = **0**

Date	Event	MW	Mins	Sys Mins
6-Jan-2003	RWTS: Loss of No1 22kV Bus. The No 1 22kV Bus tripped at RWTS when a possum climbed onto the Bus side bushings of the RWTS 15 Feeder CB.	12	79	0.116
27-May-2003	HOTS: Loss of No1 & No2 220kV Buses. HEI during trip check tripped No2 Bus and faulty Current Check relay caused No1 bus to trip also.	45	13	0.071
26-Jul-2003	HOTS: Total loss of 220kV supply to Station. Faulty CB aux switch prevented CB from tripping. Current check relay contacts welded closed.	60	8	0.060

1.7 Average Outage Duration – lines

Target = **10 hours**

Result (no exclusions) = **9.978 hours**

This target was met.

1.8 Average Outage Duration – Transformers

Target = **10 hours**

Result (without exclusions) = **7.659 hours**

Result (with exclusions) = **3.744 hours**

This target was met with and without exclusions.

2. EXCLUSIONS

SPI PowerNet has excluded the following events for the purposes of calculating the performance bonus/penalty under its performance incentive scheme.

2.1 Outages on DDTS H2 Transformer

Measures affected: Average Outage Duration – Transformers
Total Availability
Peak Critical Availability

No. hours to be excluded = **101.6 hours (48.43 Peak Critical hours)**

Decreases average outage duration from **7.659 hours** to **3.744 hours**

Increases total availability by **0.005%**

Increases Peak Critical Availability by **0.040%**

Effect on performance bonus/penalty: **+ \$277,386**

This outage was required because when the transformer had recently been commissioned into service it was discovered that there was a manufacturing defect. The manufacturer demanded the transformer be removed from service in order to assess and repair their warranted product. Therefore, in order not to void the manufacturer warranties and as the system demand was very low, the transformer was removed from service. This, exclusion removes the Manufacturer (3rd Party) required outage required to repair the transformer under warrantee.

2.2 Outages on KGTS shunt reactors

Measures affected: Peak Non-Critical Availability

No. hours to be excluded = **252.33 Peak Non-Critical hours**

Increases Peak Non-Critical Availability by **0.520%**

Effect on performance bonus/penalty: **+ \$65,534**

This piece of reactive equipment is actually required to help balance the system when demand on the system is low (off-peak). This is the reverse situation to the majority of reactive plant such as capacitor banks and Static Var Compensators. Therefore, it is actually beneficial to the operation of the network if outages are taken in peak periods rather than off-peak periods. This exclusion will remove a penalty for

following good electricity practice. This mirrors the rebate scheme with VENCORP – rebates are high during off-peak times and set at zero during peak and intermediate periods.

2.3 Outages on MWTS B1 and B2 Connection Transformers

Measures affected: Total Availability
Peak Critical Availability

No. hours to be excluded = **41.13 hours (24.06 Peak Critical hours)**

Increases Total Availability from **0.002%**

Increases Peak Critical Availability from **0.020%**

Effect on performance bonus/penalty: **+ \$10,320**

This outage was required to work on connection transformers at MWTS. It not possible to switch out these transformers unless the shared network lines are also switched out as they are directly connected. This is a consequence of network design (under the control of VENCORP and TXU) and as such is not the responsibility of SPI PowerNet. This exclusion removes a penalty on SPI PowerNet caused by system design. This mirrors the rebate scheme with VENCORP – the outage was excluded from the rebate scheme as it was for work on connection assets.

2.4 Outages on HWTS A1, A2, A3 and A4 Transformers

Measures affected: Total Availability

No. hours to be excluded = **857.60 hours**

Increases Total Availability from **0.048%**

Effect on performance bonus/penalty: **+ \$43,548**

It not possible to switch out these transformers unless the shared network lines are also switched out or visa versa, as they are directly connected. This is a consequence of network design (under the control of VENCORP) and as such is not the responsibility of SPI PowerNet. Therefore, an outage on one element causes an outage on the other element so the outage is in effect counted twice. This exclusion removes a penalty on SPI PowerNet caused by system design, by eliminating the

double counting effect. This mirrors the rebate scheme with VENCORP – the outage is not subject for a rebate for both the transformer and the attached line.

Appendix A

Table 1: Result Without Exclusions

Revenue Calendar Year 2003				
				\$272,172,500
Measure	2003 Result	Target	Calculated S-Factor	Bonus/Penalty
Availability	%	%		\$
Total Circuit Availability	99.272	99.200	0.0002363	64,324
Peak Critical Circuit Availability	99.767	99.900	-0.0002041	-55,540
Peak Non-Critical Circuit Availability	99.321	99.850	-0.0002500	-68,043
Intermediate Critical Circuit Availability	99.479	99.850	-0.0002500	-68,043
Intermediate Non-Critical Circuit Availability	99.338	99.750	-0.0002500	-68,043
Loss of Supply Event Frequency	No.	No.		
>0.05 system minutes	3	2	na	na
>0.3 system minutes	0	1	na	na
Average Outage Duration	h	h		
Lines	9.978	10.000	0.0000000	0
Transformers	7.659	10.000	0.0000000	0
Total S Factor			-0.0007177	-195,345

Table 2: Result With Exclusions

		Revenue Calendar Year 2003		\$272,172,500	Exclusions			
Measure	2003 Result	Target	Calculated S-Factor	Bonus/Penalty	DDTS	KGTS	MWTS	HWTS
Availability	%	%		\$	\$	\$	\$	\$
Total Circuit Availability	99.328	99.200	0.0004230	115,130	4,536		1,814	43,548
Peak Critical Circuit Availability	99.827	99.900	-0.0001103	-30,024	17,011		8,505	
Peak Non-Critical Circuit Availability	99.841	99.850	-0.0000092	-2,509		65,534		
Intermediate Critical Circuit Availability	99.479	99.850	-0.0002500	-68,043				
Intermediate Non-Critical Circuit Availability	99.338	99.750	-0.0002500	-68,043				
Loss of Supply Event Frequency	No.	No.						
>0.05 system minutes	3	2	na	na				
>0.3 system minutes	0	1	na	na				
Average Outage Duration	h	h						
Lines	9.978	10.000	0.0000000	0				
Transformers	3.744	10.000	0.0009400	255,839	255,839			
		Total S Factor	0.0007435	202,349	277,386	65,534	10,320	43,548