Final decision

Efficiency benefit sharing scheme for the ACT and NSW 2009 distribution determinations

February 2008

AUSTRALIAN ENERGY REGULATOR

Contents

Shortened forms

AER	Australian Energy Regulator
capex	capital expenditure
DNSP	distribution network service provider
EBSS	efficiency benefit sharing scheme
ESCV	Essential Services Commission of Victoria
MCE	Ministerial Council on Energy
MEU	The Major Energy Users Inc on behalf of the Energy Market Reform Forum
NEL	National Electricity Law
NEM	national electricity market
NER	National Electricity Rules
NPV	net present value
opex	operating expenditure
ORG	Office of the Regulator-General
TNSP	transmission network service provider
WACC	weighted average cost of capital
WAPC	weighted average price cap

1 Introduction

In November 2007 the Australian Energy Regulator (AER) published a preliminary positions paper on a range of guidelines, schemes and models relevant to distribution network service providers (DNSPs) in the ACT and NSW for the 2009–14 regulatory control period. Chapter six of the paper set out the AER's preliminary positions as to the efficiency benefit sharing scheme (EBSS) that would be applied in the 2009–14 regulatory control period. The paper invited submissions from interested parties in response to the preliminary position, of which the AER received six.

This decision sets out the AER's consideration of comments raised in relation to the proposed preliminary position on the EBSS. It has been prepared by the AER under clause 6.5.8(a) of the transitional Chapter 6 rules.

The scheme, attached at Appendix D, sets out the AER's decisions on the EBSS, and the way in which the EBSS will operate for the 2009–14 regulatory control period. The attached scheme is not binding on the AER or distribution network service providers (DNSPs), however if the AER's distribution determination is not in accordance with the scheme, the AER will be required to state its reasons from departing from the scheme.

The AER is responsible for regulating the revenues of DNSPs in the National Electricity Market (NEM) in accordance with the NER, which were notified in the South Australian Gazette on 20 December 2007. This final decision applies to Country Energy, EnergyAustralia and Integral Energy (collectively referred to in this document as 'the NSW DNSPs') and ActewAGL.

Within the NER, Chapter 6 deals with the classification and economic regulation of distribution services, while Chapter 6A deals with the economic regulation of transmission services. The Ministerial Council on Energy (MCE) has determined that transitional arrangements will apply in the preparation and assessment of the ACT and NSW 2009 distribution determinations. The transitional arrangements for the 2009 distribution determinations for the ACT and NSW are set out in appendix 1 to Chapter 11 of the NER. Clause references in appendix 1 are numbered commencing with a six. This decision and accompanying scheme will apply only for the 2009–14 regulatory control period.

The NER distinguishes between the rules in Chapter 6 and Chapter 11 by referring to the Chapter 6 rules as 'general Chapter 6 rules,' and Chapter 11 rules as 'transitional Chapter 6 rules.' The AER has followed this convention in this document when referring to the two sets of rules.

2 Rule requirements

The EBSS has been developed by the AER under clause 6.5.8(a) to comply with the relevant requirements prescribed under clause 6.5.8 of the transitional Chapter 6 rules:

6.5.8 Efficiency benefit sharing scheme

(a) The *AER* may develop and *publish* a scheme or schemes (*efficiency benefit sharing scheme*) that provide for a fair sharing between NSW and ACT Distribution Network Service Providers and *Distribution Network Users* of:

(1) the efficiency gains derived from the operating expenditure of *Distribution Network Service Providers* for a *regulatory control period* being less than; and

(2) the efficiency losses derived from the operating expenditure of *Distribution Network Service Providers* for a *regulatory control period* being more than,

the forecast operating expenditure accepted or substituted by the *AER* for that *regulatory control period*.

(b) An *efficiency benefit sharing scheme* may (but is not required to) be developed to cover efficiency gains and losses related to capital expenditure or *distribution losses*.

(c) In developing and implementing an *efficiency benefit sharing scheme*, the *AER* must have regard to:

(1) the need to ensure that benefits to consumers likely to result from the scheme are sufficient to warrant any reward or penalty under the scheme for *Distribution Network Service Providers*; and

(2) the need to provide *Distribution Network Service Providers* with a continuous incentive, so far as is consistent with economic efficiency, to reduce operating expenditure and, if the scheme extends to capital expenditure, capital expenditure; and

(3) the desirability of both rewarding *Distribution Network Service Providers* for efficiency gains and penalising *Distribution Network Service Providers* for efficiency losses; and

(4) any incentives that *Distribution Network Service Providers* may have to capitalise expenditure; and

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

(d) The *AER* may, from time to time and with the agreement of each affected *Distribution Network Service Provider*, amend or replace an *efficiency benefit sharing scheme*.

(e) The *AER* must *publish* a written statement, when it *publishes* its first *efficiency benefit sharing scheme* (if any), setting out how it proposes the *efficiency benefit sharing scheme* will operate for the next distribution determination. The statement may be included in the first *efficiency benefit sharing scheme* or may be *published* separately.

(f) However, despite *publishing* an *efficiency benefit sharing scheme*, the *AER* need not apply the scheme to one or more *Distribution Network Service Providers* in the relevant distribution determination or determinations.

(g) The *AER* may carry out such consultation in connection with the preparation of an *efficiency benefit sharing scheme* as the *AER* thinks appropriate and may take into consideration any consultation carried out before the commencement date.

(h) If an *efficiency benefit sharing scheme* applicable to a NSW or ACT Distribution Network Service Provider is not *published* before 1 March 2008 or the date that is one month after the commencement date (whichever is the later), no *efficiency benefit sharing scheme* may be applied to the *Distribution Network Service Provider* in its distribution determination for the regulatory control period 2009-2014.

(i) The *AER* may monitor and collect information from any or all of the NSW and ACT Distribution Network Service Providers on matters relevant to be included in an *efficiency benefit sharing scheme* for the purpose of developing, amending or applying an *efficiency benefit sharing scheme* for the regulatory control period commencing on 1 July 2014.

3 Reasons for the efficiency benefit sharing scheme

It is generally accepted that firms have superior knowledge and are better placed than a regulator to effectively judge whether a particular project or organisation structure represent efficient production. In the presence of this information asymmetry, it is preferable for the regulator to leave a substantial amount of discretion to the firm, while providing a system of broad financial incentives to induce the firm to use that discretion to pursue desirable outcomes.

The outcomes achieved under such incentive regulation depend on the nature of the financial incentives established by the regulator. Depending on the nature of the financial incentives, the firm might have incentives to cut or increase its costs, or it could have an incentive to enhance or reduce reliability.

The power of the incentive to pursue a particular objective depends on the sensitivity of the firm's future profit stream to changes in the firm's effort to pursue that objective. The more sensitive the future profit stream, the greater the incentive to pursue that objective.

In the case of the incentive to improve efficiency, the most common way to increase the power of this incentive is for the regulator to simply commit to not changing the regulated prices for a fixed period of time (usually five years). In doing so, the regulator introduces a lag between the time when the firm improves efficiency and when those new costs are reflected in regulated prices. This increases the sensitivity of the present value of the firm's profit stream to changes in its actual costs.

The AER considers that a regulatory regime that relies on providing efficiency incentives to DNSPs is preferable to an approach which attempts to micro manage their key business decisions.

Where there are multiple objectives the regulator would like a firm to pursue, the power of the incentives to pursue these different objectives should be equal wherever possible. For example, if the incentive to maintain service standards is weak, introducing high-powered expenditure incentives increases the risk that the firm will cut service standards in order to reduce expenditure.

The AER usually takes into account past expenditure when determining future expenditure allowances. Thus a DNSP, knowing that its current level of expenditure is likely to affect future expenditure allowances, will take this into account when choosing its level of effort to improve efficiency. Specifically, if lower expenditure today leads to lower expenditure allowances tomorrow, the DNSP may be more reluctant to reduce its expenditure today (that is, the power of the incentive will be reduced).

Under the current building blocks approach, a DNSP that is able to reduce expenditure near the beginning of the regulatory control period is able to retain the benefits of the reduction longer than if it were to reduce expenditure nearer the end of the period. Consequently, the power of the incentive reduces as the period progresses.

Furthermore, if forecast expenditure allowances are set with reference to a specific year, the DNSP will no longer have an incentive to reduce expenditure in that year.

The EBSS has been designed to address these issues and provide an incentive for the DNSP to reveal its efficient level of opex through the retention of efficiency gains for five years after the year in which the gain is made. It will be used to calculate revenue increments or decrements that provide for a fair sharing of efficiency gains/losses derived from the operating expenditure (opex) of DNSPs being less/more than the forecast opex between distribution network users and the ACT and NSW DNSPs. The revenue increments or decrements will be applied in the regulatory control period commencing on 1 July 2014. Consequently the EBSS will not have a direct financial impact on DNSPs until the regulatory control period commencing on 1 July 2014.

4 AER preliminary positions

The AER's November 2007 preliminary positions paper, titled *Matters relevant to distribution determinations for ACT and NSW DNSPs for 2009–2014*, set out the AER's preliminary position on the EBSS to be applied in the 2009–14 regulatory control period.

The proposed EBSS calculated efficiency gains or losses on an incremental basis. That is, the efficiency gain or loss for a particular year would be calculated as the difference between actual and forecast opex in that year minus the difference in the previous year. Since actual opex in the final year of a regulatory control period is not known at the time of the revenue determination, opex would be estimated to be such that the efficiency gain in the final year was equal to zero. The efficiency gain or loss in the first year of the following regulatory control period would be adjusted to account for differences between the estimate and the actual expenditure amount of the final year of the current period.

The proposed EBSS required the AER to be satisfied that the forecast and actual opex used to calculate the carryover amounts accurately reflected the costs faced by the DNSP in the regulatory control period. The EBSS required adjustments to be made, where necessary, to correct for variances in cost categories and methodologies, and errors.

Under the proposed EBSS, the AER defined three default adjustments to the actual and forecast opex amounts used to calculate carryover gains and losses that excluded the cost consequences of:

- changes in capitalisation policy
- differences between forecast and actual demand growth over the regulatory control period
- recognised pass through events.

Further, the AER proposed to permit a DNSP to nominate additional cost categories of uncontrollable factors to be excluded from the operation of the EBSS as part of its regulatory proposal. These categories were required to be specific to the business, involve an identifiable reason for being excluded, and should not have involved an ongoing business activity. If determined by the AER to be uncontrollable these cost categories would be excluded from the operation of the EBSS.

The AER proposed that the EBSS would operate on a symmetric basis and all carryovers, both positive and negative, would be applied and carried over for the length of the carryover period. This would ensure constant and symmetric incentives. The carryover period was proposed to be equal to the length of the regulatory control period, that is, five years.

Under the proposed EBSS it was possible for DNSPs to generate a positive carryover amount by substituting opex for capex. To determine whether these actions were

inconsistent with the intent of incentive framework, the AER proposed that the EBSS require an explanation where a DNSP's capitalisation policy changed. This included detailing:

- any change in capitalisation policy and why the change was made
- any change in factors that affect levels of maintenance or levels of opex, such as technological change
- the effect of the changes on the recognition of opex and capex.

The transitional Chapter 6 rules enable the AER (but do not require it) to develop an EBSS covering efficiency gains and losses relating to capex or distribution losses. The proposed EBSS did not apply to capex or distribution losses. The AER considered these to be complex issues that should be analysed and considered as part of consultation under the general Chapter 6 rules.

The proposed EBSS was designed using the scheme for TNSPs as a basis. The EBSS was proposed after consideration of the similarities and differences of DNSPs and TNSPs, the requirements of the transitional Chapter 6 rules, and the input of stakeholders. The purpose of the preliminary position was to receive submissions on whether the proposed scheme was appropriate for the ACT and NSW DNSPs in the context of the transitional Chapter 6 rules. After consideration of these issues, the AER concluded that it was appropriate to apply to the ACT and NSW DNSPs an EBSS similar to that applied to TNSPs.

5 Issues raised in submissions and the AER response

5.1 Meeting the NEL objective and benefits to users

5.1.1 Issues raised in submissions

Some stakeholders stated that they did not consider it appropriate to introduce an EBSS for ACT and NSW DNSPs at this time.

Country Energy stated that it:

> …does not support an EBSS for the upcoming regulatory period. Country Energy believes that the strong incentive framework created by the weighted average price cap (WAPC) is an appropriate means of delivering efficiency.[1]

EnergyAustralia stated that it:

> …does not believe that it is sufficient for the AER to simply rely on consistency with transmission as adequate justification to introduce an incentive regime that has never been applied in NSW.[2]

EnergyAustralia also stated that:

> …although the AER has repeated the requirements of the Rules regarding those matters it must have regard when developing an EBSS, the AER has not specifically addressed or demonstrated precisely how the proposed EBSS meets the requirements of the Rules.[3]

Integral Energy stated that it did not consider that it had been demonstrated that the EBSS provides 'a benefit to consumers sufficient to warrant any reward of penalty under the scheme'[4]. Integral Energy submitted that:

> …if it remains unclear whether the scheme encourages efficient, timely expenditure throughout the regulatory period, then it must also be unclear whether the EBSS provides a net benefit to consumers.[5]

ActewAGL, however, stated:

> ActewAGL agrees with the AER that it is appropriate to develop an EBSS to apply to the ACT and NSW DNSPs, with financial penalties and rewards to apply from 2014.
>
> Given the limited time before any new scheme must be published (by 1 March 2008), it is appropriate to base the new EBSS on an existing scheme, or one that has been developed through a thorough consultation process.

---

1 Country Energy, *Matters relevant to distribution determinations for ACT and NSW DNSPs for 2009–2014—preliminary positions*, January 2008, p.2.

2 EnergyAustralia, *EnergyAustralia's comment on the AER preliminary position paper Matters relevant to distribution determinations for ACT and NSW DNSPs for 2009–2014*, January 2008, p.7.

3 ibid.

4 Integral Energy, *Integral Energy submission to the AER on matters relevant to the distribution determination for ACT and NSW DNSPs for 2009–2014 preliminary position paper*, 4 January 2008, p.5.

5 ibid.

> ActewAGL agrees that the EBSS developed for transmission is the appropriate basis for the EBSS to apply to the ACT and NSW DNSPs.[6]

The MEU stated that it:

> …supports the implementation by the AER of an EBSS as it is an essential element in encouraging a DB to minimise its capex and opex.[7]

The MEU and ActewAGL, while generally supportive of the implementation of an EBSS, also raised concerns regarding elements of the EBSS, which are discussed below.

However, the MEU has subsequently, in its submission responding to the AER's November issues paper on the national guidelines package, stated:

> In face to face discussions with the AER in relation to the opex EBSS proposed for the NSW/ACT review, the AER provided some considerable effort into demonstrating that the opex EBSS proposed for the NSW/ACT review would result in the anticipated outcome. The MEU had noted that its main concern related to the proposal to use the fourth year data as the base opex and then assess step changes from this level of opex.
>
> In the discussion the AER advised that the proposed opex EBSS would achieve the goal of encouraging the DNSP to seek the most efficient opex level provided that certain preconditions were met. These are that:
>
> a) The scheme must be symmetrical in that there must be a carryover of losses as well as profits
>
> b) The DNSP must be aware that there will be no suspension of the carryover of losses for any reason
>
> c) There is no cash benefit in loading the fourth year opex in order to get higher opex in the next period, because the opex EBSS would create a zero sum game even if the following period opex was artificially inflated as a result of loading the current fourth year opex.
>
> d) Whilst there may be a small benefit from a cash flow timing by reducing opex in years 1 and 2 of a period, over the whole period this benefit is lost.
>
> e) The AER will demonstrate these outcomes of the EBSS model to DNSPs to show there is no benefit from attempting to game the opex EBSS.
>
> On this basis, if the outcomes of the opex EBSS are as stated by the AER, then the concerns of the MEU in regard to the EBSS as proposed for the NSW/ACT review have been addressed, and the MEU would support the opex EBSS. The stated preconditions are, necessarily essential.[8]

---

6 ActewAGL, *Matters relevant to distribution determinations for NSW and ACT DNSPs for 2009–2014: ActewAGL response to AER preliminary positions paper*, January 2008, p.8.

7 The Major Energy Users Inc on behalf of the Energy Market Reform Forum, *Interim distribution guidelines for ACT/NSW DNSPs: Comments on the Preliminary Guidelines*, January 2008, p.11.

8 MEU, *Comments on the AER Guidelines, models and schemes for electricity distribution network service providers*, January 2008, pp.17–8.

5.1.2 AER considerations

In view of criticism by some stakeholders of the EBSS proposed in the preliminary position paper, the AER has undertaken further analysis and review of the proposed scheme. In particular, the AER has modelled a range of scenarios to test the incentives of the scheme. This modelling indicates that the EBSS is an important contributor to the incentive properties of the regulatory framework. The AER considers that in the absence of the EBSS, the regulatory framework will not operate as intended and this will undermine the long-term interests of consumers of electricity.

In most cases, the AER's modelling indicates that the proposed EBSS has the capacity to encourage efficient opex levels. However, the modelling and submissions have revealed two aspects of the EBSS that need further consideration.

First, the operation of the scheme is dependent on the future behaviour of the AER and a clear understanding of this future behaviour. In particular, it is important for DNSPs to understand when the AER will allow the scheme to operate mechanistically and when the AER will undertake adjustments. Second, some of the scenarios have highlighted situations where adjustments are warranted.

After considering these matters, the AER has come to the view that the core of the EBSS as proposed in the preliminary positions paper is sound. With some adjustments and a clearer explanation of the AER's future behaviour, the scheme is likely to deliver benefits that are in the long-term interests of consumers of electricity as well as providing DNSPs with a reasonable opportunity to recover the efficient costs of complying with its regulatory obligations. These matters are set out in this final decision and the accompanying scheme.

The allowed revenue determined by the building block approach has limited impact on DNSPs' incentives during the regulatory control period. The incentive to reduce expenditure is derived from savings made during the period not being clawed back, and how actual opex impacts future forecasts. Without an EBSS the incentive to improve efficiency decreases as the period progresses and there is can be uncertainty as to how actual opex will be used to set forecasts in future periods. This is true under either a weighted average price cap or average revenue cap.

The AER considers that the EBSS will provide greater certainty to DNSPs on how actual opex will be used to set forecasts in future periods and provide a constant incentive to improve efficiency. Consequently, the AER considers that the EBSS will consistently encourage efficient and timely expenditure throughout the regulatory control period. That is, the EBSS will provide incentives to DNSPs to reveal their efficient opex. In time, the efficient level of opex will be reflected in the revenue allowances for DNSPs, passing the benefit on to consumers. Thus the AER considers that the EBSS has the potential to improve the ability of the building block approach currently used to determine DNSPs allowed revenue to meet the NEL objective.

5.1.3 AER conclusions

On the basis of the submissions received, and consideration of the issues raised, the AER considers some adjustment and clarification of the EBSS is warranted. The AER is of the view that the amended scheme will better contribute to the NEL objective by

enhancing incentives for DNSPs to reveal their efficient levels of opex. Given this, the AER will apply the EBSS outlined in appendix D.

5.2 Measuring efficiency and the EBSS

5.2.1 Issues raised in submissions

Country Energy stated that:

> …it is extremely difficult to readily separate out and quantify the gains from performance due to management (endogenous) actions and those that are due to windfall (exogenous) events.[9]

Furthermore Country Energy stated that the EBSS '…may not in practice result in a valid measurement of changes in efficiency'.[10]

EnergyAustralia stated that:

> One of EnergyAustralia's primary concerns with implementing an EBSS is to ensure that the incentives relate to those matters over which the DNSP has sufficient control of costs to be able to adequately respond to the EBSS incentives. Moreover, for the EBSS to achieve the stated objectives, those incentives should only apply to those costs that represent improvements or reductions in efficiencies. EnergyAustralia has argued previously, and maintains its concerns, that a simple increase or decrease in the annual costs does not necessarily represent efficiency improvement or deterioration.[11]

EnergyAustralia submitted:

> …that the AER should expand the scope and nature of those matters that would be eligible for adjustments for the purposes of the EBSS… to enable DNSPs and the AER to make common sense adjustments to address matters that should not be captured by the EBSS.[12]

EnergyAustralia proposed that adjustments for the following be included in the EBSS:

- Changes to the capex program since the 'level of capital expenditure will have a direct and identifiable impact on the level of maintenance expenditure over the 2009–2014 regulatory period'.
- Demand management operating expenditure
- Deviations from the forecast asset age and condition
- Input cost growth since these costs are 'uncontrollable and do not relate to the relative efficiency of the networks' operating expenditure programs, as the costs are market driven'.
- Changes in key assumptions identified as part of the regulatory proposal.[13]

---

9 Country Energy, op. cit., p.2.
10 ibid.
11 EnergyAustralia, op. cit., p.7.
12 ibid., p.8.
13 EnergyAustralia, op. cit., pp.8–9.

5.2.2 AER considerations

The AER agrees with comments made that it is extremely difficult, if not impossible, to readily separate out the impacts of endogenous actions from exogenous events. Consequently, the AER has concluded that it is appropriate to adopt a 'rule of thumb' in distinguishing efficiency gains. That is, efficiency gains will be measured as the difference between forecast and actual expenditure, subject to adjustments designed to remove the impacts of agreed uncontrollable costs, non-network alternative opex and recognised pass through events, and changes in capitalisation policies, demand growth and regulatory responsibilities.

In coming to this conclusion, the AER has been mindful of the decision of the appeal panel that presided over the appeal by AGL against the Office of the Regulator-General (ORG) in relation to the 2001–05 electricity distribution price determination in Victoria. In coming to its decision, the appeal panel stated that:

> The Panel accepts that it was appropriate for the Office to adopt a rule of thumb, to implement the efficiency carry over, given the difficulties in distinguishing between windfall and managerial factors in determining costs, revenue and efficiency. Granted this, the Panel recognised that it is essential that as far as is possible the rule of thumb adopted be an accurate indicator of efficiency.
>
> The Panel notes that the Office measured efficiency by comparing actual total costs (including operating and maintenance costs, and capital costs) as achieved in 1999 with the benchmark forecasts, for the distribution business, for that year. The Panel recognised that this comparison does not make any allowance for changes in the size or scope of the business from those which were assumed in the benchmark forecast….
>
> The Panel decided that the use of a rule of thumb to measure efficiency which did not make allowance for changes in scale and scope of the business constituted an error of fact in a material respect. Accordingly, the Panel decided to set aside the Determination and remit it to the Office for amendment of the Determination to incorporate the effects on costs of the differences between forecast and actual demand in the measure of efficiency carry over.[14]

The AER recognises the Victorian appeal panel's statement that the carryover mechanism should, as far as possible, reflect efficiency gains and losses by DNSPs. To this end, the AER will allow DNSPs to propose further cost categories for exclusion. This will allow the cost categories that are clearly uncontrollable to be excluded from the scheme, thus preventing the EBSS from delivering significant windfall gains or losses to DNSPs.

The AER has considered the additional default adjustments proposed during consultation to ensure that the scheme will only apply to those costs that are controllable. The first two, relating to demand management and capital program changes have been addressed in sections 5.9 and 5.10 of this decision respectively.

[14] *Statement of reasons for decision by appeal panel under regulation 15 of the Office of Regulator-General (Appeals) Regulations 1996 in relation to the electricity price determination 2001–2005*, p.9.

The AER has also considered whether proposed adjustments should be made to account for deviation from the forecast asset age and condition. The AER considers that any such deviations are largely controllable by DNSPs (through their capex and maintenance programs) and should be included in the scheme.

In regards to the impact of input costs on the EBSS, the AER considers that the risks relating to input prices are symmetric and that DNSPs are compensated for market risk through the equity beta used to determine the weighted average cost of capital (WACC). However, the AER also notes that there may be s cope to nominate significant input cost variations as pass through events. If significant input cost changes are treated as pass through events then they will not influence carryover amounts since pass through events are excluded from the operation of the EBSS.

The AER has also considered the proposed adjustments to allow for changes in key assumptions identified as part of the regulatory proposal. The AER is of the view that the impacts of changes in key assumptions can be adequately addressed through the existing adjustment process (for example, the demand growth adjustment and excluded uncontrollable costs adjustment processes).

By applying negative carryovers, any negative (or positive) impacts of forecast not aligning to efficient levels of opex may be magnified (see section B.6 of appendix B of this decision for an analysis of the impact of 'incorrect' forecasts). For this reason the AER, when calculating carryover amounts, will adjust forecast opex for actual demand growth, which impacts on the scale of the business, and changes in regulatory responsibilities, which impact on the scale of the business.

5.2.3 AER conclusions

The AER considers it appropriate to utilise a rule of thumb in assessing efficiency gains under the EBSS. However, the AER also considers that that the EBSS should, as far as possible, reflect efficiency gains and losses by DNSPs. To this end the AER will allow forecast opex to be adjusted for actual demand growth for the purpose of calculating carryover amounts. The AER will also consider for exclusion from the EBSS cost categories proposed by DNSPs as being uncontrollable. These cost categories must be proposed by the DNSP in their regulatory proposal before the commencement of the regulatory control period and must be determined as uncontrollable by the AER in its final determination.

5.3 Opex forecasts for the period commencing in 2014

5.3.1 Issues raised in submissions

EnergyAustralia stated that it:

> …does not believe that the proposed approach to setting the forecast operating expenditure for the 2014–2019 regulatory period is consistent with the Rules. The Rules require the AER to make a decision on forecast operating expenditure based on the DNSP's forecast in its regulatory proposal.[15]

[15] EnergyAustralia, op. cit., p.10.

The MEU raised concerns with using the fourth year actual opex as a basis for setting forecast opex for the 2014–19 regulatory control period. The MEU stated that it:

> …totally disagrees with this approach, and strongly recommends the use of the average of actual opex for the previous five years (including the actual for the last (fifth) year of the previous period).[16]

In the MEU's view:

> By the regulator giving prior advice that it intends to use a single year actual as the basis for setting future opex, is a direct incentive for the regulated business to maximise its opex in this year. This maximises the allowed opex forecast for the next regulatory period, and therefore sets a higher EBSS reward for the future.[17]

The MEU cited the example of the outturn opex of Victorian DNSPs during the 1996–2000 and 2001–05 periods as evidence against basing forecast opex on a single year of outturn opex.[18]

EnergyAustralia also raised concerns with using the fourth year actual opex as a basis for setting forecast opex for the 2014–19 regulatory control period and stated that while it:

> … recognises that such an approach has its attractions to reviewing the operating expenditure forecasts submitted by DNSPs, it is only feasible where there is stability both in input prices and homogeneity in the capital program over time. EnergyAustralia does not believe that either pre-condition currently exists.[19]

EnergyAustralia noted significant volatility in input prices in recent years (most notably some raw materials, such as copper) and that it had commenced a renewal program of assets commissioned in the 1950s through to the 1970s. Consequently EnergyAustralia expressed the view it did not believe that 'a simplistic arithmetic approach to reviewing forecast operating expenditure should be applied for well over a decade'.[20]

Furthermore, EnergyAustralia expressed concern that using the most recent operating expenditure as a guide to future operating expenditure requirements:

> …may inappropriately capture operating expenditure deferrals resulting from the operation of short term incentives rather than reflecting the true needs of the network.[21]

Country Energy considered a weakness of the EBSS to be that the:

> operational expenditure for the regulatory period is in effect already set by the AER at levels that account for future efficiencies.[22]

16 MEU, *Interim distribution guidelines for ACT/NSW DNSPs*, p.11.
17 ibid.
18 ibid., pp.13–14.
19 EnergyAustralia, op. cit., p.10.
20 ibid.
21 ibid., p.11.
22 Country Energy, op. cit., p.2.

5.3.2 AER considerations

Interaction with 6.5.6

The AER considers that by providing a constant incentive to improve efficiency and to reveal efficient costs, the EBSS can be a valuable tool in simplifying the process of setting forecast opex. The NER requires the AER to accept or reject an opex forecast proposal of a DNSP. Each DNSP must propose the level of opex it considers necessary to achieve the following opex objectives:

1. meet or manage the expected demand for standard control services over that period
2. comply with all applicable regulatory obligations or requirements associated with the provision of standard control services
3. maintain the quality, reliability and security of supply of standard control services
4. maintain the reliability, safety and security of the distribution system through the supply of standard control services.

The AER must accept the DNSPs proposed opex forecasts if it is satisfied that the total forecast opex proposed meets three 'operating expenditure criteria' (clause 6.5.6(c)). The three criteria are that the forecast opex reasonably reflects:

1. the efficient costs of achieving the operating expenditure objectives
2. the costs that a prudent operator in the circumstances of the relevant DNSP would require to achieve the operating expenditure objectives
3. a realistic expectation of the demand forecast and cost inputs required to achieve the operating expenditure objectives.

Furthermore, in determining whether a DNSP's proposed forecast opex meets the operating expenditure criteria, the AER must have regard to the ten 'operating expenditure factors' in clause 6.5.6(e).

The AER considers that a DNSP operating under the EBSS has an incentive to reveal its efficient opex. Consequently the EBSS will simplify the assessment of DNSPs forecast opex proposals by providing an efficient opex figure to compare against proposed opex figures in the next review. The EBSS will also negate the need to include future efficiency gains in opex forecasts since it will ensure that any gains made are shared appropriately between DNSPs and distribution network users.

The AER does not consider it appropriate, however, to mechanistically set forecast costs to actual costs in the fourth year of the regulatory control period. Consequently, when the AER assesses forecast opex figures proposed by DNSPs the AER will assess the forecasts against the opex objectives, criteria and factors outlined in the NER. The amount of opex incurred in the fourth year of a regulatory control period will however be used as a starting point for analysing forecast opex in the next regulatory control period.

Using forth year opex to establish future opex allowances

In the absence of an EBSS, advising DNSPs that forecasts would be based on a single year of actual opex would provide a significant incentive to shift opex into that year, wherever possible, in order to maximise forecasts in the next period. However, with an EBSS, carryover amounts serve to neutralise any such incentive and provide a constant incentive to improve efficiency. As demonstrated in sections B.4 and B.7 of appendix B of this decision, the EBSS provides no incentives to shift costs, including into the year on which forecasts are based.

Since the EBSS does not provide an incentive to shift costs into, or out of, the fourth year, basing forecast on that year's actual opex does not inappropriately capture opex deferrals. As demonstrated in appendix B of this decision (section B.4), while a DNSP that delays opex from year four will face lower forecasts in the following regulatory control period, it will also receive positive carryover payments that ensure that the DNSP receives a share of the time value of money benefits of the opex deferral.

In deciding on the most appropriate method for setting forecast costs, the AER also analysed the use of five year average costs. In the absence of any carryover mechanism, basing forecasts on five year weighted average[23] costs provides a constant incentive to improve efficiency and no incentive to bring forward or delay costs. Furthermore, basing forecasts on five year weighted average costs, with no EBSS, yields the same incentives as to applying the EBSS with forecasts based on year four (see section B.8 of appendix B of this decision).

The AER also considered the outcomes of the Victorian efficiency carryover mechanism when developing the EBSS. When assessing the Victorian experience consideration should be given to the whole carryover mechanism in place at the time. For the 2001–05 period DNSPs were advised that forecasts would be based on the assumed outcome for the last year of the regulatory control period. They were also advised that carryover amounts where the total impact in net present value (NPV) terms was less than zero would not be applied. Rather, net negative carryover amounts would be offset against any positive carryover amounts in future periods.[24]

In describing DNSPs actual opex for the 2001–05 regulatory control period the Essential Service Commission (ESCV) stated:

> The profile of some distributors' operating and maintenance expenditure appears indicative of within period expenditure deferral. This suggests that an even incentive for efficiencies may not have been maintained in each year of the period distributors' may have been motivated to 'ramp-up' expenditure in order to achieve higher expenditure forecasts in the 2006–10 regulatory period.[25]

---

23 A simple five year average provides near constant incentives. However the incentives are not perfectly even due to the time value of money and averaging values from different years. Using a weighted average, which takes the time value of money impacts into account, provide even incentives.

24 Office of the Regulator-General, *Electricity distribution price determination 2001–2005*, volume 1, ORG, Melbourne, September 2000, p.85.

25 Essential Services Commission, *Electricity distribution price review 2006-10: October 2005 price determination as amended in accordance with a decision of the Appeal Panel dated 17 February 2006: Final decision*, volume 1, ESCV, Melbourne, October 2006, p.416.

It is not clear from the ESCV determination what the value of carryover amounts that resulted from these opex profiles were, as disaggregated opex carryover amounts are not reported. Only the total combined opex and capex carryover amounts are reported. Under the EBSS such an opex profile would result in negative carryover amounts. As demonstrated in appendix B, the only benefit that a DNSP can generate from delaying or bringing forward costs is that derived from the time value of money. Any time value of money benefits are shared between DNSPs and distribution network users.

The AER considers that the outcomes of the Victorian efficiency carryover mechanism are not indicative of the outcomes that can be expected from the EBSS. The application of negative carryovers plays a significant role in negating any incentive to shift costs between years and subsequently the regulator's approach to the application of negative carryovers will have a significant impact on the outcomes of the scheme. The AER considers that clearly signalling that negative carryovers will be applied will significantly reduce the likelihood of DNSPs shifting costs into the fourth year in an attempt to maximise its allowed revenue in the following period.

The AER recognises that changes to a DNSP's capex program, and volatility in input prices can impact a DNSP's levels of opex and subsequently the outcomes of the EBSS. However, the AER considers that adjustments to forecast opex figures to account for changes in scale and scope are sufficient to handle the impact of changes in a DNSP's capex program on opex levels. The AER also considers that the risks relating to input prices are symmetric and that DNSPs are compensated for the risks they manage through the equity beta used to determine the WACC.

The AER also recognises that it has, in the past, given consideration to clearly available future efficiency gains when setting forecast opex. Doing so, with or without an EBSS, does not alter the incentives that a DNSP faces within the regulatory control period. That is, setting forecast opex at levels that account for future efficiency gains does not impact the marginal benefit to a DNSP of reducing opex in a given year. Regardless of whether the AER sets forecast opex at levels that accounts for future efficiency gains, the application of an EBSS will provide DNSPs with a constant incentive to improve efficiency. The AER recognises that DNSPs have a greater knowledge of the level of opex that is efficient in their circumstance. The AER considers it appropriate to set appropriate incentives, through the EBSS, which encourage the efficient level of opex to be revealed rather than attempting to determine the efficient level through other means. The EBSS will then ensure that the benefits of efficiency gains are appropriately shared between DNSPs and distribution network users.

5.3.3 AER conclusions

The AER considers it necessary, to ensure that the EBSS provides a constant incentive to improve efficiency, that forecast opex for the 2014–19 regulatory control period closely align to actual opex for year four of the 2009–14 period, adjusted for scope and scale. Therefore, when assessing the forecasts proposed by ACT and NSW DNSPs for the 2014–19 period, the AER will place significant weight on the actual expenditure in the fourth year of the 2009–14 regulatory control period when determining whether to accept or reject a proposed opex forecast.

The AER considers that the EBSS will improve the incentive for DNSPs to reveal their efficient level of opex. Furthermore, it considers that DNSPs are in a better position than the AER to assess their efficient level of opex. Given the incentive provided by the EBSS for DNSPs to reveal their efficient level of opex, the AER considers actual opex in the fourth year of the regulatory control period to be the best indicator of the efficient level of opex for that year. In turn, as the most recent annual opex figure available at a regulatory determination, the AER considers it the best basis for forecasting future opex levels.

In determining whether to accept or reject a DNSP's opex forecast proposal, the AER will give consideration to all of the operating expenditure objectives, criteria and factors, as required by the NER.

5.4 Importance of symmetric carryovers

5.4.1 Issues raised in submissions

The MEU stated that it:

> … supports the AER approach to negative carryovers, although it recognises the danger implicit in such an approach. If the DB is penalized then it will have less opex available and may be tempted to reduce the quality of service, or not carryout work which may put supply to consumers at risk.[26]

Integral Energy stated that it:

> …agrees that where:
>
> - there is scope to share between business and customers the benefits of operating cost efficiencies achieved during the regulatory period beyond those forecast at the outset of the period; and
> - those savings can be achieved while maintaining or improving the safe, secure and reliable delivery of services to those customers
>
> then it is appropriate, as part of a balanced regulatory package, to include a mechanism to reward businesses for finding those savings. It may also be appropriate to penalise a DNSP for failing to meet its forecast opex targets where there was no credible reason for doing so and where the imposition of a penalty would not jeopardise the delivery of services to customers.[27]

However Integral Energy also stated that:

> …the AER's proposal to treat EBSS carryovers symmetrically has the potential to significantly penalise customer service quality outcomes. …penalties should be capped in order to manage this risk. By contrast, positive incentives should not be capped.[28]

[26] MEU, *Interim distribution guidelines for ACT/NSW DNSPs*, pp.15–16.
[27] Integral Energy, op. cit., p.4.
[28] ibid., p.6.

Country Energy did not agree with the application of negative carryovers for the following reasons:

- the application of negative carryovers would prevent a DNSP from 'receiving the full amount of revenue as estimated by the AER as being required to facilitate the efficient operation and maintenance of the network'[29]
- it would penalise DNSPs twice, once through the overspend during the period and secondly through the negative carryover. Furthermore, the overspend could be the result of the AER approving a level of forecast opex less than that proposed by the DNSP.
- negative carryovers would 'adversely impact on Country Energy's ability to achieve its Ministerial reliability licence conditions'[30]
- 'customers are no worse off for any overspending, only the distributor loses'[31]

Country Energy[32] and EnergyAustralia[33] proposed that if the AER were to apply negative carryovers, then they should be rolled forward and offset against any efficiencies achieved in the following period.

ActewAGL stated that it supported a 'symmetric treatment of efficiency gains and losses'.[34]

5.4.2 AER considerations

Clause 6.5.8(c)(3) of the transitional Chapter 6 rules requires the AER to have regard to the desirability of both rewarding DNSPs for efficiency gains and penalising them for efficiency losses. The AER has examined in detail the appropriateness of applying negative carryovers as part of the EBSS. Modelling undertaken of the EBSS (see appendix B) highlights that symmetrical application of positive and negative carryovers is important for the continuity of incentives to improve efficiency, which the AER is required to have regard to (clause 6.5.8(c)(2)).

In the absence of a symmetrical application of both negative and positive carryover amounts, DNSPs would face significant incentives to shift opex into the fourth year of the period in order to increase forecasts for the following period (see section B.7 of appendix B of this decision). Given these considerations the AER considers it desirable to apply negative carryovers.

However, in the absence of appropriate incentives to maintain or improve service standards, DNSPs receive no benefit when service standards are improved nor do they face any costs when service standards drop. Consequently, if the incentives to maintain or improve service standards are insufficient, DNSPs may seek to maximise profit by reducing opex at the expense of service levels. By introducing an EBSS DNSPs will have a greater incentive to improve efficiency (particularly in later years

29 Country Energy, op. cit., p.3.
30 ibid.
31 ibid.
32 ibid.
33 EnergyAustralia, op. cit., p.9.
34 ActewAGL, op. cit., p.9.

in the regulatory control period). Subsequently, the incentive to maintain or improve service standards could potentially be reduced.

Given this, the AER recognises the concerns raised by stakeholders that the EBSS may have a negative impact on services standards. In assessing whether the EBSS will provide inappropriate incentives to reduce service standards the AER has given careful consideration of the service standard requirements in the ACT and NSW. The AER notes that in both jurisdictions the jurisdictional regulators have guaranteed service level incentive systems in place and minimum standards are set. Furthermore, the minimum service standard requirements in NSW will be progressively raised over the 2009–14 regulatory control period. The AER considers that these requirements will provide strong incentives for DNSPs to maintain or improve service standards.

The AER recognises that the NEL objective requires it to provide DNSPs with a reasonable opportunity to recover the efficient costs of complying with its regulatory obligations. The AER notes that any carry-over amounts from one year are combined with others and the net amount is smeared over several years in the following regulatory control period. The negative effect of a decrement in one year can be negated by a more efficient performance in later years. Where multiple decrements result in a net negative carry-over amount operating expenditures are combined with four other building blocks, meaning the overall revenue permitted may still be above the efficient costs of complying with regulatory obligations.

The AER also notes that section 16(2)(a) of the NEL does not establish a floor under a DNSP's revenue. Rather, it requires the AER to provide the DNSP with a 'reasonable opportunity' to recover the efficient costs of complying with its regulatory obligations. In developing the EBSS the AER has sought to minimise the risk of negative carryovers resulting from opex variations beyond the control of DNSPs. Consequently, the AER considers that the EBSS and revenue determination process will provide DNSPs with a 'reasonable opportunity' to recover its efficient costs.

The AER does not consider that the EBSS penalises DNSPs twice when actual opex exceeds forecast opex. In the absence of an EBSS the penalty for efficiency losses decreases as the regulatory control period progresses. The aim of the EBSS is to raise the penalty (and benefit) in later years up to the same level as in early years. The AER considers that that this does not penalise DNSPs twice, but rather ensures that any 'penalty' is constant, irrespective of the year in which actual opex exceeds forecast opex.

The AER does not consider that the EBSS will adversely impact on a DNSP's ability to achieve its ministerial reliability licence conditions. The AER has carefully analysed the circumstances under which negative carryovers could arise (see appendix B). The circumstances where negative carryovers arise include:

- a one-off decrease in opex
- shifting of opex into year four
- an ongoing increase in opex
- forecasts not reflecting the efficient level of opex

The AER notes that for a one-off decrease in opex the negative carryover resulting is less than the underspend during the period, and the DNSP is better off in NPV terms (see section B.3 of appendix B of this decision). When opex is shifted into year four the negative carryovers are balanced by the increase in forecasts for the next period (see section B.7 of appendix B of this decision). When a DNSP makes an ongoing increase to opex, the EBSS serves to share this increase between the DNSP and network users. If the opex increase is related to opex which is controllable by the DNSP, the AER considers it appropriate that the DNSP share a proportion of that cost. Where forecasts do not reflect the efficient level of opex it is possible that the DNSP will suffer a windfall loss. For this reason the AER has sought to minimise the risk of windfall gains and losses by allowing the adjustment of forecasts for scale and scope and the ex post adjustment of forecasts for actual demand growth.

The AER considers that distribution network users are negatively impacted when DNSPs overspend opex, even though in period overspending is funded by the DNSP. The AER considers that the economic regulatory framework under which DNSPs operate serves to pass on efficiency gains to distribution network users through the resetting of revenues or prices at each regulatory reset. Thus when a DNSP overspends, users will likely be impacted in future periods after revenues/prices have been reset.

The AER has considered the option of not immediately applying negative carryovers, and offsetting them against positive amounts in future periods. Particular consideration has been given to the Victorian experience where such an approach was adopted. The ESCV found that when this approach was adopted in the 2001–05 regulatory control period the profile of some DNSPs' opex appeared 'indicative of within period expenditure deferral'.[35] Given this result, the AER does not consider it appropriate to adopt such an approach.

5.4.3 AER conclusions

The AER considers that in order to best meet the requirements of the transitional Chapter 6 rules, all carryovers, both positive and negative should be applied. The AER will not allow net negative carryovers to be rolled forward and offset against any efficiencies in a following period.

5.5 Adjustment of actual and forecast opex

5.5.1 Issues raised in submissions

A number of stakeholders raised issues relating to the adjustment of actual and forecast opex figures used for the purposes of calculating the carryover amounts.

Integral Energy stated:

> The preliminary position paper does not make it sufficiently clear in what circumstances such adjustments may be made. …for the EBSS to have the potential to operate effectively, the AER would need to provide further clarity around the circumstances that would attract an ex post review and the

[35] ESCV, op. cit., p.416.

> potential impact of, and processes involved in undertaking, such a review itself.[36]

Consequently, Integral Energy raised concerns that the EBSS would increase regulatory risk and the 'regulatory burden arising from ex post investigations and adjustments being made by the regulator'.[37]

ActewAGL stated that it supported an:

> Allowance for specified adjustments to actual and forecast operating expenditure so that the impacts of some factors, such as the impact of changes in capitalisation policies or differences between forecast and actual demand growth, are excluded from the calculation of efficiency gains and losses.[38]

The MEU stated that it considered that the process for allowing DNSPs to propose further cost category exclusions would introduce a bias in favour of DNSPs. It considered that:

> …the AER should have the ability to impose additional exclusions or reject an additional category, in order to counter any potential bias from which an application from a DB [distribution business] might result.[39]

Country Energy agreed with the default adjustments proposed in the preliminary position paper. However, Country Energy also stated that:

> …there should be scope for Country Energy to recognise and exclude any other cost impacts that were not part of the approved allowances.[40]

5.5.2 AER considerations

Clarity regarding which adjustments will be applied at the end of the period

The AER agrees that for an incentive scheme such as the EBSS to operate effectively, it must be clear to DNSPs how the scheme will be applied at the end of the regulatory control period. The AER's intention when designing the scheme was that only those adjustments explicitly stated in the final determination at the beginning of the regulatory control period would be applied at the end of the period. The effect of these adjustments may be positive or negative. For instance, if an increase in a cost category that is excluded from the EBSS is less than the increase that was forecast, the adjustment would reduce carryover amounts compared to if the cost category were included.

Furthermore, the original intention was that DNSPs would only be able to propose additional cost categories to be excluded from the operation of the scheme at the beginning of the regulatory control period. DNSPs would not be able to propose further exclusions on an annual basis as the period progresses. If DNSPs were able to propose further cost categories after the period had commenced this may introduce a bias in favour of the DNSPs who may be able to propose only the exclusion of those uncontrollable cost categories that would favour them.

---

36 Integral Energy, op. cit., p.6.
37 Integral Energy, op. cit., p.6.
38 ActewAGL, op. cit., p.9.
39 MEU, *Interim distribution guidelines for ACT/NSW DNSPs*, p.11.
40 Country Energy, op. cit., p.3.

Process for proposing further adjustments

The AER recognises the concern that allowing only DNSPs to propose further cost categories for exclusion from the EBSS could potentially create a bias in favour of DNSPs. The EBSS allows any cost categories set out in a determination of the AER to be excluded from the operation of the EBSS. Any such cost categories could be proposed by other stakeholders in the determination process. These cost categories will be explicitly stated in the final determination at the beginning of the regulatory control period.

5.5.3 AER conclusions

The AER will make adjustments to forecast and actual opex for the purposes of calculating carryover amounts where it has been explicitly stated in the final determination at the beginning of the regulatory control period that those specific adjustments will be applied to the EBSS for that period.

Any cost categories that a DNSP considers to be uncontrollable and that should be excluded from the operation of the EBSS must be proposed in the DNSP's regulatory proposal prior to the commencement of the regulatory control period. These cost categories will only be excluded if the AER considers them to be uncontrollable and their exclusion prudent.

The AER retains the right to exclude further cost categories from the operation of the EBSS. These cost categories must be outlined in the final determination at the beginning of the regulatory control period.

5.6 Continuity of the incentive to improve efficiency

5.6.1 Issues raised in submissions

A number of stakeholders stated that it was not clear how the EBSS provides constant incentives to DNSPs to improve efficiency.

Integral Energy considered that the EBSS:

> …disincentivises DNSPs from delivering opex savings earlier in the regulatory control period where these are likely to be larger than savings able to be achieved later in the period. In such circumstances, the business would be penalised for making negative incremental savings in the remaining years of the period whereas, were the savings made later, the penalty would not apply.[41]

The Major Energy Users Inc on behalf of the Energy Market Reform Forum (MEU) stated that it:

> does not concur with the AER that its approach will result in a continuous incentive. In fact the MEU considers that the AER approach will result in opex peaking in the nominated year.[42]

41 Integral Energy, op. cit., p.5.
42 MEU, *Interim distribution guidelines for ACT/NSW DNSPs*, p.3.

EnergyAustralia stated that it was not clear whether the EBSS:

> …provides the same incentive to seek efficiency gains in all years of the regulatory period or if in fact the scheme merely changes the incentive to achieve efficiency gains from the start of the period to the end.[43]

EnergyAustralia proposed:

> …that the AER should document and make available the scenario and sensitivity analysis that has been conducted by the AER to ensure that the scheme is robust and will operate under a range of operating expenditure trends.[44]

Integral Energy proposed that the AER address any discontinuity of incentives by:

> …on a case by case basis, adjusting the outcomes of the application of the EBSS to prevent the imposition of a penalty where larger genuine savings are made.[45]

5.6.2 AER considerations

The transitional Chapter 6 rules require the AER to have regard to the need to provide DNSPs with a continuous incentive, so far as is consistent with economic efficiency, to reduce operating expenditure (clause 6.5.8(c)(2)). The AER has interpreted 'continuous incentive' to mean that the incentive for a DNSP to improve efficiency should be equal in each year of the regulatory control period. That is, the marginal benefit to a DNSP of improving efficiency by a given amount should be the same regardless of the year in which the reduction occurs.

The AER considers continuous incentives are crucial if the EBSS is to consistently encourage efficient and timely expenditure throughout the regulatory control period and encourage DNSPs to reveal their efficient opex. Consequently the AER considers constant incentives to improve efficiency to be essential if the EBSS is to promote the NEL objective.

The AER maintains that the EBSS does deliver continuous incentives. However, the value of carryover amounts may vary depending on the year in which efficiency improvements are made. It is important to note that carryover amounts are not the sole factor driving incentives. When assessing the incentives to improve efficiency, benefits received in the initial regulatory control period as well as impacts on forecast opex in the next period should be considered along with carryover payments.

The modelling of the EBSS provided in appendix B outlines how the EBSS serves to provide DNSPs with a constant incentive to improve efficiency. The modelling calculates the benefit to a DNSP, in NPV terms, of making one-off reductions to opex, ongoing reductions to opex and shifting costs between years. The results show that for all the scenarios modelled the benefit/penalty is shared between DNSPs and distribution network users according to the sharing ratio (30:70).[46] A draft of the

---

43 EnergyAustralia, op. cit., p.9.
44 EnergyAustralia, op. cit., p.9.
45 Integral Energy, op. cit., p.6.
46 The exact value of the sharing ration depends on the length of the carryover period and the discount rate. A five year carryover period and a six per cent real discount rate yields a sharing ratio of approximately 30:70 between DNSPs and consumers respectively.

analysis outlined in appendix B was provided to stakeholders prior to the EBSS being finalised.

5.6.3 AER conclusions

The AER considers that the EBSS provides a continuous incentive to improve efficiency, that is, the incentive to improve efficiency is equal in each year of the regulatory control period. The AER does not consider that the EBSS penalises DNSPs for making significant efficiency improvements early in the regulatory control period. Accordingly the AER does not consider it necessary to make any adjustments to carryover amounts when large genuine savings are made.

5.7 Administrative burden of the EBSS

5.7.1 Issues raised in submissions

Integral Energy raised the following concern:

> …the increased regulatory burden arising from ex post investigations and adjustments being made by the regulator—this raises the question as to what, if any, value can an EBSS be providing if a regulatory investigation is necessary whenever the business saves money?[47]

ActewAGL stated that:

> It is important for the AER to note that meeting information requirements the same as or similar to those in the transmission model will involve a substantial burden for the ACT and NSW DNSPs in the very limited time before the regulatory proposals must be submitted on 2 June 2008. ActewAGL believes that if an EBSS is to apply then the information requirements should be agreed and set out by 1 March 2008, otherwise the AER should use its discretion and not introduce a scheme.[48]

Similarly, Country Energy stated its view that the EBSS:

> …is information intensive and relies heavily on historical data and the interpretation thereof. It would require a detailed breakdown of actual expenditure over the next regulatory period.[49]

Furthermore, Country Energy stated that it believed that 'the application of an EBSS is complex and confusing for customers'.[50]

5.7.2 AER considerations

The AER has recognised that it is extremely difficult, if not impossible, to readily separate out the impacts of endogenous actions from exogenous events and thus has decided to adopt a 'rule of thumb' in distinguishing efficiency gains. That is, efficiency gains will be measured as the difference between forecast and actual expenditure. To reduce the risk of windfall gains and losses, the AER will also allow the ex post adjustment of forecasts, and the exclusion from the scheme of cost categories agreed to be uncontrollable. This approach is consistent with the findings

47 Integral Energy, op. cit., p.6.
48 ActewAGL, op. cit., p.10.
49 Country Energy, op. cit., p.3.
50 ibid., p.2.

of the appeal panel that presided over the appeal by AGL against the ORG in relation to the 2001–05 electricity distribution price determination.

The AER also recognises that the application of adjustments to the EBSS will place an information burden on DNSPs that will be required to provide the information necessary to make these adjustments. The following information will be required of DNSPs in their regulatory proposal prior to the commencement of the 2009–14 regulatory control period:

- a description of their capitalisation policy including any proposed changes to the policy and a calculation of the impact of those policy changes on forecast opex
- the method for accounting for demand growth to be used at the end of the regulatory control period to adjust forecast opex for outturn demand growth
- any proposed cost category exclusions including disaggregated forecasts for those cost categories to enable exclusion from the EBSS
- forecast opex for non-network alternatives to enable their exclusion form the EBSS

At the end of the regulatory control period the following information will be required to calculate the carryover amounts:

- actual opex during the regulatory control period using the same cost categories as used to calculate the forecasts for that period
- a detailed description of any changes made to capitalisation policy during the period and a calculation of the impact of those changes on forecast opex during the period
- actual demand growth during the regulatory control period and adjustments to opex forecasts for the period using the same demand growth method proposed at the beginning of the period
- actual opex for cost categories deemed to be uncontrollable by the AER at the beginning of the period
- allowed increases or decreases in expenditure associated with recognised pass through events
- an explanation for the profile of opex sufficient to demonstrate that opex during the period did not entail any instances of cost shifting.

The AER notes that the adjustments in the EBSS are the same as those undertaken by the ESCV for its efficiency carryover mechanism with the addition of the exclusion of cost categories considered to be uncontrollable.

The AER does not consider that the EBSS will add a significant administrative burden beyond what is already required. The main requirement for the operation of the EBSS is the recording and reporting of accurate opex figures during the period. This is already required of DNSPs. The AER considers the only additional new requirement imposed by the EBSS on the DNSPs will be the requirement to propose a method for accounting for demand growth to be used at the end of the regulatory control period to adjust forecast opex for outturn demand growth. The AER will, however, monitor the

burden of these requirements on DNSPs and will consider refining the scheme to reduce the burden should experience prove them to be excessive.

The AER recognises that the EBSS may appear complex to some stakeholders, particularly to those who have not had first hand experience with an efficiency carryover style mechanism, as is the case in NSW and the ACT. Despite the fact that some stakeholders may find the scheme complex, the EBSS will simplify incentives for DNSPs by helping to make incentives more constant. Thus, when a DNSP identifies an opportunity to improve efficiency, it knows that it is in its best interest to implement that opex reduction as soon as is practicably possible, regardless of the year in the regulatory control period.

5.7.3 AER conclusions

The AER considers that the EBSS will not add a significant administrative burden beyond what is already required. The most significant additional requirement imposed by the EBSS will be the requirement to propose a method for accounting for demand growth to adjust forecast opex for outturn demand growth at the end of the regulatory control period.

The AER considers the EBSS will simplify the process for assessing forecast opex for future regulatory control periods and that the net impact is reasonable.

5.8 Incentives for the implementation of non-network alternatives

5.8.1 Issues raised in submissions

The MEU stated that:

> The long term rewards to the DB are much greater if the network is augmented, and so the DB is incentivised to network solutions as a result of the building block approach to setting the regulatory revenue.[51]

Integral Energy stated that:

> …the AER must ensure that the operation of the EBSS does not threaten incentives regarding the viability of non-network solutions.[52]

EnergyAustralia noted that:

> The undertaking of non-network and demand management activities requires the alternative option to demonstrate that it can meet the network need to the appropriate level of reliability and be more cost effective than the network option. Therefore, if the EBSS does not have an explicit adjustment that allows for such activities to be removed from the calculation of the EBSS incentive, the scheme has strong potential to reduce the overall efficiency of the capital and operating programs rather than improve them.[53]

51 MEU, *Interim distribution guidelines for ACT/NSW DNSPs*, p.16.
52 Integral Energy, op. cit., p.7.
53 EnergyAustralia, op. cit., p.10.

Consequently:

> …EnergyAustralia believes that efficient investment in non-network alternatives will be best facilitated by the AER expanding the list of adjustments to explicitly recognise non-network and demand management expenditure.[54]

Similarly, Country Energy proposed that:

> …the demand management incentive scheme should also be a default adjustment, as projects covered by this scheme often result in a distributor incurring additional operating expenditure through the deferral of capital expenditure.[55]

5.8.2 AER considerations

Because the EBSS is not applied to capex, the incentive later in the period to reduce capex is less than the incentive to reduce opex. Consequently, where the expenditure for non-network alternatives is operational in nature and included in the EBSS, DNSPs may have a greater incentive later in the period to augment networks rather than implement non-network alternatives.

Non-network alternatives can also impact the operation of the EBSS through their impact on demand growth. The forecast opex figures will be adjusted for demand growth prior to the calculation of carryover amounts. Consequently, if a DNSP undertakes a non-network alternative that reduces demand, the forecast opex figures will be adjusted downward compared to what they otherwise would have been. At first glance this may appear to provide a disincentive to undertake non-network alternatives. However, this is not the case.

Consider a DNSP that has the opportunity to implement an efficient non-network alternative. The DNSP knows that, in undertaking the non-network alternative, network demand will be reduced. In turn, when the carryover amounts are calculated at the end of the period, the ex post demand growth adjustment will reduce the forecast opex figures to account for the reduction in network demand. Thus both the forecast and actual figures should be reduced by the same amount through the application of the non-network alternative. Because the forecast and actual figures are impacted equally, a DNSP will receive no reward through the EBSS for reductions in opex that result from the implementation of non-network alternatives. That is, the EBSS has no impact on incentives to implement non-network alternatives.

5.8.3 AER conclusions

The AER considers that the EBSS should not impact the incentives for DNSPs to undertake non-network alternatives. To minimise the impact of the EBSS on the incentives to implement non-network alternatives the AER will exclude all non-network alternatives costs from the EBSS.

---

54 ibid.

55 Country Energy, op. cit., p.3.

5.9 The interaction between opex and capex

5.9.1 Issues raised in submissions

EnergyAustralia noted the direct relationship between capex and opex and that:

> …maintenance expenditure will generally fall in relative terms with increases in the replacement capital program, and increases in the number of elements added to the network through augmentation capital expenditure.[56]

Consequently:

> EnergyAustralia believes that the EBSS should include an adjustment to take into account the impact that unexpected variations in the capital program will have on the operating program.[57]

The MEU stated that:

> …increasing capex must result in less opex for the same coverage of supply. This means that a larger than necessary capex program could well result in lower opex.
>
> As it stands the AER proposes to allow this opex reduction to be included in the EBSS. As it is consumers that ultimately pay for the additional capex provided (through return on and return of capital) then allowing the DB the benefit of both a higher capex program and having the benefit of lower opex could be seen as a "double dip".[58]

5.9.2 AER considerations

The AER recognises the concerns of some stakeholders that changes to a DNSP's replacement capital program and augmentation capex may impact the outcomes of the EBSS to the extent that they impact the amount of opex required. However, the AER considers changes in opex resulting from changes to capital projects are controllable by DNSPs. The AER is conscious that the incentives to reduce capex are not constant over the regulatory control period (similar to the decline in opex incentives over the period in the absence of an EBSS). If changes in opex resulting from changes to the capital expenditure program were excluded from the EBSS then the incentives relating to any such opex changes would also decline over the period. By including all such opex in the EBSS the incentives to have regard to the impact on opex when considering altering the capex program will be constant over the regulatory control period. Consequently the AER will not adjust forecast and actual opex figures used in the calculation of carryover amounts to adjust for changes made by DNSPs to their capital program during the regulatory control period.

Another important consideration in determining whether to exclude capex program related opex from the EBSS is the complexity and costs associated with making any such adjustments to the scheme. The AER considers that incorporating adjustments to account for changes in opex due to changes in the capex program would add an extra degree of complexity and cost for both DNSPs and the AER.

---

56 EnergyAustralia, op. cit., p.9.
57 ibid.
58 MEU, *Interim distribution guidelines for ACT/NSW DNSPs*, p.16.

5.9.3 AER conclusions

Forecast and actual opex figures will not be adjusted for any changes to the capex program. The EBSS will ensure that any opex reductions/increases resulting from changes to the capex program will be shared between DNSPs and distribution network users. Such an approach will ensure that DNSPs are provided more constant incentives to consider opex savings when assessing capital project alternatives.

6 Consideration of factors set out in the rules

The AER has given cosideraton to the requirements of the transitional Chapter 6 rules in the development of the EBSS for ACT and NSW DNSPs. The AER considers that it has addressed each of the requirements of the rules regarding the matters it must have regard to when developing an EBSS.

Clause 6.5.8(c)(1)—the need to ensure that benefits to consumers likely to result from the scheme are sufficient to warrant any reward or penalty under the scheme for DNSPs

As discussed in section 5.1 of this decision the AER considers that the EBSS will provide greater certainty to DNSPs on how actual opex will be used to set forecasts in future periods and will provide a constant incentive to improve efficiency. Consequently the AER considers that the EBSS will consistently encourage efficient and timely expenditure throughout the regulatory control period. This will provide DNSPs with an incentive to reveal their efficient opex. Through the revealing of efficient opex levels, the AER will be able to better determine efficient opex forecasts for future periods and, in time, the benefits will be passed on to consumers.

Clause 6.5.8(c)(2)—the need to provide DNSP with a continuous incentive, so far as is consistent with economic efficiency, to reduce operating expenditure and, if the scheme extends to capital expenditure, capital expenditure

Since the EBSS does not extend to capex, this clause only requires the AER to consider the continuity of incentives to improve efficiency.

As discussed in section 5.6 of this decision, the AER considers continuous incentives are crucial if the EBSS is to encourage DNSPs to reveal their efficient opex. The AER maintains that the EBSS does deliver continuous incentives.

The modelling provided in appendix B shows that when a DNSP either makes a one-off reduction to opex, an ongoing reduction to opex, or shifts costs between years the benefit (or penalty) of doing so is the same regardless of the year in which the change occurs. Furthermore the benefit (or penalty) is shared between DNSPs and distribution network users according to the sharing ratio.

The merits of extending the incentives to capex will be assessed in the process of developing a national scheme.

Clause 6.5.8(c)(3)—the desirability of both rewarding DNSPs for efficiency gains and penalising DNSPs for efficiency losses

As discussed in section 5.4 of this decision, the AER has examined in detail the appropriateness of applying negative carryovers. Modelling undertaken of the EBSS (see appendix B) highlights that the application of both positive and negative carryovers is necessary for the scheme is to provide a constant incentive to improve efficiency.

Furthermore, without the application of both negative and positive carryover amounts, DNSPs would have a significant incentive to shift opex into the fourth year of the period in order to increase forecasts for the following period (see section B.7 of appendix B of this decision). Thus, without the application of both positive and

negative carryovers the scheme would not provide an incentive to reveal efficient costs. Given these considerations the AER considers it desirable to apply both positive and negative carryovers.

Clause 6.5.8(c)(4)—any incentives that DNSPs may have to capitalise expenditure

An important outcome of the EBSS is that it provides a constant incentive to improve the efficiency of opex throughout the regulatory control period. In only applying the EBSS to opex, DNSPs may have an incentive to shift opex to capex, particularly later in the period. The AER recognises this potential incentive and will require DNSPs to advise the AER of any changes to its capitalisation policy. To negate any incentive to inappropriately capitalise opex, the AER will adjust the forecast and actual opex figures used to calculate the carryover amounts to account for any changes in capitalisation policy.

Clause 6.5.8(c)(5)—the possible effects of the scheme on incentives for the implementation of non-network alternatives

As discussed in section 5.8 of this decision the AER considers that the EBSS should not impact the incentives for DNSPs to undertake non-network alternatives. To minimise the impact of the EBSS on the incentives to implement non-network alternatives the AER will exclude all opex relating to non-network alternatives from the EBSS.

Because the EBSS is not applied to capex, the incentive later in the period to reduce capex is less than the incentive to reduce opex. Consequently, where expenditure for non-network alternatives is operational in nature, DNSPs may have a greater incentive later in the period to augment networks rather than implement non-network alternatives. By excluding opex for non-network alternatives from the EBSS, the incentives to reduce both opex and capex will be even thus removing any incentive to augment networks rather than implement non-network alternatives.

7 AER decision

On the basis of the submissions received, and consideration of the issues raised, the AER has made one adjustment to the EBSS proposed in the preliminary position paper. The AER has also made adjustments to the proposed EBSS to clarify how the scheme will operate.

Recognising concerns raised regarding the possible effects of the EBSS on incentives for the implementation of non-network alternatives, and the requirement of the transitional Chapter 6 rules to have regard to any such effects, the AER will exclude all non-network alternatives costs from the operation of the EBSS.

Appendix A: Submissions received on the EBSS

The following interested parties provided submissions on issues relevant to the AER's proposed EBSS:

- ActewAGL
- Country Energy
- EnergyAustralia
- ETSA Utilities
- Integral Energy
- Major Energy Users Inc. on behalf of the Energy Market Reform Forum

Copies of these submissions are available on the AER's website at www.aer.gov.au.

Appendix B: EBSS modelling

B.1 NPV analysis of the EBSS

Appendix B provides NPV analysis of a number of different scenarios and illustrates the incentives provided by the EBSS. It includes analysis of the:

- incentives to make ongoing efficiency gains
- incentives to make one-off efficiency gains
- incentives to bring forward or delay opex
- impact of a declining/rising opex profile
- impact of actual opex exceeding forecast
- incentives to shift costs into the reference year
- setting of forecasts based on average actual costs

The analysis illustrates the nature of the incentives provided by the EBSS. Table B.1 summarises the impact of the EBSS on a DNSP that makes: an ongoing change to opex; a one off change to opex, and; brings forward or delays opex.

Table B.1 Summary of incentives provided by the EBSS

Change	Without an EBSS	With an EBSS
Ongoing change to opex	The DNSP retains the benefit or funds the expense of the change until the next determination when it is 'clawed back'. The incentive reduces as the period progresses as benefits/expenses are not retained for as long.	The DNSP retains the benefit or funds the expense of the change for five years after the change is made. After five years the change is passed on to consumers thus sharing the opex change 30:70 between DNSPs and users.
One off change to opex	The DNSP retains the full benefit or funds the full expense. If forecasts are based on a single year, the DNSP benefits from opex increases in that year.	The DNSP has to refund an opex reduction and is reimbursed an opex increase six years after the opex change occurs. Due to the time value of money this distributes the impact of the change 30:70 between the DNSP and users.
Change in timing of opex	The DNSP retains the full time value of money benefit of opex deferrals and faces the full time value of money cost of bringing opex forward. If forecasts are based on a single year, a DNSP benefits from shifting opex into that year.	The time value of money benefits or costs of the timing change are shared 30:70 between DNSPs and users. The DNSP does not benefit from shifting opex into the year on which forecasts for the next period are based.

B.2 Incentives to make ongoing efficiency gains

Consider a DNSP with annual (real) opex of $100 million. The DNSP operates under constant scale and scope (for example, demand is constant over the period and the DNSP's regulatory responsibilities do not change). The DNSP has the opportunity to make a $10 million ongoing reduction to opex. If that reduction is initiated in the first year of the regulatory control period the NPV to the DNSP of making the $10 million ongoing reduction will be $52.1 million (assuming a real discount rate of 6%). The majority of this benefit will be derived from opex underspends during the current period. In addition, the DNSP will receive a $10 million carryover payment in the first year of the next period (see table B.1).

As demonstrated in tables B.2 through B.4, the DNSP will receive the same benefit ($52.1 million in NPV terms) regardless of the year in the regulatory control period in which the ongoing opex reduction begins[59]. However, the benefit derived from carryover payments increases as the period progresses. This is because the benefit the DNSP receives from opex underspends during the current period decreases as the period progresses. Thus while the magnitude of carryover amounts increases as the period progresses the combined impact of current period underspends, future carryover payments and future period forecast changes, measured in NPV terms, does not change. Thus the incentive to make the ongoing reduction to opex is the same in each year of the regulatory control period.

Of note, the total NPV of the ongoing $10 million opex reduction is $177 million (assuming a 6% real discount rate). Thus the benefit to DNSPs ($52.1 million) represents 30 per cent of the total benefit and the scheme yields a 30:70 sharing ratio between DNSPs and distribution network users respectively.

Table B.5 demonstrates the impact of an opex increase and highlights the symmetry of the EBSS. As shown, the EBSS serves to carry over opex increases in an identical fashion to decreases. Thus a $10 million ongoing increase in year one, (or any other year) costs a DNSP $52.1 million in NPV terms.

Table B.2: Impact of an ongoing opex reduction initiated in year 1 ($million, year 1 dollars)

Year	*1*	*2*	*3*	*4*	*5*	*6*	*7*	*8*	*9*	*10*
Forecast (F)	100	100	100	100	100	90	90	90	90	90
Actual (A)	90	90	90	90	90	90	90	90	90	90
Incremental saving (E)	10	0	0	0	0	0	0	0	0	0
Carry-over of gains made in										
1		10	10	10	10	10				
2			0	0	0	0	0			
3				0	0	0	0	0		
4					0	0	0	0	0	
5						0	0	0	0	0
Carry-over amount						10	0	0	0	0
Effective target	100	100	100	100	100	100	90	90	90	90
Discount factor	1	0.94	0.89	0.84	0.79	0.75	0.70	0.67	0.63	0.59
Net present value	10	19.4	28.3	36.7	44.7	52.1	52.1	52.1	52.1	52.1

[59] This assumes that the ongoing opex reduction is initiated in the year in which the opportunity is identified. In order to apply this assumption, the discount factor has been equated to 1 in the year in which the opportunity is identified, i.e. the year the opex reduction is initiated.

Table B.3: Impact of an ongoing opex reduction initiated in year 4 ($million, year 1 dollars)

Year	*1*	*2*	*3*	*4*	*5*	*6*	*7*	*8*	*9*	*10*
Forecast (F)	100	100	100	100	100	90	90	90	90	90
Actual (A)	100	100	100	90	90	90	90	90	90	90
Incremental saving (E)	0	0	0	10	0	0	0	0	0	0
Carry-over of gains made in										
1		0	0	0	0	0				
2			0	0	0	0	0			
3				0	0	0	0	0		
4					10	10	10	10	10	
5						0	0	0	0	0
Carry-over amount						10	10	10	10	0
Effective target	100	100	100	100	100	100	100	100	100	90
Discount factor	1.19	1.12	1.06	1	0.94	0.89	0.84	0.79	0.75	0.70
Net present value	0	0	0	10	19.43	28.33	36.7	44.7	52.1	52.1

Table B.4: Impact of an ongoing opex reduction initiated in year 5 ($million, year 1 dollars)

Year	*1*	*2*	*3*	*4*	*5*	*6*	*7*	*8*	*9*	*10*
Forecast (F)	100	100	100	100	100	100	100	100	100	100
Actual (A)	100	100	100	100	90	90	90	90	90	90
Incremental saving (E)	0	0	0	0	0	0	0	0	0	0
Carry-over of gains made in										
1		0	0	0	0	0				
2			0	0	0	0	0			
3				0	0	0	0	0		
4					0	0	0	0	0	
5						0	0	0	0	0
Carry-over amount						0	0	0	0	0
Effective target	100	100	100	100	100	100	100	100	100	100
Discount factor	1.26	1.19	1.12	1.06	1	0.94	0.89	0.84	0.79	0.75
Net present value	0	0	0	0	10	19.43	28.3	36.7	44.7	52.1

Table B.5: Impact of an ongoing opex increase initiated in year 1 ($million, year 1 dollars)

Year	*1*	*2*	*3*	*4*	*5*	*6*	*7*	*8*	*9*	*10*
Forecast (F)	100	100	100	100	100	110	110	110	110	110
Actual (A)	110	110	110	110	110	110	110	110	110	110
Incremental saving (E)	-10	0	0	0	0	0	0	0	0	0
Carry-over of gains made in										
1		-10	-10	-10	-10	-10				
2			0	0	0	0	0			
3				0	0	0	0	0		
4					0	0	0	0	0	
5						0	0	0	0	0
Carry-over amount						-10	0	0	0	0
Effective target	100	100	100	100	100	100	110	110	110	110
Discount factor	1	0.94	0.89	0.84	0.79	0.75	0.70	0.67	0.63	0.59
Net present value	-10	-19.4	-28.3	-36.7	-44.7	-52.1	-52.1	-52.1	-52.1	-52.1

B.3 Incentives to make one-off efficiency gains

When considering the incentives for opex reduction delivered by the EBSS, consideration should be given to one-off opex savings in addition to ongoing savings. Consider now a DNSP that has the opportunity to reduce opex by $10 million in the first year of the regulatory control period. Again assuming a real discount rate of 6%, the NPV to the DNSP of making the one-off opex reduction will be $3.0 million (see table B.6). This benefit is comprised of the $10 million underspend in the current period and a negative carryover of $10 million six years later, worth $7.0 million in NPV terms.[60]

Should the same opportunity arise in any other year of the regulatory control period the NPV of the opex reduction would also be $3.0 million in the year of the opex reduction (see tables B.6 through B.8). This is because a one-off opex reduction has the impact of reducing by the same amount the effective opex forecast (that is, the forecast plus any EBSS carryover amounts for that year) in the sixth year after the opex reduction. Note the impact of a $10 million opex reduction in year 4 table B.7. This will result in positive carryover amounts of $10 million in each of the first four years of the next period. However, it also results in a reduction in forecasts of $10 million in each year of the next period. Subsequently the NPV of a $10 million one-off opex reduction, and thus the incentive to make any such reduction, is the same as if the reduction occurred in any other year.

The symmetry of the EBSS is demonstrated in table B.9 which shows a one-off increase in year one has the opposite impact to a one-off decrease.

Table B.6: Impact of a one-off opex reduction in year 1 ($million, year 1 dollars)

Year	*1*	*2*	*3*	*4*	*5*	*6*	*7*	*8*	*9*	*10*
Forecast (F)	100	100	100	100	100	100	100	100	100	100
Actual (A)	90	100	100	100	100	100	100	100	100	100
Incremental saving (E)	10	-10	0	0	0	0	0	0	0	0
Carry-over of gains made in										
1		10	10	10	10	10				
2			-10	-10	-10	-10	-10			
3				0	0	0	0	0		
4					0	0	0	0	0	
5						0	0	0	0	0
Carry-over amount						0	-10	0	0	0
Effective target	100	100	100	100	100	100	90	100	100	100
Discount factor	1	0.94	0.89	0.84	0.79	0.75	0.70	0.67	0.63	0.59
Net present value	10	10	10	10	10	10	3.0	3.0	3.0	3.0

[60] A negative carryover amount resulting from a one-off opex reduction may appear counter–intuitive, since the EBSS is designed to provide incentives to DNSPs to reduce costs. However, the EBSS is also designed to provide a fair sharing of efficiency gains and losses between DNSPs and distribution network users. In the absence of an EBSS a one-off opex reduction in year one, if it had no impact on opex forecasts in the next period, would be retained in its entirety by a DNSP and not shared with distribution network users.

Table B.7: Impact of a one-off opex reduction in year 4 ($million, year 1 dollars)

Year	*1*	*2*	*3*	*4*	*5*	*6*	*7*	*8*	*9*	*10*
Forecast (F)	100	100	100	100	100	90	90	90	90	90
Actual (A)	100	100	100	90	100	100	100	100	100	100
Incremental saving (E)	0	0	0	10	0	0	0	0	0	0
Carry-over of gains made in										
1		0	0	0	0	0				
2			0	0	0	0	0			
3				0	0	0	0	0		
4					10	10	10	10	10	
5						0	0	0	0	0
Carry-over amount						10	10	10	10	0
Effective target	100	100	100	100	100	100	100	100	100	90
Discount factor	1.19	1.12	1.06	1	0.94	0.89	0.84	0.79	0.75	0.70
Net present value	0	0	0	10	10	10	10.0	10.0	10.0	3.0

Table B.8: Impact of a one-off opex reduction in year 5 ($million, year 1 dollars)

Year	*1*	*2*	*3*	*4*	*5*	*6*	*7*	*8*	*9*	*10*	*11*	*12*	*13*	*14*	*15*
Forecast (F)	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Actual (A)	100	100	100	100	90	100	100	100	100	100	100	100	100	100	100
Incremental saving (E)	0	0	0	0	0	-10	0	0	0	0	0	0	0	0	0
Carry-over of gains made in															
1		0	0	0	0	0									0
2			0	0	0	0	0								
3				0	0	0	0	0							
4					0	0	0	0	0						
5						0	0	0	0	0					
6							-10	-10	-10	-10	-10				
7								0	0	0	0	0			
8									0	0	0	0	0		
9										0	0	0	0	0	
10											0	0	0	0	0
Carry-over amount						0	0	0	0	0	-10	0	0	0	0
Effective target	100	100	100	100	100	100	100	100	100	100	90	100	100	100	100
Discount factor	1.26	1.19	1.12	1.06	1	0.94	0.89	0.84	0.79	0.75	0.70	0.67	0.63	0.59	0.56
Net present value	0	0	0	0	10	10	10.0	10.0	10.0	10.0	3.0	3.0	3.0	3.0	3.0

Table B.9: Impact of a one-off opex increase in year 1 ($million, year 1 dollars)

Year	*1*	*2*	*3*	*4*	*5*	*6*	*7*	*8*	*9*	*10*
Forecast (F)	100	100	100	100	100	100	100	100	100	100
Actual (A)	110	100	100	100	100	100	100	100	100	100
Incremental saving (E)	-10	10	0	0	0	0	0	0	0	0
Carry-over of gains made in										
1		-10	-10	-10	-10	-10				
2			10	10	10	10	10			
3				0	0	0	0	0		
4					0	0	0	0	0	
5						0	0	0	0	0
Carry-over amount						0	10	0	0	0
Effective target	100	100	100	100	100	100	110	100	100	100
Discount factor	1	0.94	0.89	0.84	0.79	0.75	0.70	0.67	0.63	0.59
Net present value	-10	-10	-10	-10	-10	-10	-3.0	-3.0	-3.0	-3.0

B.4 Incentives to bring forward or delay opex

It is also worth considering the incentives to bring forward or delay opex. Intuitively one might think that a DNSP could benefit from bringing costs forward as this will yield incremental cost reductions in the following years and positive carryover payments. However, this is not the case. While a DNSP can maximise its carryover payments by bringing forward opex, it will not benefit from doing so. Remember, the opex incentive is derived from a combination of benefits from underspending in the current period, carryover payments and impacts on future forecast amounts.

The bringing forward of opex is essentially a one-off opex increase in one year followed by a one-off opex decrease, of the same value in real terms, in a later year. As shown above, the benefit (cost) to a DNSP of a one-off opex decrease (increase) is the same in each year of the regulatory control period. Thus, due to the time value of money, a DNSP will never benefit from bringing opex forward (assuming the magnitude of the opex remains constant in real terms).

Consequently, a DNSP will always benefit from delaying opex, where this is possible (assuming the delaying of opex imposes no other costs). The EBSS serves to share the time value of money benefits (costs) from delaying (bringing forward) opex between DNSPs and distribution network users. Thus if a DNSP delays any costs it will receive 30% of the time value of money benefits, assuming a 30:70 sharing ratio (the ratio resulting from a five year carryover period and a 6% real discount rate).

Since the incentive to delay costs is constant, delaying opex that is forecast for year four will not result in the delayed opex being inappropriately imbedded in opex forecasts for the next period. As demonstrated in table B.10 a DNSP that delays year four opex will have their forecasts reduced by the same amount in each year of the next regulatory control period. However, they will also receive positive carryover payments that ensure that the time value of money benefits from the delayed opex are shared between the DNSP and distribution network users.

Table B.10: Impact of deferring year 4 opex ($million, year 1 dollars)

Year	*1*	*2*	*3*	*4*	*5*	*6*	*7*	*8*	*9*	*10*	*11*	*12*	*13*	*14*	*15*
Forecast (F)	100	100	100	100	100	90	90	90	90	90	100	100	100	100	100
Actual (A)	100	100	100	90	110	100	100	100	100	100	100	100	100	100	100
Incremental saving (E)	0	0	0	10	0	10	0	0	0	0	0	0	0	0	0
Carry-over of gains made in															
1		0	0	0	0	0									
2			0	0	0	0	0								
3				0	0	0	0	0							
4					10	10	10	10	10						
5						0	0	0	0	0					
6							10	10	10	10	10				
7								0	0	0	0	0			
8									0	0	0	0	0		
9										0	0	0	0	0	
10											0	0	0	0	0
Carry-over amount						10	10	10	10	0	10	0	0	0	0
Effective target	100	100	100	100	100	100	100	100	100	90	110	100	100	100	100
Discount factor	1.19	1.12	1.06	1.00	0.94	0.89	0.84	0.79	0.75	0.70	0.67	0.63	0.59	0.56	0.53
Net present value	0	0	0	10	0.57	0.57	0.57	0.57	0.57	-6.5	0.17	0.17	0.17	0.17	0.17

B.5 Impact of a declining/rising opex profile

During consultation, the impact of declining (and rising) opex profiles has been raised on a number of occasions. Particularly, stakeholders have questioned whether a DNSP should benefit (or be penalised) where its total actual opex is as forecast but its opex declines (rises) over the regulatory control period. Consider a DNSP who has forecast opex of $100 million in real terms in each year of the next regulatory control period. It has the opportunity to bring forward some of those costs such that its opex will decline by $10 million each year from $120 million in the first year to $80 million in the fifth year. During the initial period, the present value of the overspends in years one and two is greater than the present value of the underspend in years four and five due to the time value of money. As demonstrated in table B.11 the EBSS operates by setting the opex in the next period in accordance with the year four outturn and there are positive and negative carryovers from the first period. Under such a scenario, the DNSP is worse of by $1.5 million in NPV terms. The $1.5 million represents 30% of the time value of money costs of bringing opex forward, which are shared between DNSPs and distribution network users according to the sharing ratio (30:70 in this instance).

Table B.11: Impact of bringing opex forward ($million, year 1 dollars)

Year	*1*	*2*	*3*	*4*	*5*	*6*	*7*	*8*	*9*	*10*	*11*	*12*	*13*	*14*	*15*
Forecast (F)	100	100	100	100	100	90	90	90	90	90	100	100	100	100	100
Actual (A)	120	110	100	90	80	100	100	100	100	100	100	100	100	100	100
Incremental saving (E)	-20	10	10	10	0	-20	0	0	0	0	0	0	0	0	0
Carry-over of gains made in															
1		-20	-20	-20	-20	-20									
2			10	10	10	10	10								
3				10	10	10	10	10							
4					10	10	10	10	10						
5						0	0	0	0	0					
6							-20	-20	-20	-20	-20				
7								0	0	0	0	0			
8									0	0	0	0	0		
9										0	0	0	0	0	
10											0	0	0	0	0
Carry-over amount						10	30	20	10	0	-20	0	0	0	0
Effective target	100	100	100	100	100	100	120	110	100	90	80	100	100	100	100
Discount factor	1	0.94	0.89	0.84	0.79	0.75	0.70	0.67	0.63	0.59	0.56	0.53	0.50	0.47	0.44
Net present value	-20	-29.4	-29.4	-21.0	-5.2	-5.2	8.9	15.6	15.6	9.6	-1.5	-1.5	-1.5	-1.5	-1.5

B.6 Impact of actual opex exceeding forecast

During consultation stakeholders have raised concerns regarding the impact of 'incorrect forecasts' on the operation of the EBSS. (In subsequent periods, the EBSS sets the opex forecast on the basis of actual expenses incurred in the fourth year of the previous regulatory control period. As demonstrated later the scheme removes the incentive to shift costs to year four.) Consider first the case where a DNSP's forecasts are lower than its actual efficient costs by ten million dollars in each year of the period. As demonstrated in table B.12, if there were no ex post adjustments of forecasts, the impact of the incorrect forecast on the DNSP is the same as an ongoing efficiency loss of the same amount initiated in the first year.

Table B.12: Impact of a $10 million under forecast in each year of the first period ($million, year 1 dollars)

Year	*1*	*2*	*3*	*4*	*5*	*6*	*7*	*8*	*9*	*10*
Forecast (F)	100	100	100	100	100	110	110	110	110	110
Actual (A)	110	110	110	110	110	110	110	110	110	110
Incremental saving (E)	-10	0	0	0	0	0	0	0	0	0
Carry-over of gains made in										
1		-10	-10	-10	-10	-10				
2			0	0	0	0	0			
3				0	0	0	0	0		
4					0	0	0	0	0	
5						0	0	0	0	0
Carry-over amount						-10	0	0	0	0
Effective target	100	100	100	100	100	100	110	110	110	110
Discount factor	1	0.94	0.89	0.84	0.79	0.75	0.70	0.67	0.63	0.59
Net present value	-10	-19.4	-28.3	-36.7	-44.7	-52.1	-52.1	-52.1	-52.1	-52.1

Thus, the DNSP described would be worse off by $52 million in NPV terms due to the incorrect forecasts in this circumstance. Of the $52 million, $44.7 million would be from overspending within the regulatory control period and $7.5 million from negative carryover amounts. Thus an EBSS without ex post adjustments of forecasts would magnify the impact on the DNSP of the incorrect forecast by 17 per cent (this value will vary slightly with a different discount rate).

Consider also the case where the forecast growth in opex has been underestimated. Assume, for instance, that efficient opex grows, in real terms, by $2 million a year more than forecast opex due to higher than expected demand growth. As demonstrated in table B.13, such a scenario magnifies the impact on a DNSP of overspends to a greater extent than the previous example.

Table B.13: Impact of forecast opex growth being $2 million per annum less than the efficient amount in each year of the first period ($million, year 1 dollars)

Year	*1*	*2*	*3*	*4*	*5*	*6*	*7*	*8*	*9*	*10*	*11*	*12*	*13*	*14*	*15*
Forecast (F)	100	100	100	100	100	112	114	116	118	120	122	124	126	128	130
Actual (A)	102	104	106	108	110	112	114	116	118	120	122	124	126	128	130
Incremental saving (E)	-2	-2	-2	-2	0	2	0	0	0	0	0	0	0	0	0
Carry-over of gains made in															
1		-2	-2	-2	-2	-2									
2			-2	-2	-2	-2	-2								
3				-2	-2	-2	-2	-2							
4					-2	-2	-2	-2	-2						
5						0	0	0	0	0					
6							2	2	2	2	2				
7								0	0	0	0	0			
8									0	0	0	0	0		
9										0	0	0	0	0	
10											0	0	0	0	0
Carry-over amount						-8	-6	-4	-2	0	2	0	0	0	0
Effective target	100	100	100	100	100	104	108	112	116	120	124	124	126	128	130
Discount factor	1	0.94	0.89	0.84	0.79	0.75	0.70	0.67	0.63	0.59	0.56	0.53	0.50	0.47	0.44
Discounted net carry-over	0	0	0	0	0	-6.0	-10.2	-12.9	-14.1	-14.1	-13.0	-13.0	-13.0	-13.0	-13.0
Discounted net underspend	-2	-5.8	-11.1	-17.8	-25.8	-25.8	-25.8	-25.8	-25.8	-25.8	-25.8	-25.8	-25.8	-25.8	-25.8
Net present value	-2	-5.8	-11.1	-17.8	-25.8	-31.7	-36.0	-38.6	-39.9	-39.9	-38.8	-38.8	-38.8	-38.8	-38.8

In the example, forecast opex has been set to $112 million in year six to account for the revealed efficient opex in year four and observed demand growth. That is, when the forecasts are set for the second period, the $108 million in year four is adjusted for demand growth, which increases efficient opex by $2 million each year.

The DNSP described in table B.13 would be worse off by $39 million in NPV terms due to actual demand growth exceeding forecast demand growth in the first period. Of the $39 million, $26 million is from overspending within the regulatory control period and $13 million is from negative carryover amounts. Thus we can see that an EBSS without ex post adjustment of forecasts would magnify the impact on the DNSP of the incorrect forecasts by 51 per cent. With ex post adjustment of forecasts, actual demand growth would be adjusted for and there would be no negative carryovers.

B.7 Incentives to shift costs into the reference year

Consider a DNSP with forecast real annual opex of $100 million and the ability to delay or bring forward opex by up to 12 months. If the DNSP sought to maximise its forecasts in the next regulatory control period it would delay all year three opex until year four and bring all year five opex into year four, as demonstrated in table B.14 below. Such an opex profile would yield forecast opex of $300 million in the next period. However, such an opex profile would also result in a total carryover amount of negative $1000 million (the summation of the carryover amount row). The NPV of such an opex profile would be $0.1 million.[61] By comparison, if a DNSP exhibited the same opex profile but there was no EBSS and forecasts were based on year four opex, it would generate benefits of some $668 million in NPV terms by moving years three and five opex into year four (see table B.15).

Table B.14: Impact of shifting opex into the reference year with an EBSS ($million, year 1 dollars)

Year	*1*	*2*	*3*	*4*	*5*	*6*	*7*	*8*	*9*	*10*	*11*	*12*	*13*	*14*	*15*
Forecast (F)	100	100	100	100	100	300	300	300	300	300	100	100	100	100	100
Actual (A)	100	100	0	300	0	100	100	100	100	100	100	100	100	100	100
Incremental saving (E)	0	0	100	-300	0	-100	0	0	0	0	0	0	0	0	0
Carry-over of gains made in															
1		0	0	0	0	0									
2			0	0	0	0	0								
3				100	100	100	100	100							
4					-300	-300	-300	-300	-300						
5						0	0	0	0	0					
6							-100	-100	-100	-100	-100				
7								0	0	0	0	0			
8									0	0	0	0	0		
9										0	0	0	0	0	
10											0	0	0	0	0
Carry-over amount						-200	-200	-200	-300	0	-100	0	0	0	0
Effective target	100	100	100	100	100	100	100	100	0	300	0	100	100	100	100
Discount factor	1	0.94	0.89	0.84	0.79	0.75	0.70	0.67	0.63	0.59	0.56	0.53	0.50	0.47	0.44
Net present value	0	0	89.0	-78.9	0.3	0.3	0.3	0.3	-62.5	55.9	0.1	0.1	0.1	0.1	0.1

Table B.15: Impact of shifting opex into the reference year without an EBSS ($million, year 1 dollars)

Year	*1*	*2*	*3*	*4*	*5*	*6*	*7*	*8*	*9*	*10*
Forecast (F)	100	100	100	100	100	300	300	300	300	300
Actual (A)	100	100	0	300	0	100	100	100	100	100
Cumulative saving (F – A)	0	0	100	-200	100	200	200	200	200	200
Discount factor	1	0.94	0.89	0.84	0.79	0.75	0.70	0.67	0.63	0.59
Net present value	0	0	89.0	-78.9	0.29	150	291	424	549	668

[61] It is worth noting that this amount is 30% of the NPV of the same cost profile for a DNSP where there is no EBSS and forecasts are based on efficient costs. As demonstrated in B.3, the time value of money benefits/costs from bringing forward or delaying opex are shared 30:70 between DNSPs and distribution network users (assuming a real discount rate of 6%).

B.8 Setting of forecasts based on average actual costs

Another method for setting forecasts is to base forecast opex on an average of the most recent five years of actual opex. In tables B.16 through B.20 forecasts for the next regulatory control period are based on a weighted average of years zero to four, which are assumed to be the five most recent years of actual opex available at the determination. These tables show that basing forecasts on a weighted average of five years of actual data provides a constant incentive to reduce opex, without an EBSS. Furthermore, comparing tables B.17 to B.21 to tables B.2 to B.5 shows that weighted average forecasts provide the same incentive as the EBSS, that is the NPV of an ongoing opex reduction is the same.

In setting the forecasts for years six to ten, the actual opex for years zero to four have been weighted to account for the time value of money using the following weightings:

$$\text{Forecast opex} = \frac{c_0 A_0 + c_1 A_1 + c_2 A_2 + c_3 A_3 + c_4 A_4}{5}$$

Where:

$$c_n = \frac{5 \times WACC(1 + WACC)^{4-n}}{(1 + WACC)^5 - 1}$$

Table B.16: Impact of an ongoing opex reduction initiated in year 1 with weighted average forecasts ($million, year 1 dollars)

Year	*0*	*1*	*2*	*3*	*4*	*5*	*6*	*7*	*8*	*9*	*10*
Forecast (F)	100	100	100	100	100	100	92.2	92.	92.2	92.2	92.2
Actual (A)	100	90	90	90	90	90	90	90	90	90	90
Cumulative saving (F – A)	0	10	10	10	10	10	2.2	2.2	2.2	2.2	2.2
Discount factor	1.06	1	0.94	0.89	0.84	0.79	0.75	0.70	0.67	0.63	0.59
Net present value	0	10	19.4	28.3	36.7	44.7	46.3	47.9	49.4	50.8	52.1

Table B.17: Impact of an ongoing opex reduction initiated in year 2 with weighted average forecasts ($million, year 1 dollars)

Year	*0*	*1*	*2*	*3*	*4*	*5*	*6*	*7*	*8*	*9*	*10*
Forecast (F)	100	100	100	100	100	100	94.4	94.4	94.4	94.4	94.4
Actual (A)	100	100	90	90	90	90	90	90	90	90	90
Cumulative saving (F – A)	0	0	10	10	10	10	4.35	4.35	4.35	4.35	4.35
Discount factor	1.12	1.06	1	0.94	0.89	0.84	0.79	0.75	0.70	0.67	0.63
Net present value	0	0	10	19.4	28.3	36.7	40.2	43.4	46.5	49.4	52.1

Table B.18: Impact of an ongoing opex reduction initiated in year 3 with weighted average forecasts ($million, year 1 dollars)

Year	*0*	*1*	*2*	*3*	*4*	*5*	*6*	*7*	*8*	*9*	*10*
Forecast (F)	100	100	100	100	100	100	96.3	96.3	96.3	96.3	96.3
Actual (A)	100	100	100	90	90	90	90	90	90	90	90
Cumulative saving (F – A)	0	0	0	10	10	10	6.35	6.35	6.35	6.35	6.35
Discount factor	1.19	1.12	1.06	1	0.94	0.89	0.84	0.79	0.75	0.70	0.67
Net present value	0	0	0	10	19.4	28.3	33.7	38.7	43.4	47.9	52.1

Table B.19: Impact of an ongoing opex reduction initiated in year 4 with weighted average forecasts ($million, year 1 dollars)

Year	*0*	*1*	*2*	*3*	*4*	*5*	*6*	*7*	*8*	*9*	*10*
Forecast (F)	100	100	100	100	100	100	98.2	98.2	98.2	98.2	98.2
Actual (A)	100	100	100	100	90	90	90	90	90	90	90
Cumulative saving (F – A)	0	0	0	0	10	10	8.23	8.23	8.23	8.23	8.23
Discount factor	1.26	1.19	1.12	1.06	1	0.94	0.89	0.84	0.79	0.75	0.70
Net present value	0	0	0	0	10	19.4	26.8	33.7	40.2	46.3	52.1

Table B.20: Impact of an ongoing opex reduction initiated in year 5 with weighted average forecasts ($million, year 1 dollars)

Year	*5*	*6*	*7*	*8*	*9*	*10*	*11*	*12*	*13*	*14*	*15*
Forecast (F)	100	100	100	100	100	100	90	90	90	90	90
Actual (A)	90	90	90	90	90	90	90	90	90	90	90
Cumulative saving (F – A)	10	10	10	10	10	10	0	0	0	0	0
Discount factor	1	0.94	0.89	0.84	0.79	0.75	0.70	0.67	0.63	0.59	0.56
Net present value	10	19.4	28.3	36.7	44.7	52.1	52.1	52.1	52.1	52.1	52.1

Similarly tables B.21 through B.22 show that in using weighted average forecasts, the incentives to make one-off opex reductions are equal in each year of the regulatory control period. Like ongoing opex reductions, the NPV of a one-off opex reduction is the same when forecasts are based on a weighted average of actual opex as using an EBSS with forecasts based on year four actual opex (see tables B.6 through B.8).

Table B.21: Impact of a one-off opex reduction in year 1 with weighted average forecasts ($million, year 1 dollars)

Year	*0*	*1*	*2*	*3*	*4*	*5*	*6*	*7*	*8*	*9*	*10*
Forecast (F)	100	100	100	100	100	100	97.9	97.9	97.9	97.9	97.9
Actual (A)	100	90	100	100	100	100	100	100	100	100	100
Cumulative saving (F – A)	0	10	0	0	0	0	-2.1	-2.1	-2.1	-2.1	-2.1
Discount factor	1.06	1	0.94	0.89	0.84	0.79	0.75	0.70	0.67	0.63	0.59
Net present value	0	10	10	10	10	10	8.4	6.9	5.5	4.2	3.0

Table B.22: Impact of a one-off opex reduction in year 2 with weighted average forecasts ($million, year 1 dollars)

Year	*0*	*1*	*2*	*3*	*4*	*5*	*6*	*7*	*8*	*9*	*10*
Forecast (F)	100	100	100	100	100	100	98.0	98.0	98.0	98.0	98.0
Actual (A)	100	100	90	100	100	100	100	100	100	100	100
Cumulative saving (F – A)	0	0	10	0	0	0	-2.0	-2.0	-2.0	-2.0	-2.0
Discount factor	1.12	1.06	1	0.94	0.89	0.84	0.79	0.75	0.70	0.67	0.63
Net present value	0	0	10	10	10	10	8.4	6.9	5.5	4.2	3.0

Table B.23: Impact of a one-off opex reduction in year 3 with weighted average forecasts ($million, year 1 dollars)

Year	*0*	*1*	*2*	*3*	*4*	*5*	*6*	*7*	*8*	*9*	*10*
Forecast (F)	100	100	100	100	100	100	98.1	98.1	98.1	98.1	98.1
Actual (A)	100	100	100	90	100	100	100	100	100	100	100
Cumulative saving (F – A)	0	0	0	10	0	0	-1.9	-1.9	-1.9	-1.9	-1.9
Discount factor	1.19	1.12	1.06	1	0.94	0.89	0.84	0.79	0.75	0.70	0.67
Net present value	0	0	0	10	10	10	8.4	6.9	5.5	4.2	3.0

Table B.24: Impact of a one-off opex reduction in year 4 with weighted average forecasts ($million, year 1 dollars)

Year	*0*	*1*	*2*	*3*	*4*	*5*	*6*	*7*	*8*	*9*	*10*
Forecast (F)	100	100	100	100	100	100	98.2	98.2	98.2	98.2	98.2
Actual (A)	100	100	100	100	90	100	100	100	100	100	100
Cumulative saving (F – A)	0	0	0	0	10	0	-1.8	-1.8	-1.8	-1.8	-1.8
Discount factor	1.26	1.19	1.12	1.06	1	0.94	0.89	0.84	0.79	0.75	0.70
Net present value	0	0	0	0	10	10	8.4	6.9	5.5	4.2	3.0

Table B.25: Impact of a one-off opex reduction in year 5 with weighted average forecasts ($million, year 1 dollars)

Year	*5*	*6*	*7*	*8*	*9*	*10*	*11*	*12*	*13*	*14*	*15*
Forecast (F)	100	100	100	100	100	100	98.2	98.2	98.2	98.2	98.2
Actual (A)	90	100	100	100	100	100	100	100	100	100	100
Cumulative saving (F – A)	10	0	0	0	0	0	-2.2	-2.2	-2.2	-2.2	-2.2
Discount factor	1	0.94	0.89	0.84	0.79	0.75	0.70	0.67	0.63	0.59	0.56
Net present value	10	10	10	10	10	10	8.4	6.9	5.5	4.2	3.0

Appendix C: AER's written statement setting out how it proposes the efficiency benefit sharing scheme will operate for the next distribution determination

This appendix has been prepared to clarify how the EBSS will operate and constitutes the written statement the AER is required to publish as part of this efficiency benefit sharing scheme in accordance with clause 6.5.8(e) of the transitional Chapter 6 rules.

For the EBSS to operate, information is required from DNSPs at the following stages:

- in a DNSP's regulatory proposal for the period commencing in 2009
- in a DNSP's annual regulatory reports
- in a DNSP's regulatory proposal for the period commencing in 2014

For each DNSP to respond appropriately to the incentives provided by the EBSS, it must be clear how the AER will use the information provided by each DNSP. The AER will provide guidance on how it will use the information provided in:

- the final determination for the period commencing in 2009
- the final determination for the period commencing in 2014.

The information required at these stages, and the guidance that will be provided by the AER is outlined below.

The DNSPs' regulatory proposals for the regulatory control period commencing in 2009

The following information will be required of each NSW and ACT DNSP in its regulatory proposal prior to the commencement of the 2009–14 regulatory control period:

- a description of its capitalisation policy including any proposed changes to the policy and a calculation of the impact of those policy changes on forecast opex
- the proposed method for accounting for demand growth to be used at the end of the regulatory control period to adjust forecast opex for outturn demand growth (that is, to adjust for any changes in scale). The method proposed must be the same method as used to produce the opex forecasts.
- any proposed cost category exclusions for uncontrollable costs
- forecast opex for the 2009–14 regulatory control period including disaggregated forecasts for non-network alternatives and cost categories proposed to be excluded

The AER's final determinations for the regulatory control period commencing in 2009

In its final determination for the period commencing in 2009, the AER will determine whether or not the method for accounting for demand growth proposed by the DNSP is appropriate. The AER will publish the accepted or substituted demand growth adjustment method.

The AER will determine whether it has accepted the cost categories proposed by the DNSP to be uncontrollable costs. The AER will publish all the cost categories deemed to be uncontrollable and to be excluded from the operation of the EBSS.

The AER will determine whether the forecast opex proposed by the DNSP is efficient and publish the accepted or substitute levels of opex.

Annual regulatory reports

In their annual regulatory reports, each DNSP will be required to submit:

- any changes to capitalisation policy and a calculation of the impact of those policy changes on forecast opex
- actual opex disaggregated for non-network alternatives, recognised pass through events and cost categories determined to be uncontrollable and to be excluded from the EBSS.

The DNSPs' regulatory proposals for the regulatory control period commencing in 2014

In their regulatory proposal for the regulatory control period commencing in 2014, each DNSP will be required to complete an EBSS template provided by the AER with the following information:

- the forecast opex accepted or substituted by the AER in the previous regulatory determination
- a detailed description of any changes made to capitalisation policy during the period and a calculation of the impact of those changes on forecast opex during the period
- a detailed description of any changes in responsibilities during the period and a calculation of the impact of those changes on forecast opex during the period (that is, adjustments to forecast opex for any changes in scope). The change in responsibilities may have resulted from compliance with a new or amended law or licence, or other statutory or regulatory requirement, including a requirement that can be demonstrated to arise directly from a recognised policy, practice, or policy generally applicable to similar firms participating in the NEM.
- actual demand growth during the regulatory control period and adjustments to opex forecasts for the period using the demand growth method accepted or substituted by the AER in the previous regulatory determination (that is, adjustments to forecast opex for any changes in scale)

- actual opex during the regulatory control period using the same cost categories as used to calculate the forecasts for that period
- actual opex for cost categories determined as uncontrollable by the AER in the previous regulatory determination
- actual opex for non-network alternatives
- allowed increases or decreases in expenditure associated with recognised pass through events.

The DNSP must also provide an explanation for the profile of opex sufficient to demonstrate that opex during the period did not entail any instances of cost shifting.

The AER's final determinations for the regulatory control period commencing in 2014

The AER will assess the EBSS outcomes proposed by the DNSP against the requirements of the EBSS. The carryover amounts, either positive or negative, accepted or substituted by the AER will be included as building block elements in the allowed revenue for the regulatory control period commencing in 2014.

Adjustments to forecast and actual opex figures

In calculating the carryover amounts to be applied in the regulatory control period commencing in 2014 the EBSS does not use unadjusted forecast and actual opex figures. To ensure that the EBSS outcomes reflect genuine efficiency gains as far as possible the EBSS uses adjusted forecast and actual opex figures. The AER will assess the adjustments proposed by DNSPs in their regulatory proposal for the period commencing in 2014 the AER to ensure they are consistent with the EBSS.

Capitalisation policy changes

Each DNSP must adjust the forecast opex figures used to calculate the carryover amount to account for changes in capitalisation policy. The adjusted forecast opex figures must reflect the capitalisation policy used in the calculation of the actual opex figures.

Demand growth

DNSPs must adjust forecast opex figures to account for the difference between actual and forecast demand growth (that is, adjust for any changes in scale). Each DNSP must use the demand growth adjustment method accepted or substituted by the AER in its final determination for the 2009–14 regulatory control period. The AER will assess whether the adjustments made are consistent with the method in the final determination.

Regulatory responsibilities

DNSPs must adjust forecast opex figures to account for any changes in regulatory responsibilities that were made during the regulatory control period and were not incorporated in the original forecast opex figures.

Uncontrollable costs

Forecast and actual opex for cost categories accepted as being uncontrollable by the AER in the final determination for the 2009–14 period must be subtracted from the forecast and actual opex figures used to calculate the carryover amounts. Proposed uncontrollable cost categories must be expense categories reported in DNSPs' regulatory accounts. DNSPs will not be allowed to make adjustments other than the removal of whole expense categories accepted by the AER as uncontrollable.

Non-network alternatives

Opex expended in undertaking non-network alternatives must be removed from both the forecast and actual opex figures used to calculate carryover amounts. The AER will assess whether non-network alternative opex has been removed and that the sum removed is consistent with the amount reported in the DNSP's regulatory accounts.

Recognised pass throughs

Recognised pass through event opex must be removed from the actual opex figures used to calculate carryover amounts. The AER will assess whether the opex removed is consistent with the amount reported in the DNSP's regulatory accounts.

Variances in cost categories and methodologies, and errors.

Adjustments may be made where necessary to correct for variances in cost categories and methodologies, and errors. The AER will asses the forecast and actual opex figures used to calculate carryover amounts to ensure that the forecast and actual figures are based on the same cost categories and methodologies and do not include any errors.

Appendix D: Efficiency benefit sharing scheme

Appendix D is the AER's efficiency benefit sharing scheme to apply to the ACT and NSW 2009 distribution determinations, attached.