Final decision

Electricity transmission network service providers

Efficiency benefit sharing scheme

September 2007

AUSTRALIAN ENERGY REGULATOR

© Commonwealth of Australia 2007

This work is copyright. Apart from any use permitted by the *Copyright Act 1968*, no part may be reproduced without permission of the Australian Competition and Consumer Commission. Requests and inquiries concerning reproduction and rights should be addressed to the Director Publishing, Australian Competition and Consumer Commission, GPO Box 3131, Canberra ACT 2601.

Inquiries concerning the currency of these guidelines should be addressed to the:

Australian Energy Regulator
GPO Box 520
Melbourne VIC 3001

Ph: (03) 9290 1444
Fax: (03) 9290 1457
Email: AERInquiry@aer.gov.au

Contents

Shortened forms ..... **iv**

1 Introduction **1**

1.1 Rule requirements 1
1.2 Purpose and objectives of the scheme 2
1.2.1 Fair sharing of incentives over time 2
1.2.2 Continuous incentives over time 2
1.2.3 Desirability of providing rewards and penalties 2
1.2.4 Scope of the scheme 3
1.2.5 Interaction between opex and capex incentives 3

2 The reasons for the scheme **4**

3 Issues raised in submissions and the AER's response **5**

3.1 Negative carryovers 5
AER response 6
AER decision 9
3.2 Large positive carryovers 9
AER response 9
AER decision 10
3.3 Length of the carryover period 11
AER response 11
AER decision 13
3.4 Adjusting forecast and actual expenditure 13
AER response 14
AER decision 14
3.5 Treatment of pass-throughs 15
AER decision 15
3.6 Capital expenditure 15
AER response 15
AER decision 15
3.7 Effectiveness of the scheme 16
AER response 16
AER decision 17
3.8 Revenue at risk 17
AER response 17
AER decision 17
3.9 Real versus nominal values 17
AER decision 18
3.10 Treatment of the fifth year gains or losses 18
AER decision 19

Appendix A—Submissions **21**

Appendix B—Efficiency benefit sharing scheme **22**

Shortened forms

AER	Australian Energy Regulator
capex	capital expenditure
CPP	CitiPower and Powercor
DNSP	distribution network service provider
EA	EnergyAustralia
ETNOF	Electricity Transmission Network Owners' Forum
ESCOSA	Essential Services Commission of South Australia
ESCV	Essential Services Commission of Victoria
MEU	Major Energy Users Inc.
NEL	National Electricity Law
NER	National Electricity Rules
NPV	net present value
opex	operating expenditure
scheme	efficiency benefit sharing scheme
SCO	Standing Committee of Officials
TNSP	transmission network service provider

1 Introduction

The Australian Energy Regulator (AER) is responsible for regulating the revenues of transmission network service providers (TNSPs) in the National Electricity Market in accordance with the National Electricity Rules (NER).

In January 2007 the AER issued its first proposed efficiency benefit sharing scheme (scheme) and invited submissions from interested parties. The AER received eight submissions in response to the first proposed scheme. A further two submissions did not make specific reference to the scheme, but made general comments on all of the first proposed guidelines that may be relevant to the scheme.

In July 2007 the AER consulted further with interested stakeholders through a stakeholder round-table forum. AER staff and stakeholders discussed the key issues and concerns raised in submissions. The AER also sought further feedback by outlining proposed positions for the final guidelines in a letter sent to the Electricity Transmission Network Owners' Forum (ETNOF) and Major Energy Users Inc. (MEU) in August 2007. This was followed by a teleconference and an opportunity to make final submissions before finalising the scheme.

This decision sets out the AER's scheme and provides the AER's reasons for the scheme. It has been prepared to satisfy the AER's obligations under clause 6A.20(e) of the NER.

1.1 Rule requirements

Clause 11.6.17 (f) of the NER requires the AER to publish the EBSS by 30 September 2007. The scheme must comply with the principles prescribed in the NER at clause 6A.6.5.

Under 6A.6.5 of the NER, the AER is required to develop a scheme that provides for a fair sharing between TNSPs and transmission network users of:

- the efficiency gains derived from the operating expenditure of TNSPs for a regulatory control period being less than
- the efficiency losses derived from the operating expenditure of TNSPs for a regulatory control period being more than,

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

Furthermore, in developing and implementing a scheme, the AER must have regard to:

- the need to provide TNSPs with a continuous incentive (that is equal in each year of any regulatory control period) to reduce operating expenditure
- the desirability of both rewarding TNSPs for efficiency gains and penalising them for efficiency losses

- any incentives that TNSPs may have to inappropriately capitalise operating expenditure.

The AER's consideration of these issues is outlined below.

1.2 Purpose and objectives of the scheme

The AER has sought to develop a scheme that is simple to understand and apply, is predictable, requires minimal adjustments and does not threaten the financial viability of a regulated firm. The scheme aims to provide continuous incentives over time, to reward efficiency and penalise inefficiency, to focus on controllable costs and to ensure inappropriate capitalisation is avoided.

The following sections make general observations about the major attributes of this scheme relative to the requirements of the NER. The AER's decisions on specific matters are presented in section 3.

1.2.1 Fair sharing of incentives over time

For this scheme, the length of the carryover period directly affects the desired sharing ratio of gains and losses between users and the TNSP. This gain is normally measured as the net present value of a gain or loss in a particular year, relative to the value of that gain or loss in perpetuity. A five-year carryover period results in a benefit sharing ratio of approximately 30:70 between the TNSP and network users. A ten-year carryover results in a ratio of approximately 50:50 for the TNSP and users respectively.

As set out in section 3.3, the AER considers that the scheme will be simpler to implement if the carryover period is linked to the regulatory control period for a business. For most businesses, this will mean a notional five-year period for the carryover and an effective 30:70 sharing ratio. Where a firm has proposed a longer regulatory control period, the AER will consider extending the carryover period, having regard to the need for a fair sharing of efficiency gains and evidence of the relative efficiency of that firm.

1.2.2 Continuous incentives over time

Under the proposed scheme, a continuous incentive to achieve efficiencies is provided by allowing the TNSP to retain, for a fixed period, the difference (negative or positive) between its actual and forecast operating expenditure (opex). Any such difference arising in any year of a regulatory period is retained by the TNSP and carried forward for five years following the year in which the efficiency gain or loss is incurred. In this way, the scheme encourages firms to remain efficient throughout the period rather than to concentrate efficiency gains during the early part of the period.

1.2.3 Desirability of providing rewards and penalties

An important characteristic of the scheme is that it rewards sustained gains and penalises sustained losses but has much less effect or impact on short-term gains or losses. This is achieved through the symmetrical application of a carryover

mechanism. In this sense, the AER recognises that it is equally important to reward efficiency and penalise inefficiency. By penalising inefficiency and rewarding efficiency, the incentive regime encourages service providers to reveal their efficient or 'true' costs.

The application of both positive and negative carryover amounts and the adjustments to be made in calculating carryover amounts mean that the magnitude of any negative carryover amounts are likely to be small compared to the total allowed revenue.

The AER is mindful that the asymmetrical application of the carryover mechanism in an earlier version of a similar scheme in Victoria led to that scheme failing to meet its objectives. Consequently, the AER has determined that the scheme should be symmetrical.

1.2.4 Scope of the scheme

While the focus of the scheme should be on controllable costs, the AER notes it is difficult to develop a comprehensive list of the cost elements that can properly be excluded from the scheme's operation. While it is generally agreed that the scheme should operate consistently over time, there is no universal agreement on the most appropriate way in which to treat this issue. During consultation a range of views were expressed—from making no adjustments at all to developing a comprehensive list of all permissible exclusions. The AER considers a middle course is appropriate.

The AER considers that adjustments to forecast and actual operational expenditure arising from changes in statutory responsibilities, pass-through events, changes in capitalisation policy and growth should be applied in calculating carryover amounts. TNSPs will also be able to propose, for consideration by the AER, other adjustments relating to events to be excluded from the operation of the scheme so that they are not unfairly penalised. The AER envisages that, over time, this approach will establish the appropriate range of matters for exclusion. Through this adjustment process, the calculated carryover amounts will differ from the raw efficiency gains and losses measured in accordance with clause 6A.6.5 of the NER.

1.2.5 Interaction between opex and capex incentives

TNSPs may have some scope to respond to incentives through their capitalisation policies and by substituting expenditures between opex and capital expenditure (capex). To determine whether these actions are inappropriate responses to the incentive framework, the AER will require explanation where a TNSPs capitalisation policy has changed. This will include detailing:

- any change in capitalisation policy
- why the changes were made
- the affect of the changes on opex and capex expenditure.

2 The reasons for the scheme

The scheme exists to give regulated monopoly businesses an incentive to respond to opportunities to achieve efficiency gains, as would otherwise occur in a competitive market. Under the ex ante regulatory framework a service provider retains the benefit (higher profits) of achieving opex outturns below the level forecast in its revenue determination. If the opex outturn exceeds the forecast, the service provider suffers an opportunity cost (profits below those implied by the revenue determination).

Without the scheme, TNSPs would face a diminishing incentive during a regulatory period to initiate efficiencies in delivering opex—that is, if the efficiency occurred in year 1 and the gains occurred without lag, the service provider would retain the benefit of the efficiency saving in each year of the regulatory control period. However, where an efficiency saving occurs in the latter years of the regulatory control period, the service provider would only enjoy the benefit for the remaining years of the regulatory control period.

Under the scheme the efficiency benefit or loss for a particular year is calculated as the difference between the actual and forecast opex amounts as they change from one year to the next. However, the efficiency benefit or loss derived in the first year in which the scheme applies is simply the difference between actual and forecast opex amounts in that year. A numerical example is included in the guideline. The guideline is attached at appendix B.

3 Issues raised in submissions and the AER's response

The AER received eight submissions in response to the first proposed scheme. Appendix A lists the parties who made submissions on this scheme. This part of the decision addresses the issues raised in the submissions and the AER's decision on these issues. Part 5.10 of this decision also addresses an additional amendment to the scheme by the AER to improve its operation.

3.1 Negative carryovers

Several submissions were concerned with the impact of negative carryovers on TNSPs' revenues and their ability to recover the efficient costs of operating a business.

Electricity Transmission Network Owners' Forum

The Electricity Transmission Network Owners' Forum sought clarification of a proposed provision that would give the AER the power to consider the circumstances in which a negative carryover had arisen by defining:

- the circumstances under which the AER would be likely to exercise this discretion
- the principles that would underlie any decision to exercise a discretionary power.

ETNOF also proposed that there should be an overarching constraint on the exercise of any discretion requiring the AER to consider whether the imposition of a negative carryover amount would be contrary to ss. 16(2)(a) and (c) of the NEL.

Major Energy Users Inc.

The Major Energy Users Inc. argued that there is no logic to support a penalty being carried forward. The MEU considers that the principle of equality between penalty and bonus has an initial attraction, but that it makes little sense to reduce opex in the next period below the amount already identified as being needed. The MEU considers a reduction in opex could potentially disadvantage consumers by more than the saving that might result from carrying forward the penalty into the next period. The MEU argues that asymmetry should be accepted as a pragmatic approach rather than one based on theory and equality.

Following consultation, the MEU later amended this position by recognising that symmetrical carryovers were an important design feature of the scheme. However, the MEU was concerned that the potential existence of a net negative carryover could mean that a firm would earn less than its efficient revenue in the following period. The MEU was concerned that a firm would respond to this by cutting expenditure, thereby jeopardising services or service quality to customers, contrary to the interests of those customers.

Essential Services Commission of South Australia

The Essential Services Commission of South Australia suggested that negative carryover amounts could potentially lead to a reduction in total revenue to the extent that a TNSP might not recover the efficient costs of operating a business. ESCOSA addressed this concern by developing a scheme that would give the regulator the discretion to defer any net negative amount to a subsequent regulatory period in which a positive carryover is calculated.

CitiPower and Powercor

CitiPower and Powercor suggested that negative carryovers could potentially undermine the viability of the network service provider and risk customers being exposed to declining service standards. CPP submitted that there should be no carry forward of negative carry over amounts.

EnergyAustralia

EnergyAustralia submitted that the operation of the scheme with negative efficiency carryovers does not appear to adequately recognise the repeat nature of the regulatory process. A symmetric benefit-sharing regime merely duplicates the natural process that would occur without such intervention and in doing so accentuates the relative gains or losses that the TNSP will face.

AER response

Before considering how to deal with negative carryovers, it is important to consider how and when they occur.

As the calculation of carryover amounts is based on incremental gains/losses, negative carryovers occur when a TNSP under-spends its target by a reducing margin as the regulatory period progresses, or overspends its target by an increasing margin. It is important to note that whether there was a net overspend over the period has little to do with whether there will be a negative carryover. For example, it is possible to under-spend over the period and receive a negative carryover. This point was highlighted by the Essential Services Commission of Victoria (ESCV) in its final determination for distribution businesses for the 2006–10 period:

> … negative carryover amounts can arise even when expenditure is below forecast and would therefore be funded within the revenue requirement for that regulatory period. This occurred in the reported operating and maintenance expenditure of CitiPower (2003 and 2004), Powercor (2002, 2003 and 2004) and United Energy (2002, 2003 and 2004) in the current regulatory period whereby large initial reductions in expenditure

> were achieved in the first year of the regulatory period, with subsequent increases in the remaining years of the period.[1]

Whether a TNSP will be able to recover 'the efficient cost of meeting its obligations' depends on how the forecasts are set and the cause of the negative carryover. In a static environment, if forecasts are based on a base year and the TNSP has shifted its costs to raise its forecasts above efficient levels, the application of negative carryovers would bring forecasts back down to efficient levels.

If forecasts are not based on a single year of outturn opex, TNSPs would have no incentive to shift costs, which would result in negative carryovers. Therefore any negative carryover would be the result of a rising opex profile relative to the forecasts.

This raises the question of whether efficiency losses should be shared between TNSPs and consumers in the same way as efficiency gains are shared. In the absence of a carryover mechanism, TNSPs would bear between 11 per cent and 30 per cent of recurrent efficiency losses depending on the year in which they occur. If negative carryovers are applied, TNSPs would bear 30 per cent of the loss regardless of the year in which it occurs. Thus, if only positive carryovers are applied, the incentive to make efficiency improvements and the disincentive for efficiency gains would not be symmetrical.

On the issue of symmetrical incentives, the Australian Energy Market Commission (AEMC) stated in its final rule determination that:

> The Commission is cognisant of the requirement of section 35(3)(a) of the NEL which requires that rules in relation to economic regulation of transmission systems to 'provide a reasonable opportunity for a regulated transmission system operator to recover the efficient costs of complying with a regulatory obligation.' However it does not consider that this requires the Revenue Rule to prescribe a 'no negative carryover' approach to economic regulation.[2]

In addressing the issue of financial viability the ESCV argued in its 2006–10 price determination that:

> The Commission does not consider the financial viability of the distributors to be at material risk from this incentive mechanism. The application of the efficiency carryover mechanism only to operating and maintenance expenditure ensures that any negative efficiency carryover amounts will be calculated on an incremental basis rather than as an absolute difference between

---

1 Essential Services Commission of Victoria, *Electricity distribution price review 2006–10: Final decision*, vol. 1, ESCV, Melbourne, 2005, p. 434.

2 Australian Energy Market Commission, *National Electricity Amendment (Economic Regulation of Transmission Services) Rule 2006*, No. 18, AEMC, Sydney, 2006, p. 96.

> forecast and actual reported expenditure. When combined with the proposed adjustment for differences between forecast and outturn growth, this calculation basis means the magnitude of any negative operating and maintenance expenditure efficiency carryover amounts is unlikely to materially impact a distributor's financial position.
>
> Further, for a distributor to receive a financial impact from negative carryover amounts, these would have to be the result of sustained increases in expenditure over the regulatory period from their current expenditure level at a rate that is more than can be explained by growth being above forecast. It is also noted that a substantial one off expenditure increase in any year would be offset by the positive carryover associated with the relative efficiency improvement when expenditure returns to normal levels in the following year.[3]

The AER accepts these views. Further, even if the result of applying the efficiency carryover is that the revenue permitted by the AER's transmission determination is below the TNSP's forecast efficient costs, the AER does not accept that it could be said to have failed to provide the TNSP with a 'reasonable opportunity' of recovering its efficient costs for two additional reasons:

- First, despite the fact that the opex provided for is less than the forecast opex it may be that the TNSP still has a reasonable opportunity, such as by increasing its efficiency, of recovering its opex costs.
- Second, the 'reasonable opportunity' should be viewed in terms of the overall efficiency carryover mechanism. Since the TNSP would have been aware of how the mechanism worked when the opex overspend occurred, the TNSP would have had a reasonable opportunity to avoid the overspend and therefore avoid the negative efficiency carryover.

The AER is mindful that the observed experience of the ESCV was that the asymmetrical application of the carryover mechanism in an earlier version of a similar scheme in Victoria had led to that scheme failing to meet its objectives. Consequently, the AER believes that the scheme as implemented should be symmetrical.

The AER contemplated adding a power to further adjust, if necessary or desirable, carryover amounts. This would alleviate any residual risk of uncontrollable costs leading to negative carryovers, which would put the quality of service delivered to consumers at risk. However, the AER also considered that the proposed calculation of adjustments to the differences in forecast and actual expenditure, the exclusion of pass-through events and the contingent project measures would significantly reduce any such risks. During the consultation process, stakeholders did not provide the AER with any evidence that a significant further residual risk would remain. Subsequently

---

[3] Essential Services Commission of Victoria, *Electricity distribution price review 2006–10: Final decision*, vol. 1, ESCV, Melbourne, 2005, pp. 434–35

the AER concluded that the proposed calculation of adjustments to the differences in forecast and actual expenditure, the exclusion of pass-through events and the contingent project measures adequately deal with any such risks.

AER decision

The AER has decided to apply negative carryovers. This will ensure incentives are constant and symmetric. The AER will evaluate the use of the fourth year out-turn opex (adjusted for scale and scope) as the basis for setting opex in the next regulatory control period. Using the fourth year combined with the application of negative carryovers will provide the most consistent and continuous incentive for TNSPs to reveal their true and efficient operating costs. However, the AER will not do this mechanistically. The AER must be satisfied that an expenditure proposal represents efficient costs as provided for in clause 6A.6.6(c) of the NER. In determining whether the AER is satisfied with the forecast operating expenditure proposed by a TNSP clause 6A.6.6(e) requires the AER to consider the ten *operating expenditure factors* set out in the clause.

This approach is necessary to give effect to the requirements of the NER—both for setting operating expenditure and for factors to be considered in the scheme—and the adjustments detailed elsewhere in this decision. These adjustments also reduce the impact of any net negative carryovers on the ability of the firm to meet its efficient costs.

The AER has decided not to add a further power to adjust carryover amounts. The AER will, however, consider amending the guidelines if provided with evidence that a significant residual risk to service quality remains. Any such evidence would need to include a rigorous quantitative analysis, such as modelling based on actuarial data, of the magnitude of the risk.

3.2 Large positive carryovers

ESCOSA raised the issue of discretion when applying large positive carryover amounts and the impact on network users. It suggested that change in network prices is subsequent to the incentives to reduce costs. It also noted that in determining allowed revenue, any significant increases in one particular building block may be offset by decreases in another and that the total revenue requirement across the five-year period is able to be smoothed through the use of the X factor.

AER response

Before considering how large positive carryovers should be dealt with it is important to consider how and when large positive carryovers occur.

As the calculation of carryover amounts is based on incremental gains/losses, positive carryovers occur when the under spend in each year is rising through the period or the overspend is falling. It is important to note that whether there was a net under spend over the period has little to do with whether there will be a positive carry over. It is possible to overspend over the period and receive a positive carryover. The important

determinant of whether a positive carryover will be received is whether the under spends are increasing or decreasing over the period.

In considering how to apply positive carryovers it is worth considering the Standing Committee of Officials recent response to the draft rules for DNSPs. In its response SCO stated:

> The application of incentive schemes should result in future benefits to customers sufficient to warrant the payment of the efficiency reward in the first place. This principle will be reflected in the incentive scheme provisions of the distribution rules.
>
> Clause 6.5.5 will make clear that the AER must be satisfied that the application of an efficiency benefit sharing scheme for capex and opex is, or is likely to result in future benefits to customers sufficient to warrant the payment of the efficiency reward.[4]

When considering how to deal with large positive carryovers it is important to consider whether the carryovers could be the result of gaming. If a business were to attempt to shift its costs in order to maximise its carryover, it would shift costs out of year four and into earlier years. Any gains from shifting costs will be counteracted by the reduction in future year forecasts (and the business could in fact be worse off in net present value—NPV—terms). This counteracting effect, however, depends on the symmetrical application of both positive and negative carryovers. Where costs are based on average costs in the current period or some form of exogenous measures, the TNSP could potentially gain from shifting costs to maximise its carryover. The potential gains to TNSPs from doing this are quite significant.

If a TNSP has accumulated a large positive carryover from reducing its recurrent costs, consumers cannot be negatively impacted—that is, if a TNSP undertakes measures that reduce its recurrent operating expenditure then forecasts in future period should be less than they otherwise would have been. The reduced forecasts plus the positive carryover should not be greater than what the forecasts would have been had the opex reducing measures not been undertaken. The carryover mechanism would work to pass 30 per cent of the benefit of the cost reduction to the TNSP with the remaining 70 per cent of the benefits to customers. Thus consumers would only be negatively impacted by large positive carryovers if those carryovers had been generated from cost-shifting rather than genuine reductions in operating expenditure.

AER decision

To maintain symmetry in the operation of the scheme the AER has decided to apply all positive carryovers. Applying all positive carryovers minimises regulatory uncertainty for TNSPs and ensures consistent and continuous incentives.

---

[4] Ministerial Council on Energy Standing Committee of Officials, *SCO response to stakeholder comments on the Exposure Draft of the National Electricity Rules for distribution revenue and pricing (Chapter 6)*, Ministerial Council on Energy, Canberra, 2007, p. 22.

3.3 Length of the carryover period

Several submissions were concerned that the length of the carryover period was too short to provide a 'fair' sharing ration for TNSPs.

ETNOF

ETNOF have argued that the sharing ratio should be 50:50, as this would be 'fair'. It has have proposed the use of 'scaling factors' to achieve a 50:50 sharing ratio over a five-year carryover period. The MEU, at the first transmission guidelines forum, expressed concern that TNSPs already receive the benefits of any efficiency during the period and questioned why TNSPs should receive any more. In its submission the MEU argued that strong consideration should be given to the benefits received by unregulated businesses operating in competitive markets.

ESCOSA

ESCOSA submitted that a five-year carryover period is equivalent to a sharing ratio between a TNSP and users of 30:70. This sharing ratio may be appropriate for TNSPs, but will ultimately depend on assumptions made on the responsiveness of the TNSP to changes in the share of efficiency gains it receives and also on a view as to the appropriate trade-off between the extent of the efficiency gains made and the speed with which such gains are passed through to customers.

MEU

The MEU submitted that a regulatory incentive scheme should be assessed every five years (or part thereof) regardless of the duration of the reset.

CitiPower and Powercor

CPP submitted that a fair sharing ratio is equivalent to a 50:50 benefit sharing ratio. A five-year benefit retention period, as proposed, does not achieve this. CPP urged the AER, in considering what constitutes a fair sharing of efficiency gains, to consider the impact of productivity improvements and their potential role in distorting outcomes.

AER response

In the first proposed scheme for TNSPs, the AER proposed that the efficiency benefit/loss for each year should be retained by the TNSP for five years following the year in which it incurred. In the accompanying explanatory statement, the AER stated that the five-year carryover period would yield a 50:50 sharing ratio. This was a drafting error and should have read 30:70 (with 30 per cent going to TNSPs).

The 'sharing ratio' is a function of the carryover period and the discount rate. Since the discount rate regularly changes, the exact value of the sharing ratio also changes regularly. As such, care should be taken not to focus too much on the sharing ratio. Rather it is more appropriate to focus on the length of the carryover period.

In the absence of a scheme, TNSPs would retain efficiency gains for the remainder of the regulatory period. For a five-year period, TNSPs retain efficiency gains for

between one and five years (thus TNSPs retain between 11 per cent and 30 per cent of efficiency gains depending on which year the gains are made). Given the five-year regulatory period, a five-year carryover period would be simple and logical. This would ensure TNSPs received 30 per cent of ongoing efficiency gains regardless of the year in which the gains are made. To achieve a 50:50 sharing ratio the carryover period would need to be significantly longer (see table 1, below).

Table 1: Length of the regulatory period and benefit sharing ratios

Length of carryover period	Business (%)	Customers (%)
Three years	20.9	79.1
Four years	25.4	74.6
Five years	29.7	70.3
Six years	33.8	66.2
Seven years	37.6	62.4
Eight years	41.3	58.7
Nine years	44.7	55.3
Ten years	48.0	52.0
Eleven years	51.1	48.9

Note: sharing ratios have been calculated assuming a 5.66 per cent real discount rate.

The AER considers it would be rare for a firm operating in a competitive market to retain efficiency gains for a period of more than five years. Thus, to allow a regulated firm to retain the benefits of efficiency gains for a period long enough to yield a 50:50 sharing ratio would be allowing the regulated firm to retain benefits significantly longer than most competitive firms would be able to retain their gains.

In its submission ETNOF suggested the use of scaling factors to achieve a 50:50 sharing ratio while maintaining a five-year regulatory period. However, it is unclear how the proposed scaling factors would work in practice. ETNOF's proposal appears to require different scaling factors to be used depending on which year the efficiency gains are made. Thus the scheme proposed by ETNOF makes an implicit assumption that efficiency gains are only made in one year of the regulatory period (otherwise it is unclear which scaling factors would be applied). It is extremely unlikely that a TNSP's opex will display a non-zero incremental gain in only one year and it seems implausible to apply the proposed scaling factors.

The main argument for allowing TNSPs to retain a greater proportion of the benefits from efficiency gains is to provide a greater incentive for firms operating at or near the 'efficiency frontier'. As networks get closer to the efficiency frontier, a higher ratio may be necessary as allowed by section 6A.6.5 (c) of the chapter 6A rules.

Determining whether a TNSP is at or near the efficiency frontier would require detailed analysis. If the AER decided to allow TNSPs to retain a greater proportion of the benefits of efficiency improvements because they were close to the efficiency frontier, one way to do so would be to allow TNSPs to propose a longer carryover period based on an independent and verified assessment of how close they are to the efficiency frontier.

The AER considers that the scheme will be simpler to implement and administer if the carryover period is linked to the regulatory control period. For most businesses this will mean a notional five-year period for the carryover and an effective 30:70 sharing ratio. Where a firm has proposed a longer regulatory control period, the AER will consider extending the carryover period having regard to the need for a fair sharing for efficiency gains and evidence of the relative efficiency of that firm.

AER decision

In the absence of evidence that TNSPs are approaching the efficiency frontier, the AER has decided to maintain the five-year carryover period. This will provide TNSPs with the same incentive to initiate efficiency gains as would exist in the fifth year of the regulatory period without the scheme and will maintain a carryover period consistent with the timeframe of regulatory resets. The AER will reconsider the appropriateness of the carryover period (and thus the sharing ratio) for TNSPs if presented with evidence that a TNSP is approaching the efficiency frontier.

3.4 Adjusting forecast and actual expenditure

A number of stakeholders expressed concern about the accuracy of forecasts and their impact on carryovers. For example, if growth were to exceed forecasts, a TNSP may exceed its forecast opex and receive a negative carryover even if there were no change to the efficiency of its processes. Similarly, a TNSP might capitalise a portion of its opex and thus receive a positive carryover when, again, the efficiency of its processes had not improved.

ETNOF

ETNOF requested clarification of the principles to be used when determining whether costs are beyond the control of a TNSP and are therefore excluded from the scheme. ETNOF also sought allowance of TNSPs to propose additional exclusions as part of their revenue cap determinations.

ESCOSA

ESCOSA submitted that drawing distinctions between efficiencies that result from business initiatives and those outside the control of the regulated firm is desirable but noted this is difficult to achieve in practice. ESCOSA recommends an administratively simple scheme that does not draw such distinctions.

EnergyAustralia

EA submitted that the scheme should not apply to operating expenditure costs not forecast at the time of the revenue cap decision. EA suggested there may be specific types of opex that are exogenous, which may not be consistent with the nature of opex more generally. EA recommended that the AER should develop a non-exhaustive list of exclusions, or classes of exclusions, to the scheme.

AER response

As noted by the ESCV:

> For the rewards implicit in the efficiency carryover to reflect the cost of providing the distribution services, it is important that the reported expenditure information is calculated on the same basis as the expenditure forecasts against which it is compared.[5]

Therefore, in calculating the efficiency carryover amounts, adjustments are needed for either the reported expenditure or the original benchmarks of TNSPs to ensure consistency between the estimated benchmarks and the costs incurred in providing transmission services.

The ESCV, in its 2005–10 determination, adjusted the benchmarks for changes in capitalisation policy and differences between forecast and actual demand growth. The ESCV also made a number of adjustments to the actual expenditures to ensure consistency between forecasts and actual expenditures, including adjustments for changes to cost allocation polices, the use of contractual arrangements, errors and other similar adjustments.

The AER similarly has defined a number of default adjustments, including changes to capitalisation policy, growth and pass-through events. But rather than seek to define every category of adjustment that the AER will employ in the administration of the scheme, the AER considers it reasonable to allow a regulated business to also propose specific items that ought be excluded from the operation of the scheme. These exclusions will apply where those items are identifiable and it is accepted by the AER that their inclusion may distort the proper functioning of this scheme.

AER decision

The AER has decided to apply additional adjustments on a propose respond basis. Under this option a set of default adjustments (such as for changes to capitalisation policy, growth and pass-through events) will apply and TNSPs will be able to propose other adjustments for consideration by the AER during the regulatory determination process.

---

5 Essential Services Commission of Victoria, *Electricity distribution price review2006–10: Final decision*, vol. 1, ESCV, Melbourne, 2005, p. 149.

3.5 Treatment of pass-throughs

The ESCOSA submission agreed that expenditure treated as a pass-through should not be subjected to the scheme.

AER decision

The AER maintains the position of the first proposed scheme that pass-through events should be excluded from the scheme.

3.6 Capital expenditure

ESCOSA encouraged the extension of the scheme to include capex as well as opex.

MEU stated that there is 'Little incentive for businesses to minimise capex. Capex allowances are likely to be gamed. Any capex incentive scheme under the current regime is ineffective'.

AER response

Based on a review of other carryover schemes, adjustments to forecast opex due to changes in capitalisation policy were the largest adjustments made in calculating carry-over amounts. The issue of inappropriate capitalisation is essentially part of adjusting forecast expenditure issue and inappropriate capitalisation set out above.

The AER does not believe that the scheme is intended to or should apply to capex. The NER as drafted refers only to operating expenditure. While the AER consider any inappropriate incentives to capitalise operating expenditure, this is not a reference to capital expenditure. The AER may revisit this issue in a future revision of the guideline but does not consider it appropriate in the near term based on the current NER.

The NER for transmission businesses requires that 'in developing and implementing the scheme, the AER must have regard to … any incentives that TNSPs may have to inappropriately capitalise operating expenditure'.

To adequately scrutinise TNSP capitalisation policies, the AER will require TNSPs to report on any changes in capitalisation policies, detailing why the changes were made and their likely affect on opex.

Quite apart from inappropriate capitalisation, increased capitalisation can occur to improve efficiency. Such capitalisation will obviously significantly affect TNSP opex outcomes. In these instances the AER will adjust opex benchmarks for the changes in capitalisation policies, so that opex outcomes are comparable to the benchmarks set.

AER decision

The AER does not intend that the scheme will apply to capex but will require TNSPs to thoroughly explain any changes in capitalisation policies.

3.7 Effectiveness of the scheme

A number of submissions raised the effectiveness of the scheme.

CitiPower and Powercor

CPP submitted that the effectiveness of a benefit sharing ratio should be measured in the context of any assumptions made with respect to productivity factors included within the expenditure forecasts. CPP recommend that the AER considers the Ofwat approach to ensure that the incentives for network service providers to continue to pursue efficiency gains remain strong.

CPP believe all efficiencies, except for those related to growth, should be considered management-induced and believes the arguments to support the modified 'rule of thumb' to be highly persuasive. The businesses believe the AER should adopt the same approach as that applied by the ESCV in its *Electricity distribution price review 2006–10: Final decision*.

ESCOSA

ESCOSA recommended a symmetric scheme. It suggested that an asymmetric system does not provide continuous incentives for the regulated business to achieve efficiencies.

EnergyAustralia

EA submitted that the objective of the scheme should be to provide incentives for TNSPs to bring forward future efficiencies to maximise their NPV benefit to all consumers via the sharing mechanism. The scheme should be constructed in a way that provides TNSPs with the incentive to reveal potential efficiencies earlier, rather than delaying review until un-forecast events or cost pressures emerge.

EA submitted that the scheme in its current form will achieve the objective of maximising benefits for consumers, while rewarding the TNSP for its efforts.

AER response

The scheme is intended to provide ongoing incentives to TNSPs to achieve efficiency gains when the opportunity arises. The AER considers, after carefully considering all submissions and views, that the symmetrical treatment of gains and losses is an essential design element of the scheme. A major concern that could arise with the operation of this scheme is an under-estimation of efficient revenue in the next regulatory period to meet the opex needs of a business. This risk will be greatly diminished by planned adjustments to account for variations in major uncontrollable factors—such as new responsibilities, demand growth variance and pass-through events. TNSPs will also be able to propose additional categories of uncontrollable costs for consideration by the AER as part of their revenue proposals.

AER decision

The AER has decided to apply all negative and positive carryovers.

The AER has also decided to adjust for differences from the benchmark assumptions such as growth, capitalisation policies and pass-throughs to ensure the productivity estimate is on a 'like' for 'like' basis.

By deciding to provide consistent and continuous incentives, the AER has ensured that the scheme does not bias the time at which efficiencies are taken.

3.8 Revenue at risk

The MEU suggested that the TNSP should select the amount of revenue to be at risk, and not the AER. The AER can suggest a starting point, but the TNSP should have the right to select its own limit of revenue at risk, capping this for the first reset after the current period, at 3 per cent of revenue. At the following review, the 5 per cent limit should be set.

AER response

The AER does not consider the issue of revenue at risk to be applicable in that the scheme compares actuals with forecasts and is therefore not capped in the event of over-expenditure, but on the downside is effectively capped at 100 per cent.

AER decision

The issue of revenue at risk is not applicable to this scheme. Although it is theoretically possible to set limits on both the upside and downside risk, the AER is not aware of any basis for doing so nor has it any evidence to assess the potential impact on the incentive were it to do so. Therefore, the AER has decided not to apply the concept of revenue at risk.

3.9 Real versus nominal values

In its submission, ETNOF argued that the first proposed scheme did not provide constant incentives over time and that the TNSP receives a greater share of efficiency gains achieved in the later years of the regulatory period. ETNOF's arguments were based on the example of the calculation provided in the first proposed scheme guideline. This example was in nominal terms and the calculation of the incremental gain/loss for a given year failed to inflate the previous years under/overspend for inflation. Thus the calculated incremental gains included not only the gains from efficiency improvements but also gains from inflation.

AER decision

The AER will calculate the scheme in real terms (see attachment A of the guideline). This makes calculating the scheme simpler.

Calculation of the scheme in nominal terms is less clear and less transparent than calculating it on a real basis.

All inflation adjustments and real values will be calculated consistent with the methodology used for adjusting for inflation in the corresponding determination.

3.10 Treatment of the fifth year gains or losses

While there were no submissions on the handling of fifth year gains, the AER has decided to change its approach to this issue to improve the operation of the scheme. When the forecasts for the next regulatory period and the carryover amounts are calculated, the actuals for the fifth year of the current period are typically unknown.

To address this issue the first proposed scheme guideline stated that:

> the AER will estimate the actual operating expenditure required to calculate gains or losses for the final year of the current period using information provided by the TNSP. Where differences arise between this estimate and the actual expenditure amount of the final year, this will be accounted for through an appropriate adjustment agreed to by the AER and the TNSP.

The AER considered adopting the approach taken by ESCV for dealing with gains made in the fifth year. In its final determination for distribution businesses for the 2006–10 regulatory period, the ESCV assumed that:

$$A_5 = A_4 - (F_4 - F_5)$$

This method ensures that the incremental carryover amount for year five is always zero. However, without any other adjustments, gains or losses made in the fifth year would not be recognised and would, in affect, be carried over for six years instead of five. As a result the incentive to make efficiency gains would not be continuous over the entire regulatory period.

To address this issue, the AER will also adjust the efficiency gain/loss in the first year of the following regulatory period using the following formula:

$$E_6 = (F_6 - A_6) - (F_5 - A_5) + (F_4 - A_4)$$

These two steps in combination ensure that efficiency gains/losses made in the final year of a regulatory period are carried over for five years and that TNSPs face a continuous incentive to make efficiency gains across the entire regulatory period.

AER decision

The AER has decided to equate the fifth year actuals so that the efficiency gain in the fifth year is equal to zero. To ensure efficiency gains/losses made in the fifth year are not ignored, they will be incorporated in the calculation of the efficiency gain for the first year of the following period. This method ensures that TNSPs face a constant incentive to make efficiency gains across the entire regulatory period. This method is considered to be administratively simpler than estimating fifth year actuals and making the appropriate adjustments to carryover amounts at the subsequent reset.

Appendix A—Submissions

The following interested parties provided submissions on the AER's first proposed efficiency benefit sharing scheme:

- Alinta
- APA Group
- CitiPower and Powercor
- Electricity Transmission Network Owners Forum
- Energex
- EnergyAustralia
- Essential Services Commission of South Australia
- Major Energy Users Inc.
- Energy Action Group

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

Appendix B—Efficiency benefit sharing scheme