Electricity Network Service Providers

Proposed Efficiency Benefit Sharing Scheme

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AUSTRALIAN ENERGY REGULATOR

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01 - EBSS for TNSPs	30 September 2007	10
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Contents

1 Nature and authority

1.1 Introduction

Consistent with clauses 6.5.8 and 6A.6.5 of the National Electricity Rules (NER), this publication sets out the Australian Energy Regulator's (AER) Efficiency Benefit Sharing Scheme (EBSS) for electricity network service providers (NSPs).

1.2 Authority

Clauses 6.5.8(a) and 6A.6.5(a) of the NER require the AER to develop an EBSS.

1.3 Role of the EBSS

The AER must, in accordance with the consultation procedures in clauses 6.16 and 6A.20 of the NER, develop and publish an EBSS or EBSSs that provide for a fair sharing between NSPs and network users of:

(1) the efficiency gains derived from the operating expenditure (opex) of NSPs for a regulatory control period being less than; and

(2) the efficiency losses derived from the opex of NSPs for a regulatory control period being more than,

the forecast opex accepted or substituted by the AER for that regulatory control period.

In accordance with clauses 6.4.3(a) and 6A.5.4(a) of the NER, revenue increments that arise from the application of the EBSS are part of the annual revenue requirement for a NSP for each regulatory year of a regulatory control period.

1.4 Definitions and interpretation

In this scheme certain words and phrases have the meaning given to them in:

- the glossary, or
- if not defined in the glossary, the NER.

1.5 Processes for revision

The AER may amend or replace this EBSS for NSPs from time to time in accordance with the consultation procedures under clauses 6.16 and 6A.20 of the NER.

1.6 Version history and effective date

A version number and an effective date of issue will identify each version of the EBSS.

2 Efficiency benefit sharing scheme for opex

This chapter sets out the operation of the EBSS for opex.

2.1 Objective

The EBSS must provide for a fair sharing between NSPs and network users of efficiency gains and losses made during a regulatory control period.

In accordance with clauses 6.5.8(a) and 6A.6.5(a) of the NER, an efficiency gain is where actual opex incurred by a NSP in a regulatory control period is less than the forecast opex set by the AER for that period. An efficiency loss is where a NSP's actual opex in a regulatory control period is more than the forecast opex set by the AER for that period.

2.2 Rule requirements

Clauses 6.5.8(c) and 6A.6.5(b) of the NER require that the AER, in developing and implementing an EBSS for NSPs, must have regard to:

- the need to provide NSPs with a continuous incentive to reduce opex
- the desirability of both rewarding NSPs for efficiency gains and penalising NSPs for efficiency losses
- any incentives that NSPs may have to capitalise expenditure, and
- the possible effects of the scheme on incentives for the implementation of non-network alternatives.

In addition, clause 6.5.8(c)(1) of the NER requires that in developing an EBSS for Distribution Network Service Providers (DNSPs) the AER must have regard to the need to ensure that benefits to electricity consumers likely to result from the scheme are sufficient to warrant any reward or penalty under the scheme for DNSPs.

2.3 Application of the EBSS

When a NSP is subject to five year regulatory control periods, the EBSS provides it with six years of benefits from a marginal efficiency gain in opex regardless of when the gain was made. Similarly, a NSP would wear the costs of a marginal efficiency loss in opex for six years regardless of when the loss was made. Where we use one year of a NSP's actual opex to forecast its future opex, this helps to provide it with continuous incentives to reduce its opex. In particular, it helps to ensure a NSP does not face an incentive to increase its actual opex in one year to attempt to increase its forecast opex in the next period.

To ensure that a NSP receives six years of rewards for a marginal efficiency gain and six years of penalties for a marginal efficiency loss, the NSP is rewarded or penalised through EBSS carryover amounts. The carryover amounts are added to the NSP's regulated revenue in the regulatory control period after the efficiency gain or loss was made. The carryover amounts depend on the year in which the marginal efficiency gains or losses occurred.

For instance, without an EBSS, a NSP would only retain a marginal efficiency gain for two years (years 4 and 5) if it made the gain in the fourth year of a five year regulatory control period. Where the NSP's actual opex is used as the basis to forecast opex in the next period, the efficiency gain would

be expected to lower its forecast opex in the next regulatory control period. To ensure the NSP receives six years of benefits, the EBSS provides the NSP with a positive carryover amount in each of the first four years of the next regulatory control period.

Similarly, if a NSP makes a marginal efficiency gain in the first year, the NSP would receive benefits in years 1 to 5 by delivering opex lower than forecast opex. To ensure it receives six years of benefits, it will only receive an EBSS carryover benefit in the first year of the following regulatory control period.

Carryover amounts are to be calculated as follows:

$$C_{i,n+1} = \sum_{i}^{f} I_{i,n}$$

Where:

$C_{i,n+1}$ is the total carryover amount in year i added to revenue in regulatory control period $n+1$

$I_{i,n}$ is the marginal efficiency gain in year i of period n

f is the length of period n in years

Sections 2.3.1 to 2.3.3 explain how the AER will calculate marginal efficiency gains in each year.

2.3.1 Marginal efficiency gains in the first regulatory year

Forecast opex reflects our forecast of efficient opex at the time of a regulatory determination. For the purposes of the EBSS, the difference between actual opex and forecast opex at any time reflects an efficiency gain relative to forecast opex.[1] Therefore, the difference between forecast opex and actual opex in the first year of a regulatory control period reflects marginal efficiency gains made by the NSP since the regulatory determination.

To ensure the carryover amount in the first year of a regulatory control period is only for marginal efficiency gains made in that year, we will subtract any marginal efficiency gain made in the previous regulatory control period after the determination from the difference between actual opex and forecast opex in the first year of the new period:

$$I_{1,n} = \left(F_{1,n} - A_{1,n}\right) - \left[\left(F_{f,n-1} - A_{f,n-1}\right) - \left(F_{b,n-1} - A_{b,n-1}\right)\right]$$

Where:

$F_{1,n}$ is forecast opex (subject to adjustments) in year 1 of period n

$A_{1,n}$ is actual opex (subject to adjustments) in year 1 of period n

$F_{f,n-1}$ is forecast opex (subject to adjustments) in the final year of period $n-1$

$A_{f,n-1}$ is actual opex (subject to adjustments) in the final year of period $n-1$

[1] Clauses 6.5.8 and 6A.6.5 of the NER.

$F_{b,n-1}$ is forecast opex (subject to adjustments) in the base year of period $n-1$

$A_{b,n-1}$ is actual opex (subject to adjustments) in the base year of period $n-1$

b is the year of actual opex which has been used as the basis to set forecast opex.

2.3.2 Marginal efficiency gains in the second regulatory year to the penultimate regulatory year

For each year of a regulatory control period from the second regulatory year to the penultimate regulatory year, the marginal efficiency gain is the underspend in the relevant year less the underspend in the previous year:

$$I_{i,n} = \left(F_{i,n} - A_{i,n}\right) - \left(F_{i-1,n} - A_{i-1,n}\right)$$

2.3.3 Estimated marginal efficiency gain in the final regulatory year

At the time of a regulatory determination we typically do not know actual opex in the final regulatory year. Therefore, for the purposes of calculating the estimated marginal efficiency gain in that year, we must make an assumption about final year opex. Our assumption is there is no additional efficiency improvement between the base year and the final regulatory year.

This means for the final regulatory year, we will calculate the estimated marginal efficiency gain as:

$$I_{f,n} = \left(F_{f,n} - A^*_{f,n}\right) - \left(F_{f-1,n} - A_{f-1,,n}\right)$$

Where A^*_f is the deemed actual opex for the final regulatory year, which will be calculated as:

$$A^*_{f,n} = F_{f,n} - \left(F_{b,n} - A_{b,n}\right)$$

2.4 Adjustments to forecast or actual opex when calculating carryover amounts

To calculate the carryover amounts accrued in period n, and applied in period n+1, we will:

- Adjust forecast opex to add any approved revenue increments or subtract any approved revenue decrements made after the initial regulatory determination for period n. This may include approved pass through amounts or opex for contingent projects.
- Adjust actual opex incurred in period n to add capitalised opex that has been excluded from the Regulatory Asset Base.
- Exclude any category of opex where the exclusion of these costs would better achieve the requirements of clauses 6.5.8 and 6A.6.5 of the NER. This includes specific categories of opex where we do not use a revealed cost approach to forecasting opex in period n+1, and any costs incurred in period n that will not be standard control services in period n+1.
- Adjust forecast opex and/or actual opex in period n for inflation so that the real value of the carryover amounts is consistent with the real value of the other components of the NSP's regulated revenue in period n+1.

All adjustments or exclusions which are forecast at the time of the regulatory determination for regulatory control period n will be listed in the determination for that period. Any further additional adjustments or exclusions will be made at the time of the determination for regulatory control period n+1.

3 Glossary

This scheme uses the following definitions and acronyms.

Term	Definition
AER	Australian Energy Regulator
EBSS	Efficiency Benefit Sharing Scheme
National Electricity Rules (NER)	The rules as defined in the National Electricity Law.
DNSP	Distribution Network Service Provider
TNSP	Transmission Network Service Provider
NSP	Network Service Provider
opex	Operating expenditure

Appendix A - Example of the EBSS calculation

	Regulatory control period 1					Regulatory control period 2				
Year	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**
Forecast opex	100	100	103	100	101					
Actual opex	100	99	94	93	94[(c)]					
Underspend	0	1	9	7	7					
Marginal efficiency gain/loss	0[(a)]	1[(b)]	8[(b)]	-2[(b)]	0					
Carryover in Year 1						0				
Carryover in Year 2						1	1			
Carryover in Year 3						8	8	8		
Carryover in Year 4						-2	-2	-2	-2	
Carryover in Year 5						0	0	0	0	0
Sum of carryover amounts						7	7	6	-2	0

Note: All figures are in real terms

(a) Under the current version of the scheme, for the first year the EBSS has been in place, we assume the marginal efficiency in Year 1 is equal to the difference between forecast and actual opex in Year 1.[2]

(b) Equal to the difference between the underspend in this year less the underspend in the previous year. See section 2.3.2 for further details.

(c) This is the deemed opex amount since we do not typically know actual opex in the final year. See section 2.3.3 for further details.

[2] AER, *Efficiency Benefit Sharing Scheme - Distribution Network Service Providers*, June 2008, p. 5.; AER, *Efficiency Benefit Sharing Scheme - Transmission Network Service Providers*, September 2007, p. 6.