



Framework and approach paper

Directlink

Regulatory control period commencing 1 July 2015

January 2014

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Shortened forms

Shortened Form	Extended Form
AEMC	Australian Energy Market Commission
AER	Australian Energy Regulator
capex	capital expenditure
CESS	capital expenditure sharing scheme
current regulatory control period	1 July 2006 to 30 June 2015
EBSS	efficiency benefit sharing scheme
F&A	framework and approach
MAR	maximum allowable revenue
MIC	market impact component
NCC	network capability component
NEM	National Electricity Market
NER or the Rules	National Electricity Rules
NCIPAP	network capability incentive parameter action plan
opex	operating expenditure
NSW	New South Wales
RAB	regulatory asset base
STPIS	service target performance incentive scheme
TNSP	transmission network service provider

About the framework and approach paper

The Australian Energy Regulator (AER) is the economic regulator for transmission and distribution services in Australia's national electricity market (NEM). We are an independent statutory authority, funded by the Australian Government. Our powers and functions are set out in the National Electricity Law (NEL) and National Electricity Rules (the Rules or NER).

The framework and approach (F&A) paper is the first step in a process to determine efficient prices for electricity transmission services. The F&A determines the broad nature of any regulatory arrangements that will apply in this process. It also facilitates early public consultation and assists network service providers to prepare revenue proposals.

Directlink is a licensed, regulated operator of the monopoly high voltage electricity interconnector linking the NSW transmission network with the Queensland transmission network. The current ten year regulatory control period for Directlink concludes on 30 June 2015.

On 29 November 2013 the Australian Energy Market Commission (AEMC) published changes to the rules governing network regulation. The new rules require us to set out our approach to network regulation under the new framework in a series of guidelines. We commenced the Better Regulation program on 18 December 2012 to consult on our approach and published our final guidelines in November and December 2013. We will apply the majority of these guidelines in the upcoming revenue determination process.

The NER requires us to publish an F&A paper for Directlink by 31 January 2014. As required under the Rules, this F&A paper sets out our proposed approach for the next regulatory control period on the application of the following:

- service target performance incentive scheme
- operating expenditure efficiency benefit sharing scheme
- capital expenditure sharing scheme
- expenditure forecast assessment guidelines, and
- whether depreciation will be based on forecast or actual capital expenditure in updating the regulatory asset base.

Following release of the F&A paper, Directlink will submit a revenue proposal by 31 May 2014 for its regulatory control period commencing on 1 July 2015. Table 1 summarises the transmission determination process as it relates to Directlink.

Table 1 Directlink transmission determination process

Step	Date
AER to publish F&A paper for Directlink	31 January 2014
Directlink submits revenue proposal to AER	31 May 2014
Submissions on revenue proposal close	August 2014 **
AER to publish draft transmission determination	November 2014 *
AER hold public forum on draft transmission determination	December 2014 **
Directlink to submit revised revenue proposal to AER	January 2015
Submissions on revised revenue proposal and draft determination close	February 2015
AER to publish transmission determination for regulatory control period	April 2015

Source: NER, chapter 6A, Part E

Notes: * The NER does not provide specific timeframes in relation to publishing draft decisions. Accordingly, this date is indicative only.

** The dates provided for submissions and the public forum are based on the AER receiving compliant proposals. These dates may alter if the AER receives non-compliant proposals.

Part A: Overview

This F&A covers how we propose to apply a range of incentive schemes and other guidelines to Directlink as well as our approach to calculating depreciation. The positions we set out in this F&A paper are not binding on the AER or Directlink.¹ This means it is open to the AER to change its position on matters set out in this F&A paper where there is reason to change, for example, because of changed circumstances.

Incentive schemes encourage TNSPs to manage their businesses in a safe, reliable manner that benefits the long term interests of consumers. The schemes also provide TNSPs with incentives to spend efficiently and to meet or exceed service quality/reliability targets. In some instances, TNSPs may incur a financial penalty if they fail to meet set targets. The overall objectives of the schemes are to:

- encourage appropriate levels of service quality
- maintain network reliability as appropriate
- incentivise TNSPs to spend efficiently on capital expenditure (capex) and operating expenditure (opex)
- share efficiency gains and losses between TNSPs and consumers
- incentivise TNSPs to consider economically efficient alternatives to augmenting their networks.

We summarise the specific schemes below and provide an overview of our expenditure forecast assessment guideline and approach to calculating depreciation.

Service target performance incentive scheme

Our national service target performance incentive scheme (STPIS) provides a financial incentive to TNSPs to maintain and improve service performance. The STPIS aims to safeguard service quality for customers that may otherwise be affected as TNSPs seek out cost efficiencies.

We propose to apply version 4 of the STPIS to Directlink for its next regulatory control period. However, we note that Directlink suffered damage to part of its transmission asset caused by a fire that occurred in August 2012. The operational effects of that damage are ongoing. Therefore, it may not be appropriate to apply Directlink's recent performance data to set its performance targets for the next regulatory control period. Accordingly, we may consider whether a review and amendment to the scheme would be appropriate for application to that period.

Efficiency benefit sharing scheme

The operating expenditure efficiency benefit sharing scheme (EBSS) aims to provide a continuous incentive for TNSPs to pursue efficiency improvements in opex, and provide for a fair sharing of these between TNSPs and network users. Consumers benefit from improved efficiencies through lower regulated prices in the future.

¹ NER, clause 6A.10.1A(f).

As part of our Better Regulation program we consulted on and published version 2 of the EBSS. We propose to apply this new EBSS to Directlink in the next regulatory control period.

Capital expenditure sharing scheme

The capital expenditure sharing scheme (CESS) provides financial rewards for TNSPs whose capex becomes more efficient and financial penalties for those that become less efficient. Consumers benefit from improved efficiency through lower regulated prices in the future.

As part of our Better Regulation program we consulted on and published version 1 of the capital expenditure incentive guideline for electricity network service providers (capex incentive guideline) which sets out the CESS. We propose to apply the CESS to Directlink in the next regulatory control period.

Expenditure forecast assessment guidelines

As part of our Better Regulation program we consulted on and published our expenditure forecast assessment guideline for electricity transmission (expenditure assessment guideline). The expenditure assessment guideline is based on a nationally consistent reporting framework allowing us to compare the relative efficiencies of TNSPs and decide on efficient expenditure allowances. Our proposed approach is to apply the expenditure assessment guideline, including the information requirements, to Directlink in the next regulatory control period.

The guideline outlines a suite of assessment/analytical tools and techniques to assist our review of Directlink's revenue proposal. We intend to apply the assessment techniques set out in the guideline relating to TNSPs.

Depreciation

As part of the roll forward methodology, when a TNSP's regulatory asset base (RAB) is updated from forecast capex to actual capex at the end of a regulatory period, it is also adjusted for depreciation. The depreciation we use to roll forward the RAB can be based on either actual capex incurred during the regulatory control period, or the capex allowance forecast at the start of the regulatory control period. The choice of depreciation approach is one part of the overall capex incentive framework. The incentive based regulatory framework provides benefits to consumers from improved efficiencies through lower regulated prices.

We propose to use forecast depreciation to establish the RAB for the regulatory control period commencing in 2020 for Directlink.

Small-scale incentive scheme

The Rules provide that we may develop small-scale incentive schemes.² At this stage, we have not developed any such schemes to encourage more efficient investment or operation of networks, as may be envisaged under this provision of the NER. For this reason, we do not propose to apply a small-scale incentive scheme to Directlink.

² NER, clause 6A.7.5.

Part B: Attachments

41 Service target performance incentive scheme

This attachment sets out our proposed approach and reasons on how we intend to apply the STPIS to Directlink in its regulatory control period.

The AER creates, administers and maintains the STPIS in accordance with the requirements of the NER. The purpose of the STPIS is to provide incentives to TNSPs to provide greater transmission network reliability when network users place greatest value on reliability, and improve and maintain the reliability of the elements of the transmission network most important to determining spot prices.³ In Directlink's case the STPIS can result in a maximum revenue increment or decrement of up to three per cent of its MAR in a regulatory year.⁴

The STPIS works as part of the building block determination.⁵ As part of the revenue determination, we make a decision on the application of the STPIS to a TNSP for the regulatory control period and the values associated with the applicable STPIS parameters.⁶ In each regulatory year the TNSP's MAR is adjusted based on its performance against the STPIS parameters in the previous calendar year.

The STPIS is part of incentive based regulation we use across all energy networks we regulate. The incentives provided by the CESS and EBSS for cost efficiencies are balanced with the incentive to improve service standards provided by the STPIS.

The STPIS must:

- provide incentives for each TNSP to:⁷
 - provide greater reliability of the transmission system that is owned, controlled or operated by it at all times when transmission network users place greatest value on the reliability of the transmission system
 - improve and maintain the reliability of those elements of the transmission system that are most important to determining spot prices
- result in a potential adjustment to the revenue TNSP may earn, from the provision of prescribed transmission services, in each regulatory year in respect of which the STPIS applies
- ensure that the maximum revenue increment or decrement as a result of the operation of the STPIS will fall within a range that is between 1 per cent and 5 per cent of the MAR for the relevant regulatory year
- take into account the regulatory obligations or requirements with which TNSPs must comply
- take into account any other incentives provided for in the Rules that TNSPs have to minimise capital or operating expenditure; and

³ NER, clause 6A.7.4(b)(1).

⁴ NER, clause 6A.7.4(b)(3).

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

⁶ NER, clause 6A.4.2(5); 6A.14.1(1)(iii).

⁷ NER, clause 6A.7.4(b).

- take into account the age and ratings of the assets comprising the relevant transmission system

No version of the STPIS currently applies to Directlink, however, in our 2006 decision on Directlink's revenue cap and conversion, we included a service standards performance incentive scheme for Directlink's 2005–2015 regulatory control period based on the then existing service standards guidelines.⁸ In 2007, we introduced our first STPIS which we have periodically amended. In 2012, we conducted a comprehensive review of the STPIS for TNSPs, publishing our final decision, version 4, on 20 December 2012.

In developing version 4 of the STPIS we had regard to the requirements of the rules, as set out in our final decision on the STPIS published in December 2012.⁹ Under an incentive based regulation framework, TNSPs have an incentive to reduce costs. Cost reductions are beneficial to TNSP's and customers where service performance is maintained or improved. However, cost efficiencies achieved at the expense of service performance standards are not desirable. Version 4 of the STPIS seeks to ensure that increased financial efficiency does not result in deterioration of service performance for customers.

41.1 Proposed approach

We propose to apply version 4 of the STPIS to Directlink for the next regulatory control period.

However, we are concerned that application of the STPIS in its current form to Directlink may produce incentive targets that do not promote the National Electricity Objective (NEO).¹⁰ In particular, under the current STPIS, the MIC performance targets are set using the rolling average of three previous calendar years of actual performance data.¹¹ However, it may not be appropriate to apply Directlink's recent performance data to set its performance targets for the next regulatory control period. This is discussed further in the reasons below. Accordingly, we may consider whether a review and amendment to the STPIS would be appropriate prior to the commencement of Directlink's next regulatory control period on 1 July 2015.

With respect to other elements of the STIPS:

- We propose to apply the service component of version 4 of the STPIS in the next regulatory control period (expected to be 2015–20). We will set out in Directlink's transmission determination the applicable parameter values for its regulatory control period. The sub-parameters specific to Directlink for the average circuit outage rate parameter will apply and the weightings for each parameter/sub-parameter specific to Directlink will apply.
- The NCC of version 4 does not apply to Directlink.¹²
- The maximum allowed revenue that Directlink can earn in each regulatory year will be adjusted according to its performance against the values included in its transmission determination, as assessed by us in accordance with the scheme.

⁸ AER, *Decision, DJV revenue cap and conversion*, March 2006, appendix B, p.37.

⁹ AER, *Final decision, TNSP service target performance incentive scheme*, version 4, 19 December 2012.
¹⁰ NEL, section 7.

¹¹ AER, *Electricity TNSP, STPIS*, December 2012, clause 4.2(d) and Appendix F.

¹² AER, *STPIS*, version 4, clause 2.2a.

41.2 Reasons for proposed approach

In general, we consider the amendments to the STPIS as incorporated in version 4 improve the scheme's incentives for TNSPs to:

- provide greater reliability of the transmission system that is owned, controlled or operated by it at all times when network users place greatest value on the reliability of the transmission system; and
- improve and maintain the reliability of those elements of the transmission system that are most important to determining spot prices.

For these reasons, we consider version 4 of the STPIS should apply to Directlink.

Service component

The service component of the STPIS incentivises TNSPs to maintain and improve network availability and reliability by measuring performance against certain parameters. Under this component of the scheme, a TNSP can receive a revenue increment or decrement of up to one per cent of its MAR for the regulatory year.

A TNSP receives a financial incentive (reward) in proportion to the extent its annual performance exceeds its performance target (calculated as the s-factor). If the TNSP fails to meet its performance target, it incurs a financial penalty in proportion to the extent its annual performance does not meet the performance target.

Version 4 of the STPIS amended the service component parameters to focus more on unplanned outages, including a new parameter focusing on proper operation of equipment. Performance against these parameters can be used as a lead indicator of a deterioration of network reliability.¹³

The scheme contains definitions for each parameter. The definitions specify the applicable sub-parameters, unit of measure, source of performance data, the formula for measuring performance, definitions of relevant terms, inclusions (which specify particular equipment or events which are to be measured) and exclusions.

We will assess whether Directlink's proposed performance targets, caps, collars and weightings comply with the version 4 STPIS requirements for:¹⁴

- average circuit outage rate, with two sub-parameters:
 - circuit outage rate – fault
 - circuit outage rate – forced outage
- proper operation of equipment, with three sub-parameters:
 - failure of protection system
 - material failure of supervisory control and data acquisition (SCADA) system

¹³ AER, *Final decision, TNSP service target performance incentive scheme*, version 4, 19 December 2012, p. 13.

¹⁴ AER, *Electricity TNSP, STPIS*, version 4, December 2012, clause 3.1.

- incorrect operational isolation of primary or secondary equipment.

We must accept Directlink's proposed parameter values if they comply with the requirements of the STPIS.¹⁵ We may reject them if they are inconsistent with the objectives of the STPIS.¹⁶

Market impact component

The market impact component (MIC) provides financial rewards to TNSPs for improvements in their performance measured against a performance target. A TNSP may earn an additional revenue increment of up to 2 per cent of its MAR. Unlike the service component, the MIC has no financial penalty.

The MIC provides an incentive to TNSPs to minimise the impact of transmission outages that can affect the NEM spot price. It measures performance against the market impact parameter, which is number of dispatch intervals where an outage on the TNSP's network results in a network outage constraint with a marginal value greater than \$10/MWh.¹⁷

In version 4 of the STPIS, the MIC the annual performance target is the rolling average of performance history over the three previous calendar years. Thus, unlike the MIC of version 2, the annual performance target is not fixed at the time of the revenue determination but is adjusted each year based on the most recent three years of performance. Actual performance is measured annually and is the rolling average of the two most recent calendar years.

A rolling target and actual performance measure provides a tighter incentive to ensure outages on prescribed assets have limited impact on wholesale spot market outcomes. Further, a rolling target ensures the target is relevant to the TNSP's current maintenance and construction activities and limits the incentive for TNSPs to engage in strategic behaviour to influence the outcomes of the scheme.

In August 2012, Directlink's transmission asset was damaged as a result of a fire that occurred at its Mullumbimby site. During 2013, Directlink took part of its transmission asset out of the transmission network while it took action to repair the damage caused by the fire and to minimise the likelihood of further damage. That work is ongoing. As a result, Directlink has been operating at substantially less than capacity for the past 18 months.

The STPIS annual incentive targets are set by reference to a TNSP's performance in the previous calendar year(s). Ordinarily, a rolling target ensures the benchmark for setting performance targets is relevant to the TNSP's current maintenance and construction activities. However, we consider these particular circumstances atypical. Directlink's current maintenance and construction activities are not 'business as usual' maintenance and construction activities but rather the result of damage caused by the fire.

In these circumstances, Directlink's past performance may not reflect an appropriate benchmark for setting its performance targets. To apply the current STPIS to Directlink's recent historical performance may distort the quality/reliability incentives for Directlink for the next regulatory control period. Consequently, we may consider whether a review and amendment of the STPIS would be appropriate before the commencement of the next regulatory control period in order to ensure that the NEO is promoted by the application of the scheme.

¹⁵ AER, *Electricity TNSP, STPIS*, version 4, December 2012, clause 3.2(a).

¹⁶ AER, *Electricity TNSP, STPIS*, version 4, December 2012, clause 3.2(m).

¹⁷ AER, *Electricity TNSP, STPIS*, version 4, December 2012, appendix C

Network capability component

The NCC does not apply to Directlink, as per clause 2.2a of the STPIS.

42 Efficiency benefit sharing scheme

The efficiency benefit sharing scheme (EBSS) aims to provide a continuous incentive for TNSPs to pursue efficiency improvements in opex, and provide for a fair sharing of these between TNSPs and network users. Consumers benefit from improved efficiencies through lower regulated prices in the future. Directlink is currently not subject to the EBSS.

This attachment sets out our proposed approach and reasons on how we intend to apply the EBSS to Directlink in its next regulatory control period.

42.1 Proposed approach

We propose to apply version 2 of the EBSS¹⁸ to Directlink in its next regulatory control period. In summary, this will include:

- the formulae for calculating efficiency gains and losses
- our approach to adjustments to forecast or actual opex when calculating carryover amounts
- our approach to determining the carryover period.

The EBSS must provide for a fair sharing between TNSPs and network users of opex efficiency gains and efficiency losses.¹⁹ We must also have regard to the following factors in developing and implementing the EBSS:²⁰

- the need to ensure that benefits to electricity consumers likely to result from the scheme are sufficient to warrant any reward or penalty under the scheme
- the need to provide service providers with a continuous incentive to reduce opex
- the desirability of both rewarding service providers for efficiency gains and penalising service providers for efficiency losses
- any incentives that service providers may have to capitalise expenditure
- the possible effects of the scheme on incentives for the implementation of non-network alternatives.

42.2 Reasons for proposed approach

As part of our Better Regulation program we consulted on and published the new EBSS, taking into account the requirements of the Rules. The new EBSS merges the distribution and transmission schemes. Changes in the new EBSS relate to the criteria for adjustments and exclusions under the scheme.²¹ We may also exclude categories of opex not forecast using a single year revealed cost approach from the scheme on an ex post basis if doing so better achieves the requirements of the Rules. We also amended the scheme to provide flexibility to account for any adjustments made to

¹⁸ AER, *Efficiency benefit sharing scheme*, 29 November 2013.

¹⁹ NER, clause 6A.6.5(a).

²⁰ NER, clause 6A.6.5(b).

²¹ We will no longer allow for specific exclusions such as uncontrollable opex or for changes in opex due to unexpected increases or decreases in network growth. We may also exclude categories of opex not forecast using a single year revealed cost approach from the scheme on an ex post basis if doing so better achieves the requirements of the rules.

base year opex to remove the impacts of one-off factors. The new EBSS also clarifies how we will determine the carryover period. These revisions affect how we will calculate carryover amounts for future regulatory control periods.²²

In developing the new EBSS we had regard to the requirements under the Rules, as set out in the scheme and accompanying explanatory statement.²³ This reasoning extends to the factors we must have regard to in implementing the scheme. The EBSS must provide for a fair sharing of efficiency gains and losses.²⁴ Under the scheme, TNSPs and consumers receive a benefit where a TNSP reduces its costs during a regulatory control period and both bear some of any increase in costs.

Under the EBSS, positive and negative carryovers reward and penalise TNSPs for efficiency gains and losses, respectively.²⁵ The EBSS provides a continuous incentive for TNSPs to achieve opex efficiencies throughout the regulatory control period. This is because the TNSP receives carryover payments so it retains any efficiency gains or losses it makes within the regulatory period for the length of the carryover period. This is regardless of the year in which it makes the gain or loss.²⁶

This continuous incentive to improve efficiency encourages efficient and timely opex throughout the regulatory control period, and reduces the incentive for a TNSP to inflate opex in the expected base year. This provides an incentive for TNSPs to reveal their efficient opex which, in turn, allows us to better determine efficient opex forecasts for future regulatory control periods.

The EBSS also leads to a fair sharing of efficiency gains and losses between TNSPs and consumers. For instance the combined effect of our forecasting approach and the EBSS is that opex efficiency gains or losses are shared approximately 30:70 between TNSPs and consumers. This means for a one dollar efficiency saving in opex the TNSP keeps 30 cents of the benefit while consumers keep 70 cents of the benefit.

Example 2.1 shows how the EBSS operates. It illustrates how the benefits of a permanent efficiency improvement are shared approximately 30:70 between a network service provider and consumers.

²² AER, *Efficiency benefit sharing scheme*, 29 November 2013.

²³ AER, *Efficiency benefit sharing scheme*, 29 November 2013; AER, *Explanatory statement, Efficiency benefit sharing scheme for electricity network service providers*, 29 November 2013.

²⁴ NER, clause 6A.6.5(a).

²⁵ NER, clauses 6A.6.5(b) and 6A.6.5(a).

²⁶ NER, clause 6A.6.5(b)(1).

Example 42.1 How the EBSS operates

Assume that in the first regulatory period, a network service provider's forecast opex is \$100 million per annum (p.a.).

Assume that during this period the service provider delivers opex equal to the forecast for the first three years. Then, in the fourth year of the regulatory period, the service provider implements a more efficient business practice for maintaining its assets. As a result, the service provider will be able to deliver opex at \$95 million p.a. for the foreseeable future.

This efficiency improvement affects regulated revenues in two ways:

1. Through forecast opex. If we use the penultimate year of the regulatory period to forecast opex in the second regulatory period, the new forecast will be \$95 million p.a. If the efficiency improvement is permanent, all else being equal, forecast opex will also be expected to be \$95 million p.a. in future regulatory periods.
2. Through EBSS carryover amounts. The service provider receives additional carryover amounts so that it receives exactly six years of benefits from an efficiency improvement. Because the service provider has made an efficiency improvement of \$5 million p.a. in Year 4, to ensure it receives exactly six years of benefits, it will receive annual EBSS carryover amounts of \$5 million in the first four years (Years 6 to 9) of the second regulatory period.

As a result of these effects, the service provider will benefit from the efficiency improvement in Years 4 to 9. This is because the annual amount the service provider receives through the forecast opex and EBSS building blocks (\$100 million) is more than what it pays for opex (\$95 million) in each of these years.

Consumers benefit from Year 10 onwards after the EBSS carryover period has expired. This is because what consumers pay through the forecast opex and EBSS building blocks (\$95 million) is lower from Year 10 onwards.

Table 2 provides a more detailed illustration of how the benefits are shared between service providers and consumers over time.

(Example 2.1 continued)

Table 2 Example of how the EBSS operates

	Regulatory period 1					Regulatory period 2					Future
Year	1	2	3	4	5	6	7	8	9	10	
Forecast (F_t)	100	100	100	100	100	95	95	95	95	95	95 p.a.
Actual (A_t)	100	100	100	95	95	95	95	95	95	95	95 p.a.
Underspend ($F_t - A_t = U_t$)	0	0	0	5	5	0	0	0	0	0	0 p.a.
Incremental efficiency gain ($I_t = U_t - U_{t-1}$)	0	0	0	5	0	0*	0	0	0	0	0 p.a.
Carryover (I_1)		0	0	0	0	0					
Carryover (I_2)			0	0	0	0	0				
Carryover (I_3)				0	0	0	0	0			
Carryover (I_4)					5	5	5	5	5		
Carryover (I_5)						0	0	0	0	0	
Carryover amount (C_t)						5	5	5	5	0	0 p.a.
Benefits to NSP ($F_t - A_t + C_t$)	0	0	0	5	5	5	5	5	5	0	0 p.a.
Benefits to consumers ($F_t - (F_t + C_t)$)	0	0	0	0	0	0	0	0	0	5	5 p.a.
Discounted benefits to NSP**	0	0	0	5	4.7	4.5	4.2	4.0	3.7	0	0
Discounted benefits to consumers**	0	0	0	0	0	0	0	0	0	3.5	58.8***

Notes: * At the time of forecasting opex for the second regulatory period we don't know actual opex for year 5. Consequently this is not reflected in forecast opex for the second period. That means an underspend in year 6 will reflect any efficiency gains made in both year 5 and year 6. To ensure the carryover rewards for year 6 only reflect incremental efficiency gains for that year we subtract the incremental efficiency gain in year 5 from the total underspend. In the example above, $I_6 = U_6 - (U_5 - U_4)$.

** Assumes a real discount rate of 6 per cent.

*** As a result of the efficiency improvement, forecast opex is \$5 million p.a. lower in nominal terms. The estimate of \$58.7m is the net present value of \$5 million p.a. delivered to consumers annually from year 11 onwards.

Table 3 sums the discounted benefits to NSPs and consumers from the bottom two rows of Table 2. As illustrated below, the benefits of the efficiency improvement are shared approximately 30:70 in perpetuity between the service provider and consumers.

Table 3 Sharing of efficiency gains—Year 4 forecasting approach, with EBSS

(a)	(b) NPV of benefits of efficiency improvement ¹	(c) Percentage of total benefits
(d) Benefits to service provider	(e) \$26.1 million	(f) 30 per cent
(g) Benefits to consumers	(h) \$62.3 million	(i) 70 per cent
(j) Total	(k) \$88.3 million	(l) 100 per cent

In implementing the EBSS we must also have regard to any incentives TNSPs may have to capitalise expenditure.²⁷ Where opex incentives are balanced with capex incentives, a TNSP does not have an incentive to favour opex over capex, or vice-versa. The CESS is a symmetric capex scheme with a 30 per cent incentive power. This is consistent with the incentive power for opex when we use an unadjusted base year approach in combination with an EBSS. During the regulatory control period when the CESS and EBSS are applied, incentives will be relatively balanced, and TNSPs should not have an incentive to favour opex over capex or vice versa. The CESS is discussed further in attachment 3.

We must also consider the possible effects of implementing the EBSS on incentives for non-network alternatives:²⁸

- Expenditure on non-network alternatives generally takes the form of opex rather than capex. Successful non-network alternatives should result in the TNSP spending less on capex than it otherwise would have.
- Both the CESS and EBSS will apply in the regulatory control period. As a result a TNSP has an incentive to implement a non-network alternative if the increase in opex is less than the corresponding decrease in capex. In this way, the TNSP will receive a net reward for implementing the non-network alternative.²⁹ This is because the rewards and penalties under the EBSS and CESS are balanced and symmetric. In the past where the EBSS operated without a CESS, we excluded expenditure on non-network alternatives when calculating rewards and penalties under the scheme. This was because TNSPs may otherwise receive a penalty for increasing opex without a corresponding reward for decreasing capex.³⁰

²⁷ NER, clause 6A.6.5(b)(3).

²⁸ NER, clause 6A.6.5(b)(4).

²⁹ When the TNSP spends more on opex it receives a 30 per cent penalty under the EBSS. However, when there is a corresponding decrease in capex the TNSP receives a 30 per cent reward under the CESS. So where the decrease in capex is larger than the increase in opex the TNSP receives a larger reward than penalty, a net reward.

³⁰ Without a CESS the reward for capex declines over the regulatory period. If an increase in opex corresponded with a decrease in capex, the off-setting benefit of the decrease in capex depends on the year in which it occurs.

43 Capital expenditure sharing scheme

The capital expenditure sharing scheme (CESS) provides financial rewards for TNSPs whose capex becomes more efficient and financial penalties for those that become less efficient. Consumers benefit from improved efficiency through lower regulated prices in the future. This attachment sets out our proposed approach and reasons for how we intend to apply the CESS to Directlink in its regulatory control period.

The CESS approximates efficiency gains and efficiency losses by calculating the difference between forecast and actual capex. It shares these gains or losses between TNSPs and network users.

The CESS works as follows:

- We calculate the cumulative underspend or overspend for the current regulatory control period in net present value terms.
- We apply the sharing ratio of 30 per cent to the cumulative underspend or overspend to work out what the TNSP's share of the underspend or overspend should be.
- We calculate the CESS payments taking into account the financing benefit or cost to the TNSP of the underspends or overspends.³¹ We can also make further adjustments to account for deferral of capex and ex post exclusions of capex from the RAB.
- The CESS payments will be added or subtracted to the TNSP's regulated revenue as a separate building block in the next regulatory control period.

Under the CESS a TNSP retains 30 per cent of an underspend or overspend, while consumers retain 70 per cent of the underspend on overspend. This means that for a one dollar saving in capex the TNSP keeps 30 cents of the benefit while consumers keep 70 cents of the benefit.

43.1 Proposed approach

We propose to apply the CESS as set out in our capex incentives guideline to Directlink in its next regulatory control period.³²

In deciding whether to apply a CESS to a TNSP, and the nature and details of any CESS to apply to a TNSP, we must:³³

- make that decision in a manner that contributes to the capex incentive objective³⁴
- consider the CESS principles,³⁵ *capex objectives*,³⁶ other incentive schemes, and where relevant the *opex objectives*, as they apply to the particular TNSP, and the circumstances of the TNSP.

³¹ We calculate benefits as the benefits to the TNSP of financing the underspend since the amount of the underspend can be put to some other income generating use during the period. Losses are similarly calculated as the financing cost to the TNSP of the overspend.

³² AER, *Capital expenditure incentive guideline for electricity network service providers*, pp. 5–9.

³³ NER, clause 6A.6.5A.

³⁴ NER, clause 6A.5A(a); the capex criteria are set out in clause 6A.6.7(c)(1)–(3) of the NER.

³⁵ NER, clause 6A.6.5A(c).

³⁶ NER, clause 6A.6.7(a).

Broadly, the capex incentive objective is to ensure that only capex that meets the capex criteria enters the RAB used to set prices. Therefore, consumers only fund capex that is efficient and prudent.

43.2 Reasons for proposed approach

We propose to apply the CESS to Directlink in its regulatory control period as we consider this will contribute to the capex incentive objective.³⁷

TNSPs are currently not subject to a CESS. As part of our Better Regulation program we consulted on and published version 1 of the capex incentives guideline which sets out the CESS.³⁸ The guideline specifies that in most circumstances we will apply a CESS, in conjunction with forecast depreciation to roll-forward the RAB.³⁹ We also propose to apply forecast depreciation, which is discussed further in attachment 5 below.

In developing the CESS we took into account the capex incentive objective, capex criteria, capex objectives, and the CESS principles. We also developed the CESS to work alongside other incentive schemes that apply to TNSPs including the EBSS and STPIS.

For capex, the sharing of underspends and overspends happens at the end of each regulatory period when we update a TNSP's RAB to include new capex. If a TNSP spends less than its approved forecast during a period, it will benefit within that period. Consumers benefit at the end of that period when the RAB is updated to include less capex compared to if the TNSP had spent the full amount of the capex forecast. This leads to lower prices in the future.

Without a CESS the incentive for a TNSP to spend less than its forecast capex declines throughout the period.⁴⁰ Because of this a TNSP may choose to spend capex earlier, or on capex when it may otherwise have spent on opex, or less on capex at the expense of service quality—even if it may not be efficient to do so.

With the CESS a TNSP faces the same reward and penalty in each year of a regulatory control period for capex underspends or overspends. The CESS will provide TNSPs with an ex ante incentive to spend only efficient capex. TNSPs that make efficiency gains will be rewarded through the CESS. Conversely, TNSPs that make efficiency losses will be penalised through the CESS. In this way, TNSPs will be more likely to incur only efficient capex when subject to a CESS, so any capex included in the RAB is more likely to reflect the capex criteria. In particular, if a TNSP is subject to the CESS, its capex is more likely to be efficient and to reflect the costs of a prudent TNSP.

When the CESS, EBSS and STPIS apply to TNSPs the incentives for improvements in opex, capex and service outcomes are more balanced. This encourages businesses to make efficient decisions on when and what type of expenditure to incur, and to efficiently trade off expenditure reductions with service quality and reliability.

³⁷ NER, clause 6A.5A(a); the capex criteria are set out in clause 6A.6.7(c) of the NER.

³⁸ AER, *Capital expenditure incentive guideline for electricity network service providers*, pp. 5–9.

³⁹ AER, *Capital expenditure incentive guideline for electricity network service providers*, pp. 10–11.

⁴⁰ As the end of the regulatory period approaches, the time available for the TNSP to retain any savings gets shorter. So the earlier a TNSP incurs an underspend in the regulatory period, the greater its reward will be.

44 Expenditure forecast assessment guideline

This attachment sets out our intention to apply our expenditure forecast assessment guideline (guideline)⁴¹ including the information requirements to Directlink for the next regulatory control period. We propose applying the guideline as it sets out our new expenditure assessment approach developed and consulted upon during the Better Regulation program. The guideline outlines for TNSPs and interested stakeholders the types of assessments we will do to determine efficient expenditure allowances, and the information we require from the businesses to do so.

We were required to develop the guideline under the Rules.⁴² The guideline is based on a nationally consistent reporting framework allowing us to compare the relative efficiencies of TNSPs and decide on efficient expenditure allowances. The Rules⁴³ required Directlink to advise us by 30 November 2013 of the methodology it proposes to use to prepare forecasts.⁴⁴ In the F&A we must set out our proposed approach to application of the guideline.⁴⁵ This will provide clarity to Directlink and assist it with the information it should include in its regulatory proposal.

The guideline contains a suite of assessment/analytical tools and techniques to assist our review of revenue proposals by network service providers. We intend to apply some of the assessment techniques set out in the guideline. The techniques include:⁴⁶

- benchmarking (economic techniques and category analysis)
- methodology review
- governance and policy review
- predictive modelling
- trend analysis
- cost benefit analysis
- detailed project review (including engineering review).

We developed the guideline to apply broadly to all electricity transmission and distribution businesses. However, given the smaller scale of Directlink's assets and nature of its network operations we do not intend applying standardised benchmarking analysis (including top down economic benchmarking or driver-based benchmarks) or predictive modelling in assessing its capex and opex forecasts. Our proposed approach for opex will involve consideration of revealed costs and the 'base-step-trend' approach. For capex, our proposed approach will involve detailed reviews of Directlink's asset management practices and specific projects. Consequently, the information we will seek from Directlink through the regulatory information notice will not include the same standardised data on expenditures and related benchmarking measures that are set out in the guideline.

⁴¹ We published this guideline on 29 November 2013. It can be located at www.aer.gov.au/node/18864.

⁴² NER, clauses 6.4.5, 6A.5.6, 11.53.4 and 11.54.4.

⁴³ NER, clauses 6A.10.1B(b)(1) and 11.58.4(n).

⁴⁴ Directlink advised the AER of its proposed methodology in November 2013.

⁴⁵ NER, clause 6A.10.1A(b)(5).

⁴⁶ AER, *Expenditure assessment guideline for electricity transmission*, 29 November 2013, pp. 12-13.

45 Depreciation

As part of the roll forward methodology, when the RAB is updated from forecast capex to actual capex at the end of a regulatory control period, it is also adjusted for depreciation. This attachment sets out our proposed approach to calculating depreciation when the RAB is rolled forward to the commencement of the 2015 regulatory control period.

The depreciation we use to roll forward the RAB can be based on either:

- Actual capex incurred during the regulatory control period (actual depreciation). We roll forward the RAB based on actual capex less the depreciation on the actual capex incurred by the TNSP; or
- The capex allowance forecast at the start of the regulatory control period (forecast depreciation). We roll forward the RAB based on actual capex less the depreciation on the forecast capex approved for the regulatory control period.

The choice of depreciation approach is one part of the overall capex incentive framework.

Consumers benefit from improved efficiencies through lower regulated prices. Where a CESS is applied, using forecast depreciation provides the incentives for TNSPs to pursue continuous capex efficiencies. Using actual depreciation increases these incentives. There is more information on depreciation as part of the overall capex incentive framework in our capex incentives guideline.⁴⁷ In summary:

- If there is a capex overspend, actual depreciation will be higher than forecast depreciation. This means that the RAB will increase by a lesser amount than if forecast depreciation were used. So, the TNSP will earn less revenue into the future (i.e. it will bear more of the cost of the overspend into the future) than if forecast depreciation had been used to roll forward the RAB.
- If there is a capex underspend, actual depreciation will be lower than forecast depreciation. This means that the RAB will increase by a greater amount than if forecast depreciation were used. Hence, the TNSP will earn greater revenue into the future (i.e. it will retain more of the benefit of an underspend into the future) than if forecast depreciation had been used to roll forward the RAB.

The incentive from using actual depreciation to roll forward the RAB also varies with the life of the asset. Using actual depreciation will provide a stronger incentive for shorter lived assets compared to longer lived assets. Forecast depreciation, on the other hand, leads to the same incentive for all assets.

45.1 Proposed approach

We propose to use the forecast depreciation approach to establish the RAB at the commencement of the 2020 regulatory control period for Directlink. We consider this approach will provide sufficient incentives for the Directlink to achieve capex efficiency gains over the next regulatory control period.

⁴⁷ AER, *Capital expenditure incentive guideline for electricity network service providers*, pp. 10–11.

In the F&A paper, we must set out our proposed approach as to whether we will use actual or forecast depreciation to establish a TNSP's RAB at the commencement of the following regulatory control period.⁴⁸

We are required to set out in our capex incentives guideline our process for determining which form of depreciation we propose to use in the RAB roll forward process.⁴⁹ Our decision on whether to use actual or forecast depreciation must be consistent with the capex incentive objective. We must have regard to:⁵⁰

- any other incentives the service provider has to undertake efficient capex
- substitution possibilities between assets with different lives
- the extent of overspending and inefficient overspending relative to the allowed forecast
- the capex incentive guideline
- the capital expenditure factors.

45.2 Reasons for proposed approach

Consistent with our capex incentives guideline, we propose to use the forecast depreciation approach to establish the RAB at the commencement of the next regulatory control period.

We had regard to the relevant factors in the rules in developing the approach to choosing depreciation set out in our capex incentives guideline.⁵¹

Our approach is to apply forecast depreciation except where:

- there is no CESS in place and therefore the power of the capex incentive may need to be strengthened, or
- a TNSP's past capex performance demonstrates evidence of persistent overspending or inefficiency, thus requiring a higher powered incentive.

In making our decision on whether to use actual depreciation in either of these circumstances we will consider:

- the substitutability between capex and opex and the balance of incentives between these
- the balance of incentives with service outcomes
- the substitutability of assets of different asset lives.

We have chosen forecast depreciation as our proposed approach because, in combination with the CESS, it will provide a 30 per cent reward for capex underspends and 30 per cent penalty for capex overspends, which is consistent for all asset classes. In developing our capex incentives guideline, we considered this to be a sufficient incentive for a TNSP to achieve efficiency gains over the regulatory control period in most circumstances.

⁴⁸ NER, clause S6A.2.2B.

⁴⁹ NER, clause 6A.5A(b)(3).

⁵⁰ NER, clause S6A.2.2B.

⁵¹ AER, *Capital expenditure incentive guideline for electricity network service providers*, pp. 12–13.

As discussed in attachment 3, Directlink is not currently subject to a CESS but we propose to apply the CESS in the next regulatory control period.

For Directlink, at this stage, we consider the incentive provided by the application of the CESS in combination with the use of forecast depreciation and our other ex post capex measures should be sufficient to achieve the capex incentive objective.⁵²

⁵² Our ex post capex measures are set out in the capex incentives guideline, AER *capex incentives guideline*, pp. 13–19; the guideline also sets out how all our capex incentive measures are consistent with the capex incentive objective, AER *capex incentives guideline*, pp. 20–21.

46 Small scale incentive scheme

The Rules provide that we may develop small-scale incentive schemes to test innovative approaches to incentives.⁵³ Small scale incentive schemes are intended to provide for incentives for improved performance not already covered by the existing incentive schemes in the Rules and may cover matters not related to expenditure by TNSPs.⁵⁴

We have not yet developed any such schemes. Therefore, in this F&A paper we are not proposing to apply any such schemes to Directlink.

⁵³ NER, clause 6A.7.5. AEMC, *Final determination, National Electricity Amendment (Economic Regulation of Network Service Providers) Rule*, November 2012, p. 13

⁵⁴ AEMC, *Final determination, National Electricity Amendment (Economic Regulation of Network Service Providers) Rule*, November 2012, p. 212