



DRAFT DECISION
Powerlink transmission
determination
2017–18 to 2021–22

Attachment 11 – Service target
performance incentive scheme

September 2016

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Note

This attachment forms part of the AER's draft decision on Powerlink's transmission determination for 2017–22. It should be read with all other parts of the draft decision.

The draft decision includes the following documents:

Overview

Attachment 1 – Maximum allowed revenue

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

Attachment 9 – Efficiency benefit sharing scheme

Attachment 10 – Capital expenditure sharing scheme

Attachment 11 – Service target performance incentive scheme

Attachment 12 – Pricing methodology

Attachment 13 – Pass through events

Attachment 14 – Negotiated services

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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	annual service revenue requirement
augex	augmentation expenditure
capex	capital expenditure
CCP	Consumer Challenge Panel
CESS	capital expenditure sharing scheme
CPI	consumer price index
DMIA	demand management innovation allowance
DRP	debt risk premium
EBSS	efficiency benefit sharing scheme
ERP	equity risk premium
MAR	maximum allowed revenue
MRP	market risk premium
NEL	national electricity law
NEM	national electricity market
NEO	national electricity objective
NER	national electricity rules
NSP	network service provider
NTSC	negotiated transmission service criteria
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

Shortened form	Extended form
RPP	revenue and pricing principles
SLCAPM	Sharpe-Lintner capital asset pricing model
STPIS	service target performance incentive scheme
TNSP	transmission network service provider
TUoS	transmission use of system
WACC	weighted average cost of capital

11 Service target performance incentive scheme

The service target performance incentive scheme (STPIS) provides a financial incentive to transmission network services providers (TNSPs) to maintain and improve service performance. The current version of the STPIS, version 5, includes three components: a service component, market impact component and network capability component.¹

The Service Component provides a reward/penalty of +/- 1.25 per cent of MAR to improve network reliability, by focussing on unplanned outages. The Service component is designed to encourage TNSPs to seek to reduce the number of unplanned network outages and to promptly restore the network in the event of unplanned outages that result in supply interruptions. This component is also designed to indicate potential reliability issues.

The market impact component (MIC) provides an incentive to TNSPs to minimise the impact of transmission outages that can affect wholesale market outcomes. The MIC measures performance against the market impact parameter which is the number of dispatch intervals where an outage on the TNSP's network results in a network outage constraint with a marginal value greater than \$10/MWh.² TNSPs will receive a reward or penalty of up to 1 per cent of MAR for the relevant calendar year. Under clause 4.2(a), a TNSP must submit 7 calendar years of data. The target is set in the revenue determination based on the median five of the seven years of historical performance.

The network capability component is designed to encourage TNSPs to develop projects (up to a total of one per cent of the proposed MAR per year) in return for a pro-rata incentive payment of up to 1.5 per cent of MAR depending on the successful completion of proposed projects. This component encourages TNSPs to examine their networks to identify suitable low cost one-off operational and capital expenditure projects that improve the capability of the transmission network at times when it is most needed.

11.1 DRAFT decision

We will apply all components of version 5 of the STPIS to Powerlink for the 2017–22 regulatory control period. We propose to apply the STPIS to Powerlink in accordance with the details set out below.

¹ AER, *Final – Service Target Performance Incentive Scheme*, October 2015, cl. 2.2(a)(1–3).

² AER, *Final – Service Target Performance Incentive Scheme*, October 2015, Appendix C.

Table 11-1 Draft decision — Service Component Caps, floors and targets for 2017–2022

Parameter	Floor (5th percentile)	Targets	Cap (95th percentile)
Average circuit outage rate	15.86	20.88	27.17
Lines event rate – fault	17.09	18.91	20.84
Transformer event rate – fault	19.49	29.85	43.42
Reactive plant event rate – fault	15.9	20.39	24.09
Lines event rate – forced	13.96	19.17	23.49
Transformer event rate – forced	15.95	24.23	34.25
Reactive plant event rate – forced			
Loss of supply events	1	3	7
Number of events greater than 0.05 system minutes per annum	0	1	3
Number of events greater than 0.30 system minutes per annum	4.83	94.14	282
Average outage duration	15.86	20.88	27.17

Source: AER analysis

Table 11-2 Draft decision —MIC parameter values for 2017–2022

Parameter values - MIC	Indicative (2009–2015)
Performance target	333
Unplanned outage event limit	57
Dollar per dispatch interval	\$21,344

Source: AER analysis

Table 11-3 Draft decision — 11.1 Network capability component for 2017–2022 (\$ real 2016-17)

Project	Indicative value
Greenbank System Integrity Protection Scheme	0
Load model enhancement and validation	\$506,000 (real, 2016/17)
Increase design temperature of two 275kV transmission lines	0

Source: AER analysis

11.2 Powerlink's proposal

Powerlink proposed to apply version 5 of the STPIS as follows:³

- The service component parameter targets are set equal to average historical performance over the last five years. The service component caps and floors are set at the 5th and 95th percentiles of historic performance.
- The Market Impact Component (MIC) parameter values to be set using market impact data from 2009–15 in accordance with the requirements of the scheme.
- The network capability component for three priority projects (around \$3.2 million real \$ 2016/17) to improve network capability.

11.3 AER's assessment approach

A revenue determination for a TNSP is to specify, amongst other things, the annual building block revenue requirement for each regulatory year of the regulatory control period.⁴ In turn, the annual building block revenue requirement must be determined using a building blocks approach, under which one of the building blocks is the revenue increments or decrements (if any) for that year arising from the application of any STPIS (and other schemes).⁵ We have assessed Powerlink's regulatory proposal against the requirements of the STPIS version 5.

11.3.1 Service component

We assessed whether Powerlink's proposed performance targets, caps and floors comply with the STPIS requirements for:⁶

- average circuit outage rate, with six sub parameters⁷
- loss of supply event frequency, with two loss of supply event sub-parameters⁸
- average outage duration
- proper operation of equipment, with three sub-parameters.⁹

Under the STIPIS, we must accept Powerlink's proposed parameter values if they comply with the requirements of the STPIS. We may reject them if they are

³ Powerlink, *Revenue proposal 2018–22*, January 2016, p. 114.

⁴ NER, cl. 6A.4.2(a)(2).

⁵ NER, cll. 6A.5.4(a)(5), 6A.5.4(b)(5) and 6A.7.4.

⁶ AER, *Final – Service Target Performance Incentive Scheme, October 2015*, clause 3.2.

⁷ Six parameters include Line event rate–fault, Reactive plant event rate – fault, Lines event rate – forced, Transformer event rate –forced and Reactive plant event rate – forced.

⁸ They are the number of events greater than 0.05 system minutes per annum and the number of events greater than 0.30 system minutes per annum.

⁹ They are failure of protection system, material failure of SCADA system and incorrect operational isolation of primary or secondary equipment.

inconsistent with the objectives of the STPIS.¹⁰ We measure actual performance for the 'average circuit outage rate' and 'average outage duration' parameters on a two calendar year rolling average in accordance with appendix E of the STPIS.

We assessed Powerlink's service component proposal against the requirements of the STPIS — that is, whether:

- Powerlink's data recording systems and processes produce accurate and reliable data and whether the data is recorded consistently based on the parameter definitions under the STPIS¹¹
- the proposed performance targets were equal to the average of the most recent five years of performance data¹²
- any adjustments to the proposed targets are warranted and reasonable¹³
- Powerlink applied a sound methodology, with reference to the performance targets, to calculate the proposed caps and floors¹⁴
- any adjustment to a performance target was applied to the cap and floor of that parameter.¹⁵

11.3.2 Market impact component

We assessed Powerlink's market impact component proposal against the requirements of the STPIS — that is, whether :

- data used to calculate the market impact parameter is accurate and reliable, and consistently recorded based on the parameter definition in Appendix C.¹⁶
- the proposed performance target was calculated in accordance with the requirements of clause 4.2(f) in version 5 of the STPIS.¹⁷
- the proposed unplanned outage event limit has been calculated in accordance with the requirements of clause 4.2(h) in version 5 of the STPIS.
- the proposed dollar per dispatch interval has been calculated in accordance with clause 4.2(j) in version 5 of the STPIS.

Where Powerlink's proposed values for the market impact parameter does not comply with the requirements of the STPIS or is otherwise inconsistent with the objectives of

¹⁰ AER, *Final – Service Target Performance Incentive Scheme, October 2015*, cl. 3.2.

¹¹ AER, *Final – Service Target Performance Incentive Scheme, October 2015*, cl. 3.2(d).

¹² AER, *Final – Service Target Performance Incentive Scheme, October 2015*, cl. 3.2(g).

¹³ AER, *Final – Service Target Performance Incentive Scheme, October 2015*, cl. 3.2(j).

¹⁴ AER, *Final – Service Target Performance Incentive Scheme, October 2015*, cl. 3.2(e).

¹⁵ AER, *Final – Service Target Performance Incentive Scheme, October 2015*, cl. 3.2(e).

¹⁶ AER, *Final – Service Target Performance Incentive Scheme, October 2015*, clause 4.2(c).

¹⁷ Clause 4.2(f) applies as this is the first time Powerlink has applied version 5 of the STPIS.

the scheme¹⁸, we will reject the proposed values and provide substitute values which comply with the STPIS.

11.3.3 Network capability component

We assessed Powerlink's network capability component against the STPIS requirements to take into account:¹⁹

1. the likely effect of the priority project improvement on wholesale market outcomes, including inter-regional outcomes
2. the likely effect of the priority project improvement in ensuring that the transmission network can meet demand at an injection point without major network augmentation or replacement
3. whether the priority project improvement is appropriate, taking into account the forecast changes in demand at a relevant injection point
4. the benefits to consumers resulting from the priority project improvement
5. the extent to which a TNSP would be incentivised or required to undertake such a project under the NER or any other applicable regulatory obligations
6. the time taken for a project to have a net positive benefit
7. any relevant information contained in the TNSP's most recent annual planning report.

11.4 Interrelationships

The STPIS takes into account any other incentives provided for in the NER that TNSPs have to minimise capital or operating expenditure. One of the objectives of the STPIS is to assist in the setting of efficient capital and operating expenditure allowances by balancing the incentive to reduce actual expenditure with the need to maintain and improve reliability for customers and reduce the market impact of transmission congestion.

The STPIS will interact with the Capital Expenditure Sharing Scheme (CESS) and the opex Expenditure Benefit Sharing Scheme (EBSS). The STPIS allows us to adjust the performance targets of the service component for the expected effects on the TNSP's performance from any increases or decreases in the volume of capital works planned during the regulatory control period. In conjunction with CESS and EBSS, the STPIS will ensure that:

- any additional investments to improve service quality are based on prudent economic decisions

¹⁸ AER, *Final – Service Target Performance Incentive Scheme*, October 2015, cl 4.2(d).

¹⁹ AER, *Final – Service Target Performance Incentive Scheme*, October 2015, cll. 5.2(l) and 5.2(m).

- reductions in capex and opex are achieved efficiently, rather than at the expense of service levels to the network users.

11.5 Reasons for draft decision

We will apply version 5 of the STPIS to Powerlink in the next regulatory control period without any variation to the service component. The reasons for our decision are outlined below.

11.5.1 Service component

Performance targets must equal the TNSP's average performance history over the past five years unless they are subject to adjustment under clause 3.2(i) or (j) of the STPIS.²⁰ We generally approve performance targets that are the arithmetic mean of the past five years' performance data.

We accept Powerlink's performance targets for the next regulatory control period as it is consistent with the methodology outlined in version 5 of the STPIS.²¹

Caps and floors

Proposed caps and floors must be calculated with reference to the proposed performance targets using a sound methodology.²² In the past, we have generally accepted approaches that use five years of performance data to determine a statistical distribution that best fits that data—with the caps and floors set at two standard deviations either side of the mean (if using a normal distribution); or at the 5th and 95th percentiles (if using a distribution other than the normal distribution).

We accept Powerlink's performance cap and floor values for the next regulatory control period as it is consistent with version 5 of the STPIS.²³ We tested Powerlink's data using our @risk software and our outputs were consistent with Powerlink's regulatory proposal.

Table 11-4 sets out the caps and floors for Powerlink.

Table 11-4 Draft decision — Caps and floors and targets for 2017–2022

Parameter		Floor (5th percentile)	Cap (95th percentile)
Average circuit outage rate			
Lines event rate – fault	Pearson5	15.86	27.17

²⁰ AER, *Final – Service Target Performance Incentive Scheme, October 2015*, cl. 3.2.

²¹ Powerlink, *Revenue proposal 2018–22*, January 2016, p. 114.

²² AER, *Final – Service Target Performance Incentive Scheme, October 2015*, cl. 3.2(e).

²³ Powerlink, *Revenue proposal 2018–22*, January 2016, p. 114.

Transformer event rate – fault	LogNormal	17.09	20.84
Reactive plant event rate – fault	LogLogistic	19.49	43.42
Lines event rate – forced	Weibull	15.9	24.09
Transformer event rate – forced	Weibull	13.96	23.49
Reactive plant event rate – forced	LogLogistic	15.95	34.25
Loss of supply events			
Number of events greater than 0.05 system minutes per annum	Poisson	1	7
Number of events greater than 0.30 system minutes per annum	Poisson	0	3
Average outage duration	Exponential	4.83	282

Source: AER analysis

11.5.2 Market impact component

Performance target

We do not accept Powerlink's proposed performance target for the market impact parameter. Instead, our draft decision is to substitute the proposed value of 361 dispatch intervals with 333 dispatch intervals.

As Powerlink is applying version 5 of the STPIS for the first time, the performance target is calculated in accordance with clause 4.2(f) of version 5 of the STPIS. Under this methodology, the performance target is calculated by:

- calculating the raw performance target which is equal to Powerlink's average annual performance history against the market impact parameter for the median five out of seven preceding calendar years
- calculating 17 per cent of the raw performance target
- adjusting the annual performance history of Powerlink for the seven preceding calendar years by limiting the impact of market impact parameter counts associated with unplanned outages to 17 per cent of the raw performance target
- using the adjusted performance history to calculate the performance target, which is the average adjusted annual performance history of the median five out of seven preceding calendar years

In accordance with this methodology, Powerlink proposed a performance target of 361 dispatch intervals based on its 2009–15 performance history.

Our assessment of the Powerlink's 2009–15 performance history found that a number of the performance history counts used to calculate Powerlink's proposed performance target is not consistent with the requirements of the STPIS. To account for this, we have made the following adjustments to Powerlink's performance history:

- The removal 99 counts in 2012 (associated with Q_CPSA_44 and Q_CPSA_72) and 1 count in 2015 (associated with Q_STSTN_863). These counts relate to planned network outages coordinated with affected generators. In previous iterations of the STPIS, the AER has excluded such counts from the MIC on the basis that while these outage constraints may have a marginal value in the market systems, in actuality they have no market impact as the outages have been coordinated with affected generators.²⁴ This has not changed in version 5.
- The removal of 38 counts associated with generator constraints (#KAREEYA4_D_E, #YABULU_D_E, #MSTUART2_D_E, #KAREEYA2_D_E and #BARRON-1_D_E) that were invoked as part of AEMO generator directions on the 13 October 2015. Powerlink proposed to include these counts on the basis they were associated with the planned outage of the 8857 line. AEMO reports²⁵ indicate that on the day, line 897, which runs parallel to the 8857 line, tripped four times. As the cause of the trip was unknown at the time, AEMO reclassified the simultaneous loss of both lines as a credible contingency and invoked network outage constraint Q_RS_260 to manage the power system. Q_RS_260 constrained on northern Queensland generation. However, in response to the constraint being invoked, some north Queensland generators bid themselves as unavailable, causing Q_RS_260 to violate and put the northern Queensland power system in a non-secure operating state. To restore system security, AEMO issued directions to generators to follow dispatch instructions. The binding generator constraints are associated with these AEMO instructions.

The market impact parameter measures dispatch intervals where an outage on the TNSP's prescribed transmission network results in a network outage constraint exceeds \$10/MWh. However, the generator constraints should not be included as they are related to AEMO directions to generators. These directions arose directly because of generator decisions and not as a direct consequence of the outages to line 879 and 8857. Thus, they are not network outage constraints.

- The removal of one count in 2010 (associated with #STAN-3_E). This is usually a generator constraint and no evidence has been provided that this was invoked to manage a network outage.
- The removal of one count in 2009 (associated with Q^FNQ4-030). This count did not have marginal value which exceeded the \$10/MWh threshold.
- The inclusion of one count in 2009 (associated with Q_CS_1500). AER market data shows that this constraint bound eight times on the 24 January 2009. However Powerlink's proposal only included seven binding counts.

²⁴ For example see AER, *Final decision – early application of the market impact component of the service target performance incentive scheme for ElectraNet Performance target*, 1 December 2010, p.11-12. Available at: <https://www.aer.gov.au/networks-pipelines/guidelines-schemes-models-reviews/electranet-application-for-early-implementation-of-the-market-impact-component-of-stpis-october-2010>.

²⁵ AEMO, *Power system insecure in Queensland on 13 October 2015 – an AEMO power system operating incident report for the National Electricity Market*, July 2016; AEMO, *NEM event – directions to Northern Queensland Generators – 13 October 2015*, 21 July 2016.

- Powerlink attributed all counts associated with constraints Q:N_BCKTR_BCK2L-G and Q:N_BCKTR_BI_POT in 2010 to planned outages. However, market notices 31857 and 31865 indicate that the constraints were invoked to manage an unplanned outage from 5.35 pm on 20 May 2010 and lasted until 2.55 pm on 21 May 2010. Constraints Q:N_BCKTR_BCK2L-G and Q:N_BCKTR_BI_POT bound for 57 dispatch intervals during this period. Accordingly, we have attributed these 57 counts to unplanned outages.
- Powerlink attributed one count associated with N^MQ_BR_VC_B1 in 2011 to an unplanned outage. However, market notice 36444 indicates that the outage constraint was invoked for a planned outage. Accordingly we have attributed this count to a planned outage.

Details of each adjustment are summarised in Table 11-5 below

Table 11-5 Adjustments to Powerlink's 2009–2015 performance history

Constraint ID	AER adjustment to dispatch interval count	Reason for adjustment	Date binding
Q^FNQ4-030	-1	Count did not have marginal value greater than \$10/MWh	29/11/2009
Q_CS_1500	1	Binding count was not included in Powerlink's performance history	24/01/2009
#STAN-3_E	1	No evidence constraint was invoked to manage a network outage	20/5/2010
Q:N_BCKTR_BCK2L-G	attribute 35 counts to unplanned outage	Constraint was invoked to manage an unplanned outage on 20/05 and 21/05 - see market notice 31857 and 31865	20/05/2010 21/05/2010
Q:N_BCKTR_BI_POT	attribute 22 counts to unplanned outage	Constraint was invoked to manage an unplanned outage on 20/05 and 21/05 - see market notice 31857 and 31865	20/05/2010 21/05/2010
N^MQ_BR_VC_B1	attribute 1 count to planned outage	Constraint was invoked to manage an planned outage - see market notice 36444	27/10/2011
Q_CPSA_44	-96	Planned outage coordinated with affected generators. No market impact	22/11/2012 23/11/2012
Q_CPSA_72	-3	Planned outage coordinated with affected generators. No market impact	08/11/2012
#BARRON-1_D_E	-8	Generator constraint associated with	13/10/2015

AEMO direction to generators			
#KAREEYA2_D_E	-3	Generator constraint associated with AEMO direction to generators	13/10/2015
#MSTUART2_D_E	-2	Generator constraint associated with AEMO direction to generators	13/10/2015
#KAREEYA4_D_E	-3	Generator constraint associated with AEMO direction to generators	13/10/2015
#YABULU_D_E	-22	Generator constraint associated with AEMO direction to generators	13/10/2015
Q_STSTN_863	-1	Planned outage coordinated with affected generators. No market impact	24/09/2015

Feedback was sought from Powerlink on these proposed adjustments²⁶. Powerlink agreed with the proposed adjustments, with the exception of the following constraints:²⁷

- Q_CPSA_44, Q_CPSA_72 and Q_STSTN_863. Powerlink considered that these counts for these outage constraints, which were coordinated with affected generators, should be included as the work was initiated by Powerlink. As the power stations were aware of the work and the impact it would have on their ability to generate, affected generator units were taken offline for Powerlink to perform its' work.
- #BARRON-1_D_E, #KAREEYA2_D_E, #MSTUART2_D_E, #KAREEYA4_D_E and #YABULU_D_E. Powerlink noted that the AER's STPIS Version 5 MIC guidance document provided to TNSPs stated exclusions do not apply where a subsequent directive issued by AEMO is in response to the actions of the TNSP for the initial outage. The AEMO directions were issued in response to the inability to meet requirements of the reclassification constraint, which was caused by a prior planned Powerlink outage. If Powerlink was not undertaking the planned outage then the network would not have been limited and direction constraints would not have been required by AEMO. On this basis, these counts should be attributed to Powerlink.
- N^Q_BR_VC_B1. Powerlink stated that the market notice 36444 was in error and that the outage constraint was invoked for an unplanned outage managed that was managed through the AEMO NOS system. Powerlink notes that the first NOS entry was submitted to AEMO after the outage commenced, meeting the requirement of less than 24 hours notice to AEMO for unplanned outages.

²⁶ AER, *AER information request – Powerlink - #018 – AER staff assessment of market impact component data*, 12 August 2016

²⁷ Powerlink, *Response to AER information request – Powerlink - #018 – AER staff assessment of market impact component data*, 19 August 2016.

The AER has considered Powerlink's response and does not consider that the adjustments needed to be amended. Specifically,

- In relation to Q_CPSA_44, Q_CPSA_72 and Q_STSTN_863, as explained above counts associated with planned coordinated outages between a TNSP and an affected generator is not included in as a binding count. These counts have previously been excluded from Powerlink's performance counts under Version 3 of the scheme.²⁸ We do not consider there have been any changes to the MIC since which warrant these constraint counts being treated differently.
- In relation to #BARRON-1_D_E, #KAREEYA2_D_E, #MSTUART2_D_E, #KAREEYA4_D_E and #YABULU_D_E, we agree with the position that TNSP should be responsible for constraint counts associated with AEMO issues directives where it is caused by an outage on the TNSP's network. However, in this instance the AEMO directions were not caused by the TNSP's network but rather the bidding behaviour of generators in northern Queensland. This is explained in AEMO reports which cover events on the day.²⁹ While the planned outage was an underlying condition which contributed to the AEMO directions being required, they are not the cause.
- In relation to N^Q_BR_VC_B1, based on the information before us it has not been satisfactorily shown that the outage was unplanned. Further information would need to be required to show that the outage was planned (i.e. detailed NOS records or confirmation from AEMO that market notice 36444 was in error).

Table 11-6 below sets out Powerlink's performance history with these adjustments factored in.

Table 11-6 Powerlink performance history with AER adjustments

	2009	2010	2011	2012	2013	2014	2015
Planned outages	70	1320	37	6	81	3936	26
Unplanned outages	73	84	0	0	16	5	1
Total DI count	143	1404	37	6	97	3941	27

Using the performance history numbers in the table above and applying the methodology set out in clause 4.2(f) of the STPIS:

²⁸ These counts were previously considered in Powerlink's STPIS compliance review for 2012 and 2015.

²⁹ AEMO, *Power system insecure in Queensland on 13 October 2015 – an AEMO power system operating incident report for the National Electricity Market*, July 2016; AEMO, *NEM event – directions to Northern Queensland Generators – 13 October 2015*, 21 July 2016.

- In accordance with sub-clause 4.2(f)(1), the performance history of 2012 and 2014 is excluded and the average of the remaining performance history years is used to calculate the raw performance target. This gives a raw performance target of 342 dispatch intervals.
- In accordance with sub-clause 4.2(f)(2), 17 per cent of the raw performance target is 58 dispatch intervals.
- In accordance with sub-clause 4.2(f)(3), the performance history of Powerlink adjusted to limit the contribution of counts caused by unplanned outages to no more than 17 per cent of the raw performance target. Table 11-7 below sets out the performance history counts adjusted for the cap on unplanned outages (capped performance history).

Table 11-7 Powerlink performance history with 17 per cent cap on unplanned outages

	2009	2010	2011	2012	2013	2014	2015
Planned outages	70	1320	37	6	81	3936	26
Unplanned outages	58	58	0	0	16	5	1
Total DI count	143	1378	37	6	97	3941	27

- In accordance with sub-clause 4.2(f)(4), the capped performance history is used to calculate the performance target. The capped performance history of 2012 and 2014 is excluded and the average of the remaining performance history years is used to calculate the performance target. This gives a performance target of 333 dispatch intervals.

Unplanned outage event limit

We do not accept Powerlink's proposed unplanned outage event limit for the market impact parameter. Instead, our draft decision is to substitute the proposed value of 61 dispatch intervals with 57 dispatch intervals.

As Powerlink is applying version 5 of the STPIS for the first time, the unplanned outage event limit is 17 per cent of the performance target calculated in accordance with clause 4.2(f)(4)-(5).³⁰ Powerlink's proposed unplanned outage event limit has been calculated using their proposed performance target of 361 dispatch intervals. Using the draft decision performance target of 333 dispatch intervals, this gives an unplanned outage event limit of 57 dispatch intervals.

³⁰ AER, *Final – Service Target Performance Incentive Scheme, October 2015*, cl 4.2(h).

Dollar per dispatch interval

The dollar per dispatch interval is 1 per cent of one per cent of the MAR for the first year of Powerlink's regulatory control period divided by the performance target.³¹ Powerlink has proposed a dollar per dispatch interval of \$21,257 based on their proposed performance target and MAR. Using the draft decision performance target of 333 dispatch intervals and MAR of \$711 million, this gives a dollar per dispatch interval of \$21,344.

11.5.3 Network capability component

We accept Powerlink's NCIPAP project to increase the design temperature of two 275kV transmission lines because it facilitates improvements in the capability of transmission assets.

We reject Powerlink's proposed system integrity protection scheme at Greenbank because it does not facilitate improvements in the capability of transmission assets. We consider this project relates to the normal operation and maintenance of the existing network capability. Therefore, this project should be funded via the efficient total allowance.³²

We reject Powerlink's proposed load model enhancement and validation project because it does not result in a material benefits or facilitate improvements in the capability of transmission assets.³³ We also consider this project relates to the normal operation and maintenance of the existing network. Therefore, this project should be funded via the efficient total allowance. We agree with the submission from Consumer Challenge Panel (CCP) members Hugh Grant and David Headberry that the intention of the STPIS is not to reward TNSPs for doing what is essentially standard network management practice.³⁴

Increase design temperature of two 275kV transmission lines

This project involves increasing conductor ground clearance on 14 spans of the 275kV lines from Bouldercombe to Calliope River. The increased ground clearance would allow for higher conductor operating temperature so that the summer emergency rating of the lines could be increased from 541MVA to 593 MVA, an increase of about 10 per cent.³⁵

³¹ AER, *Final – Service Target Performance Incentive Scheme, October 2015*, cl 4.2(j).

³² AER, *Final – Service Target Performance Incentive Scheme, October 2015*, cl. 5.2(0).

³³ AER, *Final – Service Target Performance Incentive Scheme, October 2015*, cl. 5.2(0).

³⁴ CCP (Hugh Grant and David Headberry), *Submission to the AER, Powerlink Queensland 2018–22 revenue proposal*, 20 June 2016, p. 87.

³⁵ Powerlink, 2018–22 Powerlink Queensland Revenue Proposal, Appendix 15.03 Powerlink Queensland Network Capability Incentive Parameter Action Plan, January 2016, pp. 9–10; Powerlink, Project Proposal for Increase Design Temperature Bouldercombe to Raglan and Larcom Creek to Calliope River 275kV transmission lines, 12 October 2015.

Powerlink stated that the annual market benefit to be \$146,000, resulting in a pay-back period of 3.5 years.³⁶ AEMO confirmed that it has reviewed the project benefit assessment submitted by Powerlink and was satisfied.³⁷

We accept this priority project because it met the STPIS requirement to facilitate improvements in the capability of transmission assets.³⁸

Greenbank System Integrity Protection Scheme

We reject this priority project because it is not consistent with the STPIS. Our reason to reject this NCIPAP project is found in confidential appendix A of this attachment.

Load model enhancement and validation

Powerlink proposed to install high speed monitoring equipment and develop new load models. The new models will supersede existing load models and will be used to understand the secure operating envelop and for prudent operation, investment and re-investment decisions.

Powerlink identified a range of benefit but could not quantify them. It considered this project as of exploratory nature.³⁹

Load models are an essential tool for Powerlink to plan and operate its transmission network. However, if the current model (developed over 20 years ago)⁴⁰ does not provide satisfactory accuracy and certainty of the assessed network capability, then Powerlink should update the models so that it can fulfil its obligations under the NER with the efficient capex/opex allowance.

Powerlink submitted that we approved a similar project for ElectraNet in 2015—that also had no quantifiable benefits. We do not agree with Powerlink's submission because ElectraNet's project was approved under version 4 of the STPIS which had different requirements. Additionally, unlike Powerlink's proposal, ElectraNet's project sought to enhance an existing up-to-date load model.⁴¹

Powerlink, on the other hand, has not kept its load model up-to-date for 20 years, and it noted that the use of the current outdated model would lead to sub-optimal reinvestment decisions. We consider that Powerlink has an obligation to maintain load

³⁶ Powerlink, 2018–22 Powerlink Queensland Revenue Proposal, Appendix 15.03 Powerlink Queensland Network Capability Incentive Parameter Action Plan, January 2016, p. 10.

³⁷ AEMO, Letter Re: Confirmation of Powerlink's Network Capability Incentive Parameter Action Plan (NCIPAP) for Regulatory Period 2017–18 to 2021–22, 22, December 2015, p. 2.

³⁸ AER, Final – Service Target Performance Incentive Scheme, October 2015, cl. 5.2(n).

³⁹ Powerlink, 2018–22 Powerlink Queensland Revenue Proposal, Appendix 15.03 Powerlink Queensland Network Capability Incentive Parameter Action Plan, January 2016, pp. 13–15.

⁴⁰ Powerlink, 2018–22 Powerlink Queensland Revenue Proposal, Appendix 15.03 Powerlink Queensland Network Capability Incentive Parameter Action Plan, January 2016, p. 14.

⁴¹ AER, *Final Decision Early application of the network capability component of the service target performance incentive scheme for ElectraNet*, May 2015, p. 4.

model accuracy under the NER, and this obligation should be fulfilled without STIPIS incentives.⁴²

We reject this project because it is not fit for the purpose of the NCIPAP nor is the benefits known as required by the scheme. The NCIPAP is intended to incentivise TNSPs to address capacity limit of the transmission circuits and injection points. Powerlink has not demonstrated that it has met this criterion.

⁴² NER, cl. 6A.6.7(c)(1).