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

Attachment 9 – Efficiency benefit sharing scheme

September 2016

AUSTRALIAN ENERGY REGULATOR

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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

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Attachment 10 – Capital expenditure sharing scheme

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Attachment 13 – Pass through events

Attachment 14 – Negotiated services

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	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

9 Efficiency benefit sharing scheme

The efficiency benefit sharing scheme (EBSS) aims to provide an incentive for service providers to pursue efficiency improvements in operating expenditure (opex) and to share efficiency gains between network service providers and network users. It is intrinsically linked to our forecasting approach for opex.

To encourage a service provider to become more efficient, under an ex ante framework, a service provider retains any efficiency gains it makes until the end of the regulatory control period when its opex forecast is reset. The EBSS allows the service provider to retain any efficiency gains it makes for a total of six years, regardless of the year in which the gains are made.[1] This provides a continuous incentive for service providers to pursue efficiency gains over the regulatory control period. It also discourages a service provider from incurring opex in the expected base year to receive a higher opex allowance in the following regulatory control period.

During the 2012–17 regulatory control period, Powerlink operated under version one of the Electricity transmission network service providers' EBSS released in September 2007.[2]

9.1 Draft decision

Our draft decision is to approve the EBSS carryover amount of –$7.8 million ($2016–17) from the application of the EBSS in the 2012–17 regulatory control period, as proposed by Powerlink.

Powerlink would receive a higher carryover of $1.2 million ($2016–17) if we adjusted the EBSS calculations to:

- Share non-recurrent efficiency gains the same as other efficiency gains and losses. This would increase Powerlink's EBSS carryover by $22.8 million because Powerlink would not incur 100 per cent of the increases in opex due to the write off of its 500kV project and workforce redundancies.
- Use 2014–15 as the base year rather than 2015–16. Powerlink's EBSS calculations assume 2015–16 was used as the base year to forecast opex for the 2017–22 regulatory control period. However, Powerlink actually used 2014–15 to forecast opex. This inconsistency would effectively reward Powerlink twice for incremental efficiency gains made in 2015–16: once through the EBSS carryovers and a second time because they are not reflected in its opex forecast. Assuming 2014–15 is the base year would decrease Powerlink's carryover by $13.8 million.

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1 The service provider keeps any efficiency gain in the year it makes them. The service provider then keeps those gains for the length of the carryover period. The carryover length is usually five years so the service provider keeps efficiency gains for a total of six years.

2 AER, *Electricity transmission network service providers—Efficiency benefit sharing scheme*, September 2007.

Also, Powerlink proposed not to retain efficiency gains it made after 2014–15 through either its proposed EBSS carryovers or its opex forecast.

Nevertheless, Powerlink maintains it is satisfied an EBSS carryover amount of –$7.8 million (penalty)—when considered together with an opex forecast of $976.7 million—appropriately recognises efficiency gains and losses in opex over the current regulatory period. Powerlink also stated its opex forecast reflects the prudent and efficient costs required to operate and maintain its network.[3]

As set out in attachment 7, our draft decision is to accept Powerlink's opex forecast of $976.7 million ($2016–17) over the 2017–22 regulatory period.

Our draft decision for the EBSS carryover amounts from the 2012–17 regulatory control period is outlined in Table 9.1.

Table 9.1 Draft decision on Powerlink's EBSS carryover amounts ($ million, 2016–17)

	2017–18	2018–19	2019–20	2020–21	2021–22	Total
Powerlink proposal	–0.8	–6.8	–3.0	2.8	–	**–7.8**
AER draft decision	–0.8	–6.8	–3.0	2.8	–	**–7.8**

Source: Powerlink, *Revenue proposal*, January 2016, p. 35.

Looking forward, our draft decision is to apply version two of the EBSS to Powerlink in the 2017–22 regulatory control period.[4] This is consistent with our final framework and approach paper and Powerlink's proposal.[5] When we apply version two of the EBSS, we will exclude the following cost categories from the scheme:[6]

- debt raising costs
- network supports costs.

Table 9.2 sets out our draft decision on the target opex for the EBSS (total opex less excluded categories) we will use to calculate efficiency gains in the 2017–22 regulatory control period, subject to further adjustments allowed by the EBSS.

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3 Powerlink, Response to AER information request #16, 2 August 2016.

4 AER, *Efficiency benefit sharing scheme for electricity network service providers*, November 2013.

5 AER, *Final Framework and Approach for Powerlink*, June 2015, pp. 21–24;
Powerlink, *Revenue proposal*, January 2016, p. 111.

6 AER, *Efficiency benefit sharing scheme for electricity network service providers*, November 2013, Section 1.4, p. 9.

Table 9.2 Forecast opex for the EBSS ($ million, 2016–17)

	2017–18	2018–19	2019–20	2020–21	2021–22	Total
Forecast opex	196.9	196.0	195.1	194.4	194.3	**976.7**
Less debt raising costs	–3.6	–3.6	–3.5	–3.5	–3.4	**–17.6**
Less network support costs	–	–	–	–	–	**–**
Total opex for the EBSS target	**193.3**	**192.5**	**191.6**	**190.9**	**190.8**	**959.1**

Source: Powerlink, *Revenue proposal*, January 2016. Numbers may not add up to total due to rounding.

9.2 Powerlink's proposal

9.2.1 Carryover amounts from the 2012–17 regulatory control period

Powerlink proposed we include an EBSS decrement of $7.8 million ($2016–17, table 9.1) in its regulated revenue for the 2017–22 regulatory control period, from applying the EBSS in the 2012–17 regulatory control period.[7]

To estimate its proposed EBSS carryover amounts, Powerlink adjusted its total opex allowance to reflect the difference between forecast and actual demand growth as required by version one of the EBSS.[8] It also excluded the following categories of expenditure, as set out in its transmission determination:[9]

- debt raising costs
- insurance premiums
- self-insurance allowance
- network support costs.

Powerlink also excluded the following categories of expenditure on the basis that including them would unduly penalise it:

- AEMC levy
- reduced demand, workforce adjustment
- reduced demand, 500kV write-off.

7 Powerlink, *Revenue proposal*, January 2016, p. 35.
8 Powerlink, *Revenue proposal*, January 2016, p. 33.
9 Powerlink, *Revenue proposal*, January 2016, p. 34.

To calculate its proposed EBSS carryover, Powerlink included its latest estimate of opex for 2015–16 and assumed no incremental efficiency gain for 2016–17. On this basis Powerlink proposed an EBSS carryover amount of –$7.8 million ($2016–17).[10]

9.2.2 Application of the EBSS in the 2017–22 regulatory control period

Powerlink proposed we apply version two of the scheme in the 2017–22 regulatory control period. It proposed we exclude the following cost categories from the scheme:

- insurance and self-insurance
- AEMC levy
- network support costs
- debt raising costs
- redundancy costs.

This is because it did not forecast these categories of opex using a single year revealed cost approach.

9.3 Assessment approach

Under the National Electricity Rules (NER) we must determine:

- the revenue increments or decrements for each year of the 2017–22 regulatory control period arising from the application of the EBSS during the 2012–17 regulatory control period[11]
- how the EBSS will apply to Powerlink in the 2017–22 regulatory control period.[12]

The EBSS must provide for a fair sharing between service providers and network users of opex efficiency gains and efficiency losses.[13] We must also have regard to the following matters when implementing the EBSS:[14]

- the need to provide the network service provider with continuous incentives to reduce opex
- the desirability of both rewarding the service providers for efficiency gains and penalising them for efficiency losses
- any incentives that service providers may have to inappropriately capitalise expenditure

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10 Powerlink, *Revenue proposal*, January 2016, p. 35.
11 NER, cl. 6A.5.4(a)(5).
12 NER, cl. 6A.14.1(1)(iv) and cl. 6A.14.3(d)(2).
13 NER, cl. 6A.6.5(a).
14 NER, cl. 6A.6.5(b).

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

Our final framework and approach paper for Powerlink sets out how we had regard to these matters in our decision to apply version two of the EBSS to Powerlink.[15]

9.3.1 Interrelationships

The EBSS is intrinsically linked to our opex revealed cost forecasting approach. Under our revealed cost forecasting approach we base our forecast on a service provider's audited actual opex in a single year. Under this opex forecasting approach, the EBSS has two functions:

- it mitigates the incentive to increase opex in the expected 'base year' to increase forecast opex for the following regulatory control period
- it provides a continuous incentive to make efficiency gains—that is, service providers receive the same reward for an underspend and the same penalty for an overspend in each year of the regulatory control period.

Furthermore, when we assess a service provider's opex proposal, we are to have regard to whether the opex forecast is consistent with any incentive schemes that apply to the service provider, including the EBSS.[16]

Where we do not propose to rely on the revealed costs of a service provider to forecast opex in the next regulatory period, this changes the service provider's incentives to make productivity improvements and consequently impacts our decision on how we apply the EBSS.

9.4 Reasons for draft decision

This section provides the reasons for the carryover amounts that arise from applying the EBSS during the 2012–17 regulatory control period, and how we will apply the EBSS in the 2017–22 regulatory control period.

9.4.1 Carryover amounts from the 2012–17 regulatory control period

We accept Powerlink's proposal that it receive an EBSS decrement of $7.8 million ($2016–17) from the application of the EBSS during the 2012–17 regulatory control period.

In the 2012–17 regulatory control period, Powerlink was subject to version one of the Electricity transmission network service providers' EBSS.[17] We calculate the EBSS carryover amounts based on the difference between:

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15 *Final Framework and Approach for Powerlink*, June 2015, pp. 23–24

16 NER, cl. 6A.6.6(e)(8).

- approved forecast opex which is set out in our determination for Powerlink for the 2012–17 regulatory control period
- actual opex for the regulatory years from 2012–13 to 2015–16, subject to exclusions and adjustments.[18]

We set out the formulas for calculating the carryover amounts in the scheme.[19]

We reviewed how Powerlink calculated its proposed EBSS carryover and, in consultation with Powerlink, identified two issues. First, Powerlink's calculations assumed it had used 2015–16 as the base year to forecast opex when in fact it used 2014–15. Second, Powerlink effectively treated efficiency gains or losses related to its workforce adjustment and 500kV write-off differently to other efficiency gains and losses. We discuss these two issues in more detail below.

We are satisfied we should exclude AEMC levy expenditure from the operation of the scheme as proposed by Powerlink. Version one of the EBSS allows us to adjust opex for changes in costs that we deem were uncontrollable and would not adversely impact the operation of the scheme.[20] We are satisfied the AEMC levy expenditure meets these criteria.

Opex forecasting base year

When we determine EBSS carryover amounts we typically do not know actual audited opex for the final year of the current regulatory control period. Consequently, we need to estimate this to calculate gains or losses for the final year of the current regulatory control period. To ensure consistency with the opex forecast, the estimate of final year opex should reflect the same level of efficiency as in the base year.

Powerlink used the equation in version one of the EBSS to estimate its opex for 2016–17. This equation implicitly assumes 2015–16 (the second last year) is used as the base year to forecast opex and sets the incremental gain to zero for 2016–17 (the final year). However, Powerlink used 2014–15 as the base year to forecast opex.

We consider it important that the base year assumed in the EBSS calculations is the same as that used to forecast opex. This ensures that the service provider is rewarded for the same level of efficiency as it is forecasting in its opex forecast. Version one of the electricity transmission EBSS assumes the second last year is used as the base year to forecast opex. We relaxed this assumption when we developed version one of the electricity *distribution* EBSS and allowed flexibility in the choice of base year. This flexibility was retained in version two of the EBSS, which applies to both electricity transmission and distribution businesses.

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17 AER, *Electricity transmission network service providers Efficiency benefit sharing scheme*, September 2007.

18 Powerlink used estimate of 2015–16 opex were not available at the time it submitted its revenue proposal.

19 AER, *Electricity transmission network service providers Efficiency benefit sharing scheme*, September 2007, pp. 6−7.

20 AER, *Electricity transmission network service providers Efficiency benefit sharing scheme*, September 2007, p. 7.

Adopting the equation in version two of the EBSS and assuming 2014–15 as the base year would change the EBSS carryover from –$7.8 million (penalty) to –$21.6 million (penalty).

Alternatively, we could address this inconsistency by changing the base year we use to forecast opex. The revenue impact of doing so would be similar to using the equation in version two of the EBSS to calculate the EBSS carryover. That is, forecast opex plus the EBSS carryover would be similar under the two approaches.

We raised this issue with Powerlink.[21] Powerlink agreed that adopting equations from version two of the EBSS for the calculation of carry over amounts from a year 3 base is a suitable way to address the situation.[22]

Treatment of non-recurrent expenditure

Powerlink excluded non-recurrent costs related to 500kV project costs from its base opex to forecast opex for the 2017–22 period. However, it considered it would be 'unduly penalised' by the EBSS if actual opex was not adjusted for the removal of these costs from base opex. Consequently it also removed this opex from its actual opex in the EBSS calculations, as well as non-recurrent opex for redundancy related costs in 2015–16. One effect of this adjustment is that Powerlink would incur 100 per cent of these costs, rather than sharing them with its customers as for other categories of opex.

An alternative approach to addressing non-recurrent opex in the opex base year is to use the equations in version two of the EBSS, which allows for an adjustment for non-recurrent costs to calculate the incremental gain for the final year. This would adjust the EBSS calculation for non-recurrent opex removed from base opex for forecasting. It would also share the efficiency gains or losses associated with the non-recurrent opex between Powerlink and its customers, rather than Powerlink incurring all these costs. Under this approach Powerlink would receive a total EBSS carryover of $1.2 million (2016–17) assuming:

- the equations in version two of the EBSS are used
- 2014–15 is assumed to be the base year
- a non-recurrent efficiency loss of $12.7 million is assumed for the base year
- cost associated with all non-recurrent cost categories (such as the 500kV project in 2014–15 and the redundancy related costs in 2015–16) are included in the EBSS calculation.

We raised this issue with Powerlink.[23] Powerlink agreed that its EBSS proposal did not share the non-recurrent 'efficiency losses' related to its 500kV project and redundancy

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21 AER, *AER information request – Powerlink - #016*, 26 July 2016.

22 Powerlink, *Response to AER information request–Powerlink - #016*, 2 August 2016, p. 3.

23 AER, *AER information request – Powerlink - #016*, 26 July 2016.

related costs in the same way other gains and losses are shared by the scheme. Powerlink also agreed that using the equations in version two of the EBSS would account for the non-recurrent opex removed from base opex and share all efficiency gains and losses consistently.[24]

However, Powerlink also noted that version one of the EBSS applied to Powerlink during 2012–17 and this version of the scheme does not provide an explicit adjustment for non-recurrent efficiency adjustments made when forecasting opex. Consequently Powerlink considered that excluding non-recurrent cost categories (the 500kV project and redundancy related costs) appropriately reflected its approach to forecasting opex.

Powerlink maintained that forecast opex of $976.7 million ($2016–17) reflects the prudent and efficient costs required to operate and maintain its network. Powerlink also maintained that an EBSS carry over amount of –$7.8 million ($2016–17) appropriately recognises efficiency gains and losses it accrued over the 2012–17 regulatory control period.[25]

We accept an EBSS carryover of –$7.8 million (penalty), when considered together with an opex forecast of $976.7 million, appropriately rewards Powerlink for efficiency gains and penalises it for efficiency losses, while also providing it with the efficient opex it requires to operate and maintain its network. Our decision to accept Powerlink's opex forecast is set out in attachment 7.

9.4.2 Application of the EBSS in the 2017–22 regulatory control period

Going forward, we will apply version two of the EBSS to Powerlink.[26] We consider the EBSS is needed to provide Powerlink with a continuous incentive to pursue efficiency gains during the 2017–22 regulatory control period. As we typically rely on a single year revealed cost approach to forecasting opex, we consider the EBSS is also needed to provide Powerlink with an incentive not to increase its opex in the expected base year.

Version two of the EBSS specifies our approach to determining the length of the carryover period, calculating the incremental efficiency gains and adjusting forecast or actual opex when calculating carryover amounts. These are detailed below.

Length of carryover period

The length of the carryover period for the 2017–22 regulatory control period should be the same as the length of the regulatory control period commencing in 2022–23. This

[24] Powerlink, *Response to AER information request – Powerlink - #016*, 2 August 2016.
[25] Powerlink, *Response to AER information request – Powerlink - #016*, 2 August 2016.
[26] AER, *Efficiency benefit sharing scheme for electricity network service providers*, November 2013.

aligns the EBSS carryover period with the total length of Powerlink's regulatory control period and ensures continuous incentives.[27]

Incremental efficiency gains

We will calculate incremental efficiency gains differently depending on whether they are in:

- the first regulatory year
- the second regulatory year to the penultimate regulatory year.

We will estimate actual opex for the final regulatory year.

We will do this according to the formulas set out in version two of the EBSS.[28]

Adjustments to forecast or actual opex when calculating carryover amounts

The EBSS allows us to exclude categories of costs that we do not forecast using a single year revealed cost forecasting approach. This is designed to fairly share efficiency gains and losses. For instance, where a service provider achieves efficiency improvements, it receives a benefit through the EBSS and consumers receive a benefit through lower forecast opex in the next period. This is the way consumers and the service provider share in the benefits of an efficiency improvement.

If we do not use a single year revealed cost forecasting approach, lower actual opex will not necessarily be passed through to consumers. Consumers should not pay for EBSS benefits where they do not receive the benefits of a lower opex forecast.

We will exclude the following categories of costs from the EBSS:

- debt raising costs
- network support costs.

We accept Powerlink's proposal to exclude these cost categories from the EBSS because they are not forecast based on revealed expenditure in a single year.

We forecast debt raising costs using a benchmark and not revealed expenditure.[29] We also forecast network support costs using a category specific forecast.[30] This is because we are required under the NER to adjust a transmission network service provider's revenue when the actual amount of network support payments it incurs

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27 NER, cl. 6A.6.5(b)(1).

28 AER, *Efficiency benefit sharing scheme for electricity network service providers*, November 2013, pp. 7–9.

29 AER, *Preliminary decision*, *attachment 7 - Opex*.

30 Network support refers to non-network solutions used by transmission network service providers as a cost effective means of deferring network augmentation. The NER, cl. 6A.5.6(b)(4) requires us to have regard to the possible effects of the scheme on incentives for the implementation of non-network alternatives.

differs to the allowance we determined for that year.[31] To facilitate this, we forecast network support costs separately.

We will not exclude the following categories of opex from the EBSS:

- insurance
- self-insurance
- AEMC levy
- redundancy related costs.

As we have outlined in attachment 7, we prefer to forecast total opex using a single year revealed cost approach. Powerlink adopted a similar forecasting approach. Because these costs are included in our total opex forecast based on revealed expenditure in a single year, there is no reason to exclude them from the EBSS.

By including costs such as redundancy related costs, the AEMC levy, insurance and self-insurance in the EBSS, uncontrollable cost decreases or increases are shared between service providers and network users in the same way as for any efficiency gain or loss (that is, approximately 30:70 with a five year carryover period). If we exclude such costs, the service provider's share of cost decreases or increases differs across the regulatory control period. We do not consider cost increases should be shared differently between service providers and network users in different regulatory years.

In addition to the excluded cost categories, we will adjust actual opex to reverse any movements in provisions. Consistent with the approach we applied in implementing the EBSS for the 2012–17 regulatory control period, for regulatory purposes we consider actual opex net of movement in provisions best reflects the actual opex incurred by the service provider during the regulatory control period.

Consistent with version two of the EBSS we will also:

- adjust forecast opex to add (subtract) any approved revenue increments (decrements) made after the initial regulatory determination. This may include approved pass through amounts
- adjust actual opex to add capitalised opex that has been excluded from the RAB[32]
- exclude categories of opex not forecast using a single year revealed cost approach for the regulatory control period beginning in 2022–23 where doing so better achieves the requirements of clause 6A.6.5 of the NER.[33]

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31 NER, cl 6A.7.2.

32 This is consistent with NER, cl. 6A.6.5(b)(3) which requires us to have regard to any incentives the service provider may have to inappropriately capitalise expenditure.

33 AER, *Efficiency benefit sharing scheme for electricity network service providers*, November 2013, p. 9.