



Draft decision

Directlink transmission determination

2015-16 to 2019-20

Attachment 7: Operating expenditure

November 2014

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Note

This attachment forms part of the AER's draft decision on Directlink's revenue proposal 2015–20. It should be read with other parts of the draft decision.

The draft decision includes the following documents:

Overview

Attachment 1 – maximum allowed revenue

Attachment 2 – regulatory asset base

Attachment 3 – rate of return

Attachment 4 – value of imputation credits

Attachment 5 – regulatory depreciation

Attachment 6 – capital expenditure

Attachment 7 – operating expenditure

Attachment 8 – corporate income tax

Attachment 9 – efficiency benefit sharing scheme

Attachment 10 – capital expenditure sharing scheme

Attachment 11 – service target performance incentive scheme

Attachment 12 – pricing methodology and negotiated services

Attachment 13 – pass through events

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Shortened forms

Shortened form	Extended form
AARR	aggregate annual revenue requirement
AEMC	Australian Energy Market Commission
AEMO	Australian Energy Market Operator
AER	Australian Energy Regulator
ASRR	aggregate service revenue requirement
augex	augmentation expenditure
capex	capital expenditure
CCP	Consumer Challenge Panel
CESS	capital expenditure sharing scheme
CPI	consumer price index
DRP	debt risk premium
EBSS	efficiency benefit sharing scheme
ERP	equity risk premium
MAR	maximum allowed revenue
MRP	market risk premium
NEL	national electricity law
NEM	national electricity market
NEO	national electricity objective
NER	national electricity rules
NSP	network service provider
NTSC	negotiated transmission service criteria

opex	operating expenditure
PPI	partial performance indicators
PTRM	post-tax revenue model
RAB	regulatory asset base
RBA	Reserve Bank of Australia
repex	replacement expenditure
RFM	roll forward model
RIN	regulatory information notice
RPP	revenue pricing principles
SLCAPM	Sharpe-Lintner capital asset pricing model
STPIS	service target performance incentive scheme
TNSP	transmission network service provider
TUoS	transmission use of system
WACC	weighted average cost of capital

7 Operating expenditure

Operating expenditure (opex) refers to the operating, maintenance and other non-capital expenses, incurred in the provision of network services. Forecast opex for prescribed transmission services is one of the building blocks we use to determine a service provider's total revenue requirement.

7.1 Draft decision

We are not satisfied that Directlink's forecast opex reasonably reflects the opex criteria.¹ We therefore have not accepted the forecast opex Directlink has included in its building block proposal.² Our substitute estimate of Directlink's opex for the 2015–20 period, which we consider reasonably reflects the opex criteria, is outlined in table 7.1.³

Table 7.1 AER draft decision on Directlink's total opex (\$million 2014–15)

	2015–16	2016–17	2017–18	2018–19	2019–20	Total
Directlink's proposal	5.8	5.1	5.2	5.2	5.2	26.5
AER draft decision	3.9	3.2	3.2	3.2	3.2	16.7
Difference (\$million)	1.9	2.0	2.0	2.0	2.0	9.9
Difference (%)	-33.2%	-38.4%	-38.0%	-38.6%	-38.3%	-37.2%

Source: Directlink, proposal; AER analysis

7.2 Directlink's proposal

Directlink proposed a forecast opex of \$26.5 million for the 2015–20 period. The proposed opex is \$8.7 million (or 50 per cent) higher than the actual opex over the 2009–14 period.⁴

The increase in Directlink's proposed opex comes mostly from increases in operating and maintenance expenditure (an increase of \$3.3 million or 25 per cent), insurance (an increase of \$4.7 million or 200 per cent) and the commercial services fee (an increase of \$0.6 million or 31 per cent).⁵ There is also a 50 per cent increase in the margin which APA Operations receives for operating Directlink. This reflects that the management fee is a percentage of all costs incurred by Directlink, including operating and maintenance and insurance costs (see figure 7.1).

Directlink submitted that the Mullumbimby converter station fire is the driver of the increase in both the operating and maintenance costs and the insurance costs.

¹ NER, cl 6.5.6(c)

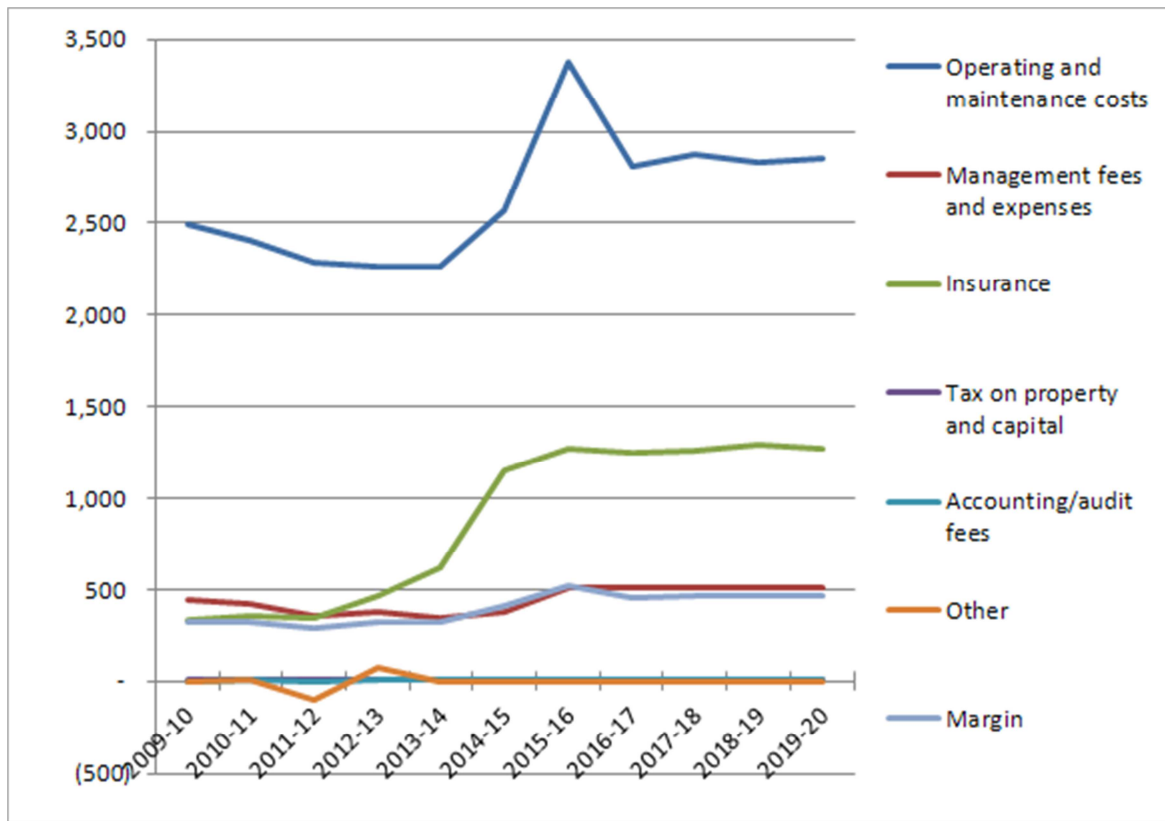
² NER, cl 6.5.6(d)

³ NER, cl 6.12.1(4)(ii)

⁴ Directlink, *Revenue proposal*, May 2014, Directlink Regulatory Information Notice Templates.xlsx; 2014-15 is excluded as it is a forecast year.

⁵ Directlink, *Revenue proposal*, May 2014, pp. 70-76.

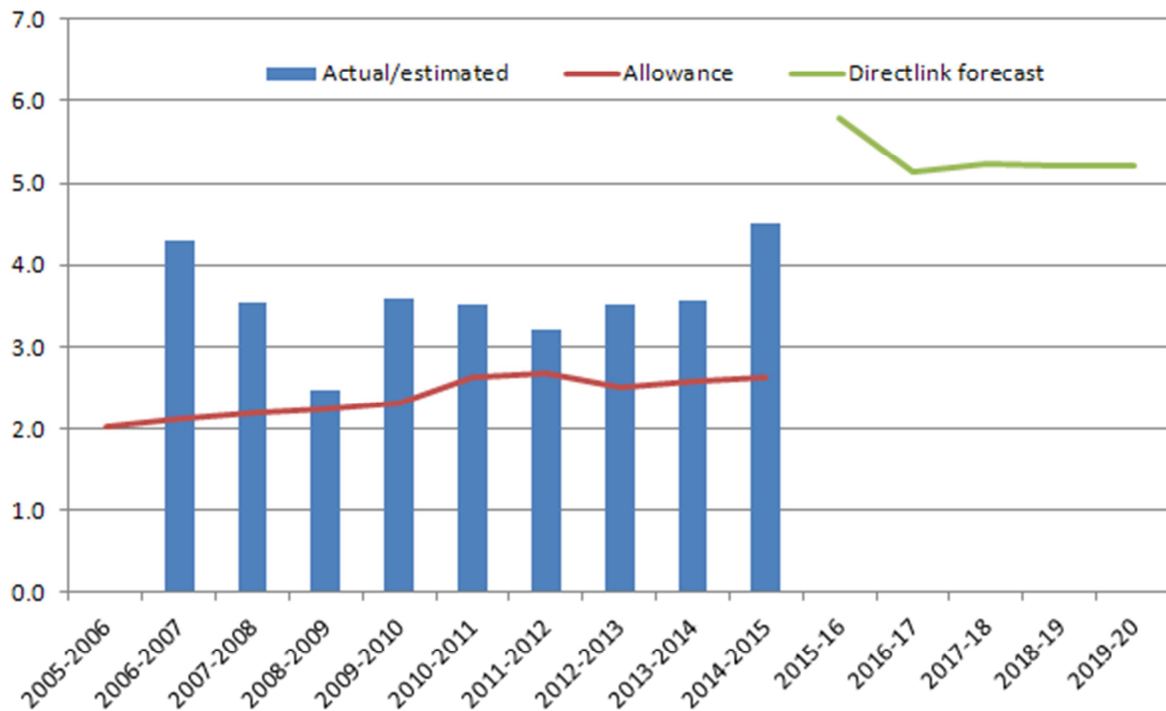
Figure 7.1 Opex components (\$'000, real \$2013-14)



Source: Directlink, AER analysis

Figure 7.2 shows Directlink's annual actual and forecast opex from 2005-06 to 2019-20 compared to the AER allowance.

Figure 7.2 Directlink’s actual/estimated and proposed opex, 2005-06 to 2019-20^(a) (\$ million, 2014–15)



Source: Directlink, Regulatory Proposal, May 2014, RIN; AER analysis.
 Note: (a) 2014-15 is an estimate, not an actual.

7.3 AER's assessment approach

We assess whether or not to accept the service provider's total forecast operating expenditure. We accept the service provider's forecast if we are satisfied that it reasonably reflects the opex criteria.⁶ If we are not satisfied, we replace it with a total forecast opex that we are satisfied does reasonably reflect the opex criteria.⁷

The service provider's forecast is intended to cover the expenditure that will be needed to achieve the operating expenditure objectives. These objectives are to:⁸

- (1) meet or manage the expected demand for prescribed transmission services over the regulatory control period
- (2) comply with all applicable regulatory obligations or requirements associated with providing prescribed transmission services
- (3) where there is no regulatory obligation or requirement, to maintain the quality, reliability and security of supply of prescribed transmission services and maintain the reliability and security of the transmission system.

⁶ NER, clauses 6A.6.6(c), 6A.14.1(3)

⁷ NER, clauses NER, clause 6A.6.6(d), 6A.13.2(b)(3), 6A.14.1(3)(ii)

⁸ NER, cl. 6A.6.6(e), 6A.14.1(3)(ii).

- (4) maintain the safety of the transmission system through the supply of prescribed transmission services.

We must assess the proposed total forecast opex against the opex criteria set out in the NER. The opex criteria provide that the total forecast must reasonably reflect:⁹

- (1) the efficient costs of achieving the operating expenditure objectives; and
- (2) the costs that a prudent operator would require to achieve the operating expenditure objectives; and
- (3) a realistic expectation of the demand forecast and cost inputs required to achieve the operating expenditure objectives.

The Australian Energy Market Commission (AEMC) noted that '[t]hese criteria broadly reflect the NEO [National Electricity Objective]'.¹⁰

In deciding whether or not we are satisfied the service provider's forecast reasonably reflects the opex criteria we must have regard to the opex factors.¹¹

The opex factors are also set out exhaustively in the NER. The opex factors we must have regard to are:

- the most recent annual benchmarking report that has been published under clause 6A.31 and the benchmark operating expenditure that would be incurred by an efficient Transmission Network Service Provider over the relevant regulatory control period;
- the actual and expected operating expenditure of the Transmission Network Service Provider during any preceding regulatory control periods;
- the extent to which the operating expenditure forecast includes expenditure to address the concerns of electricity consumers as identified by the Transmission Network Service Provider in the course of its engagement with electricity consumers;
- the relative prices of operating and capital inputs;
- the substitution possibilities between operating and capital expenditure;
- whether the operating expenditure forecast is consistent with any incentive scheme or schemes that apply to the Transmission Network Service Provider under clauses 6A.6.5, 6A.7.4 or 6A.7.5;
- the extent the operating expenditure forecast is referable to arrangements with a person other than the Transmission Network Service Provider that, in the opinion of the AER, do not reflect arm's length terms;
- whether the operating expenditure forecast includes an amount relating to a project that should more appropriately be included as a contingent project under clause 6A.8.1(b);
- the most recent NTNDP and any submissions made by AEMO, in accordance with the Rules, on the forecast of the Transmission Network Service Provider's required operating expenditure;

⁹ NER, clause 6A.6.6(c),

¹⁰ AEMC, Final Rule Determination: National Electricity Amendment (Economic Regulation of Network Service Providers) Rule 2012, 29 November 2012, p. 113.

¹¹ NER, clause 6A.6.6, 6A.14.1(3)(ii).

- the extent to which the Transmission Network Service Provider has considered and made provision for efficient and prudent non-network alternatives;
- any relevant project assessment conclusions report required under 5.16.4 ; and
- any other factor the AER considers relevant and which the AER has notified the Transmission Network Service Provider in writing, prior to the submission of its revised Revenue Proposal under clause 6A.12.3, is an operating expenditure factor.

For this determination, there are no additional operating expenditure factors that we will take into account under this last clause.

The Expenditure Forecast Assessment Guideline

We issued an Expenditure Forecast Assessment Guideline (our Guideline) in November 2013. Our Guideline sets out our intended approach to assessing operating expenditure in accordance with the NER.¹² After conducting an extensive consultation process with service providers, users, consumers and other interested stakeholders, we issued our guideline together with an explanatory statement.¹³

We may depart from the approach set out in the Guideline but if we do so we have to give reasons for doing so. In our Framework and Approach paper for each service provider, we set out our intention to apply our Guideline approach in making this determination.¹⁴

Our approach is to compare the service provider's total forecast opex with an alternative estimate that we develop ourselves.¹⁵ By doing this we form a view on whether we are satisfied that the service provider's proposed total forecast reasonably reflects the criteria. If we conclude the proposal does not reasonably reflect the opex criteria, we use our estimate as a substitute forecast. This approach was expressly endorsed by the AEMC in its decision on the major rule changes that were introduced in November 2012. The AEMC stated:¹⁶

While the AER must form a view as to whether a NSP's proposal is reasonable, this is not a separate exercise from determining an appropriate substitute in the event the AER decides the proposal is not reasonable. For example, benchmarking the NSP against others will provide an indication of both whether the proposal is reasonable and what a substitute should be. Both the consideration of "reasonable" and the determination of the substitute must be in respect of the total for capex and opex.

Our estimate is unlikely to exactly match the service provider's forecast because the service provider may not adopt the same forecasting method. However, if the service provider's inputs and assumptions are reasonable, its method should produce a forecast consistent with our estimate. Accordingly, part of our approach is to assess the service provider's forecasting method.

If a service provider's total forecast opex is materially different to our estimate and there is no satisfactory explanation for this difference, we may form the view that the service provider's forecast does not reasonably reflect the opex criteria. Conversely, if our estimate demonstrates that the

¹² NER cl 6A.5.6

¹³ AER, *Expenditure forecasting assessment guideline - explanatory statement*, November 2013

¹⁴ AER, Framework and approach paper - Directlink, Regulatory control period commencing 1 July 2015, January 2014.

¹⁵ AER, Expenditure forecast assessment guideline, November 2013, p. 7.

¹⁶ AEMC, Final Rule Determination: National Electricity Amendment (Economic Regulation of Network Service Providers) Rule 2012, 29 November 2012, p. 112.

service provider's forecast reasonably reflects the expenditure criteria, we will accept the forecast.¹⁷ Whether or not we accept a service provider's forecast, we will provide the reasons for our decision.¹⁸

Building an alternative estimate of total forecast opex

Our usual approach to forming an alternative estimate of opex involves five key steps:

1. We typically use the service provider's actual opex in a single year as the starting point for our assessment. While categories of opex can vary from year to year, total opex is relatively recurrent.
2. We assess whether expenditure in that base year reasonably reflects the opex criteria. We now have a number of different techniques including economic benchmarking, by which can test the efficiency of expenditure in the base year. If necessary, we make an adjustment to the base year expenditure to ensure that it reflects the opex criteria. We can utilise the same techniques available to assess the efficiency of base year opex as to make an adjustment of base year opex.
3. As opex tends to change over time due to input price changes, output and productivity we trend the adjusted base year expenditure forward over the regulatory control period to take account of those changes. We refer to this as the rate of change.
4. We then adjust the base year expenditure to account for any other forecast cost changes over the forthcoming regulatory control period that would meet the opex criteria. This may be due to new regulatory obligations and efficient capex/opex trade-offs. We call these step changes.
5. Finally we add any additional opex components which have not been forecast using this approach. For instance, we forecast debt raising costs based on the costs incurred by a benchmark efficient service provider. If we removed a category of opex from the selected base year, we will need to consider what additional opex is needed for this category in forecasting total opex.

Underlying our approach are two general assumptions:

- the efficiency criterion and the prudence criterion in the NER are complementary, and
- past actual expenditure was sufficient to achieve the expenditure objectives in the past.

We have used this general approach in our past decisions. It is a well-regarded top-down forecasting model for regulatory purposes that have been employed by a number of Australian regulators over the last fifteen years. We refer to it as a 'revealed cost method' in our Guideline (and we have sometimes referred to it as the base-step-trend method in our past regulatory decisions).

Comparing the service provider's proposal with our estimate

Having established our estimate of total forecast opex we can test the service provider's proposed total forecast opex. Obviously, this includes comparing our alternative total with the service provider's total forecast opex. However, it also includes assessing whether the service provider's forecasting method, assumptions, inputs and models are reasonable, and assessing the service provider's explanation of how that method results in a prudent and efficient forecast.

¹⁷ NER, clauses 6A.6.6(c),

¹⁸ NER, clauses 6A.14.2,

The service provider may be able to adequately explain any apparent differences between its forecast and our estimate. Necessarily, we can only determine this on a case by case basis using our regulatory judgment.

This approach is supported by the AEMC’s decision when implementing the changes to the NER in November 2012. The Commission stated:¹⁹

‘the AER could be expected to approach the assessment of a NSP’s expenditure (capex or opex) forecast by determining its own forecast of expenditure based on the material before it. Presumably this will never match exactly the amount proposed by the NSP. However there will be a certain margin of difference between the AER’s forecast and that of the NSP within which the AER could say that the NSP’s forecast is reasonable. What the margin is in a particular case, and therefore what the AER will accept as reasonable, is a matter for the AER exercising its regulatory judgment.’

A summary of the opex factors and how we take them into account

An important change to the NER, following the rule change in November 2012, relates to the opex factors we must have regard to when making our decisions. Not only have the opex factors been altered but they have been changed into an exhaustive list of the factors that we must take into account.

While we have regard to each factor, we attach different weight to different factors when making our decision to best achieve the National Electricity Objective. This approach has been neatly summarised by the AEMC as follows:²⁰

‘As mandatory considerations, the AER has an obligation to take the capex and opex factors into account, but this does not mean that every factor will be relevant to every aspect of every regulatory determination the AER makes. The AER may decide that certain factors are not relevant in certain cases once it has considered them.’

We make reference to the factors throughout this chapter and the related appendixes where they are relevant. However, for transparency and ease of reference, we have included the below table, which summarises how we have had regard to each of the opex factors in our assessment.

Opex factor^(a)	AER’s consideration
Annual benchmarking report and the benchmark opex that would be incurred by an efficient TNSP over the relevant regulatory control period	The annual benchmarking report does not capture information relating to Directlink.
Actual and expected opex of the TNSP during any preceding regulatory control periods	In assessing Directlink’s bottom up forecast we had regard to actual opex in the preceding regulatory control period. In assessing the efficiency of the opex we also had regard to trends in total level opex.
Extent to which the opex forecast includes expenditure to address concerns of electricity consumers as identified by the TNSP in the course of its engagement with electricity consumers	Directlink’s proposed opex forecast does not identify any concerns raised by electricity consumers.

¹⁹ AEMC, Final Rule Determination: National Electricity Amendment (Economic Regulation of Network Service Providers) Rule 2012, 29 November 2012, p.112.

²⁰ AEMC, Final Rule Determination: National Electricity Amendment (Economic Regulation of Network Service Providers) Rule 2012, 29 November 2012, p. 115.

Opex factor ^(a)	AER's consideration
The relative prices of operating and capital inputs	We considered the relative prices of operating and capital inputs in assessing Directlink's proposed bottom up build of costs.
The substitution possibilities between operating and capital expenditure	We considered whether there are more efficient and prudent trade-offs in investing more or less in capital in place of ongoing operating and maintenance expenditure.
The opex forecast is consistent with any incentive scheme or schemes that apply to the TNSP	We considered what incentive schemes applied in the previous regulatory control period in assessing Directlink's opex forecast. We also considered what incentive schemes should apply in the forthcoming regulatory control period in setting our forecasts. For example, we considered how the allowed opex provides for higher reliability targets when applying the STPIS.
The extent the opex forecast is referable to arrangements with a person other than the TNSP that do not reflect arm's length terms	If we identify costs incurred to related party businesses, we examine whether this adversely affects the TNSP's opex forecast. We consider that APA Group is a related party to Directlink and have considered this in assessing any influence on Directlink's opex forecast.
Whether the opex forecast includes an amount relating to a project that should more appropriately be included as a contingent project	We did not identify any projects that would more appropriately be included as a contingent project.
The most recent NTNDP and any submissions made by AEMO on the forecast of the TNSPs required opex	We examined these factors and took them into account in considering whether the proposed total forecast opex reasonably reflects the opex criteria.
The extent to which the TNSP has considered and made provision for efficient and prudent non-network alternatives	We identified any non-network alternatives to ensure that they are properly reflected in the total forecast opex.
Any relevant project assessment conclusions report required under cl.5.16.4	We are unaware of any RIT-T project being submitted by Directlink.
Any other factor the AER considers relevant and which the AER has notified the TNSP in writing, prior to the submission of its revised Revenue Proposal under cl.6A.12.3, is an opex factor	No other factors are notified by the AER.

Source: AER analysis

Note: (a) The opex factors are set out in NER cl. 6A.6.6(e).

7.4 Inter-relationships

In assessing Directlink's total forecast opex we took into account other components of its regulatory proposal, including:

- the trade-off between potential capex and opex solutions in our assessment of operating and maintenance costs (see section 7.5.2)

- the effect of forecast capex and operating and maintenance costs on reducing likely insurance costs (see section 7.5.3).

7.5 Reasons for draft decision

We are not satisfied that Directlink's total forecast opex reasonably reflects the opex criteria. We reached this conclusion after undertaking our analysis using a bottom up calculation of expenditure. When we compare Directlink's total forecast opex with our estimate of the efficient opex a prudent operator would require to achieve the opex objectives, its proposal is materially higher such that it does not reasonably reflect the opex criteria.

The key areas of difference between our alternative estimate of total opex and Directlink's proposed forecast total opex are:

1. Operating and maintenance expenditure. Application of our assumptions in place of Directlink's accounts for \$3.6 million (2013–14) of the difference between Directlink's proposed opex and our estimate.
2. Insurance expenditure. Application of our assumptions and allocation method in place of Directlink's accounts for \$4.5 million (2013–14) of the difference between Directlink's proposed opex and our estimate.
3. The magnitude of the margin. Application of our calculated margin in place of Directlink's accounts for \$0.9 million (2013–14) of the difference between Directlink's proposed opex and our estimate.
4. Commercial services fee cost allocation. Application of our allocation method in place of Directlink's accounts for \$0.8 million (2013–14) of the difference between Directlink's proposed opex and our estimate.

Table 7.2 summarises the quantum of the difference between Directlink's proposed total forecast opex and our alternative estimate.

Table 7.2 AER draft decision on Directlink's total opex (\$million 2014–15)

	2015–16	2016–17	2017–18	2018–19	2019–20	Total
Directlink's proposal	5.8	5.1	5.2	5.2	5.2	26.5
AER draft decision	3.9	3.2	3.2	3.2	3.2	16.7
Difference	1.9	2.0	2.0	2.0	2.0	9.9

Source: Directlink, Revenue proposal, May 2014; AER analysis.

Our reasons are set out in more detail below.

7.5.1 Forecasting method

As outlined in the assessment approach section above, our preferred forecasting approach is to apply our 'revealed cost method'. This approach is able to be applied in most circumstances as:

- Total opex is broadly recurrent over time. This means that using a recent year of actual opex incurred provides a good starting point (the base year) for forecasting opex in the forthcoming

regulatory control period. Most service providers have an EBSS and STPIS in operation. The operation of these incentive schemes provides a reasonable basis for the starting assumption that revealed costs are efficient. We can test that the base year is efficient and make any adjustments for expenditure which was not prudent and efficient or is not reflective of the recurrent expenditure required in the forecast period.

- The rate of change captures the main drivers of efficient opex over time (changes in input prices, output and productivity).
- Any other efficient costs not captured in the base year or the rate of change factors, can be assessed as step changes.

Directlink proposed a bottom-up build for forecasting its opex. Directlink submitted that due to a number of reasons it was not able to select a base year over the current regulatory control period which was representative of forecast recurrent expenditure. The reasons stated were:²¹

- 2013-14 — Circuits 2 and 3 have been offline since August 2013 and are not expected to be back online until January 2014. Directlink submitted that normal operations and maintenance costs are not reflected in the actual operating costs during this period.
- 2012-13 — Due to a fire in the Mullumbimby converter station, it has been offline since August 2012. As above, Directlink submitted that normal operations and maintenance costs are not reflected in the actual operating costs during this period.
- Up to 2011-12 — Directlink submitted that earlier years are not reflective of future operating costs due to a change in contracting from an outsourcing to insourcing model. Transfield operated the interconnector up to 30 June 2012. Direct stated that Transfield terminated the contract on 1 July 2012 due to the peaky nature of workload and remote work location. APA Group has operated the business since then.

We considered whether to apply our usual revealed cost forecasting method to assess Directlink's opex proposal. Given the specific circumstances of Directlink's recent operational history, we considered that assessing the efficiency and prudence of Directlink's proposed expenditure by using a bottom up assessment approach was appropriate. The specific factors relevant to Directlink are as follows:

- The method for arriving at a robust base year forecast. Directlink did not have an EBSS in place in the current regulatory control period. We could not therefore rely on the starting assumption that a recent single year of actual expenditure is efficient. Under the revealed cost method, a service provider will have an incentive to inflate costs in the expected base year in the case where an EBSS is not in place. This will increase its forecast opex in the next regulatory control period. In the case where an EBSS has not been in place, it is especially important that we test the efficiency of any base year. Due to the different scale and operations of Directlink, it is not easily comparable to other TNSPs. We are not able to apply the same benchmarking techniques to Directlink that we are able to apply to the other TNSPs. In the absence of benchmarking information and the observed variability in actual opex in recent years, we would need to undertake a bottom up review of all the opex categories to test that the base year is efficient and reflective of recurrent costs.

²¹ Directlink, *Revenue proposal*, May 2014, pp. 56-58.

- Consistency of forecasting method with incentive schemes. One of the key considerations in choosing to not apply a revealed cost approach when a NSP has an EBSS in place is the impact on fair sharing of efficiency gains and losses between service providers and consumers. When there is an EBSS in place there is the potential for service providers to make windfall gains under the EBSS from choosing to depart from using a revealed cost approach to forecast opex. As Directlink does not have an EBSS in place, this consequence does not influence our choice of forecasting approach in this case.
- Adjusting for Directlink being off-line and operational changes. Directlink experienced some significant operational factors that means historical opex may not be reflective of recurrent, efficient opex. Firstly, various parts of the Directlink's asset have been offline for prolonged durations in recent years. Secondly, significant changes are required in how the asset is managed in order to accord with good electricity industry practice post the fire in the Mullumbimby converter station. We would have to make an adjustment to any chosen recent historical base year to account for these two significant factors.²² We consider that this would require an engineering assessment akin to that which is required for the assessment of the bottom-up build to properly adjust any historical base year for these factors.

Our assessment of the components of Directlink's opex forecast is detailed in the sections below.

7.5.2 Operating and maintenance costs

We have not included Directlink's proposed operating and maintenance expenditure in our alternative forecast of total opex. This is because we consider that it does not represent the efficient costs that a prudent operator would require to achieve the operating expenditure objectives.²³ Directlink has not taken into account the reduced operating and maintenance costs that will result from the approved capex expenditure and has included inefficient staff costs. We have included in our alternative opex estimate a total amount of \$11.2 million (real 2014-15) for the 2016-20 regulatory control period (see table 7.3). We are satisfied that this level of expenditure is sufficient to meet the opex objectives and criteria. The reasons for this decision are set out below.

Table 7.3 AER operating and maintenance expenditure included in alternative opex estimate (\$000s, real 2014-15)

	2015-16	2016-17	2017-18	2018-19	2019-20	Total
Direct operating and maintenance costs	2,585	1,948	2,017	1,970	1,996	10,515
ABB Service Agreement	134	134	134	134	134	669
Total operating and maintenance costs	2,719	2,082	2,151	2,104	2,130	11,184

Source: AER analysis.

²² In contrast, we did not think it necessary to adjust for a change from an outsourcing to an insourcing model.
²³ NER. cl. 6A.6.6(c)(2).

Up to 30 June 2012 APA Operations subcontracted the operation and maintenance of the Directlink asset to Transfield. From this time APA Operations has undertaken this function, apart from outsourcing some specialist functions to contractors which were previously engaged by Transfield.²⁴

Directlink proposed total direct operating and maintenance expenditure of 14.8 million for the 2016-20 regulatory control period (see table 7.4). This represents a 26 per cent increase in operating and maintenance costs for 2015-16 to 2019-20 compared with 2009-10 to 2013-14.²⁵

Table 7.4 Directlink proposed operating and maintenance expenditure (\$000s, real 2014-15, excluding APA Operations' 10 per cent margin)

	2015-16	2016-17	2017-18	2018-19	2019-20	Total
Direct operating and maintenance costs	3,248	2,677	2,747	2,697	2,722	14,091
ABB Service Agreement	134	134	134	134	134	669
Total operating and maintenance costs	3,382	2,811	2,881	2,831	2,856	14,760

Source: Directlink, Revenue proposal, May 2014, Directlink - Regulatory Information Notice Templates - May 2014.xlsx, tab '2.1 Opex'; AER analysis to remove 10 per cent margin.

Directlink submitted that the proposed increase in operating and maintenance costs is attributable to the change in its assessment of the risk associated with the Directlink asset post the Mullumbimby converter station fire. Directlink engaged Power System Consultants (PSC) to undertake a review of Directlink's compliance with good electricity industry practice (GEIP). PSC made recommendations to return risk levels to its assessed pre-fire risk in all but one risk - plant failure caused by accelerated ageing of equipment.²⁶ PSC stated that this relates to the irreversible reduction in the expected serviceable life of the phase reactors to below their 40-year design life. PSC stated that the reduction in serviceable life is due to pre-fire incidents of electrical tracking and the effects of failures and flashovers within the phase reactors. We consider that the 'igloos', which were impacted by electrical tracking and the effects of failures and flashovers, have been removed as part of the redesign of the asset. We also consider that the reactors do not contain any other components that that would have degraded as a result of electrical tracking, failures or flashovers. We therefore consider there is no evidence of a reduction in the serviceable life of the phase reactors, hence the post-fire risk level associated with plant failure is at or below pre-fire risk levels.

PSC's review was a qualitative cost benefit analysis. It did not provide a prioritisation of the recommendations in order of risk mitigation nor did it provide information on the incremental benefit in terms of risk mitigation for each additional recommendation.

²⁴ Directlink, Revenue proposal, May 2014, pp. 56-57.

²⁵ Directlink, Revenue proposal, May 2014, Directlink - Regulatory Information Notice Templates - May 2014.xlsx, tab '2.1 Opex'. 2014-15 is excluded as it is a forecast year.

²⁶ Directlink, Revenue proposal, May 2014, Attachment 9.1: PSC Consulting, Good Electricity Industry Practice Review, May 2014; Directlink, Revenue proposal, May 2014, Attachment 9.2 PSC, Directlink Operating Cost Risk and Cost-Benefit Assessment, May 2014.

Directlink engaged Phacelift Consulting Services Pty Ltd (Phacelift) to construct a bottom-up build of Directlink's forecast operating and maintenance costs based on implementing the recommendations in the PSC report.²⁷

Directlink stated that it had implemented the recommendations made in the PSC Consulting report' Good Electricity Industry Practice Review, which were reflected in the bottom up build of operating and maintenance costs.²⁸ The AER requested information that would enable it to verify the costs being incurred as a result of implementing the suggested recommendations against the costs set out in the bottom up build.²⁹ This included requests for the latest iteration of the Asset Management Plan. Directlink did not provide this information. Directlink stated that the Asset Management Plan is currently under development and that it would be provided to us following EII Board approval in November 2014.³⁰

Phacelift relied on assumptions provided by the regulatory manager and operations and maintenance manager from APA Operations regarding labour rates, labour overheads, labour and material escalation rates, contractor overtime, costs relating to IGBTs, cable joint, cable, oil filled capacitor, and the time to undertake each activity.³¹ As the assumptions are fundamental to the outcomes, and were not independently determined by Phacelift, we considered it necessary to undertake a high level engineering review of the Phacelift bottom up build.

We found that:

- Directlink has developed a strategy of replacing significant lengths of cable adjacent to a fault. We understand that this strategy has been applied for approximately the past three years and has yielded a considerable decrease in cable failures over this time. Directlink assumed a continuing cable failure rate of 12 per year.³² This assumption does not capture any improvement in the cable fault rates. This is inconsistent with the improvement of the cable fault rate observed over the last three years, which shows improvement from 16 faults in 2010 to 7.5 faults in 2013.³³ Given the change in approach to cable repair and the cable capex included in our alternative capex estimate, the cable fault rate should continue to improve. We have therefore reduced the number of cable repairs per annum to 3 in the Phacelift bottom up build for the purposes of determining our alternative estimate.
- The three new roles proposed by Directlink (Senior Reliability Engineer, Works Practices Specialist and Works Planner) are not required. Drawing on our internal technical engineering expertise, we consider that the current engineering position is sufficient, when considered in conjunction with the ABB service agreement, to meet the condition monitoring, provision of asset

²⁷ Directlink, Revenue proposal, May 2014, pp. 60-65; Directlink, Revenue proposal, May 2014, Attachments 09 3 Phacelift Bottom up cost study.pdf and 09 3 Phacelift O&M Model (final).xlsx (confidential).

²⁸ Directlink, Response to Information request OPEX 01, received 29 August 2014, p. 1.

²⁹ AER, Information request OPEX 01, sent 11 August 2014, question 1; AER, Information request OPEX 03, sent 11 September 2014, question 7. As the operator of Directlink, APA Operations is required to submit for EII approval a detailed operating plan and budget for the impending calendar year and a less detailed operating plan and budget forecast for the next five years under the Management, Operations and Maintenance and Commercial Services Agreement between EII and APA Operations. The MOMSCA states at clause 8.2 (a) that "[t]he Operator must provide to the Owner draft Asset Management Plans for the following Calendar Year at least 8 months before the start of the next Calendar Year in each year".

³⁰ Directlink Response to information request OPEX 0

³¹ Directlink, Revenue proposal, May 2014, pp. 60-65; Directlink, Revenue proposal, May 2014, Attachments 09 3 Phacelift Bottom up cost study.pdf and 09 3 Phacelift O&M Model (final).xlsx (confidential) , tab 'Modelling Assumptions'. All numbers coloured blue in the spreadsheet were established as a result of discussions with APA. Most worksheets in the workbook rely upon APA information.

³² Directlink, Revenue proposal, May 2014, Attachments 09 3 Phacelift Bottom up cost study.pdf and 09 3 Phacelift O&M Model (final).xlsx, tab 'Cable Repairs'.

³³ Directlink, Revenue proposal, May 2014, Attachment 13 (1)(d) Directlink Average Circuit Outage Rate Calcs.xls. The 7.5 faults in 2013 is imputed due to the varying numbers of circuit outages over the period.

reliability advice and asset failure investigation requirements for the Directlink asset. This is because:

- the responsibilities attributed to the reliability engineer are functions undertaken by the maintenance technicians, who are required to document the maintenance activities and asset condition, and the O&M Supervisor, who are required to check and upload the information provided by the maintenance technicians.
- the document development function attributed to the Works Practices Specialist is one-off work, requiring only minor updates due to the static nature of the Directlink asset. We note that PSC has been requested to develop the new procedure process, including the Asset Management Plan, Compliance Plan and other new procedures.
- we consider that the current O&M Supervisor position is sufficient to undertake the planning, scheduling and supervision of completion of maintenance work that is attributed to the Works Planner. Given the size of the Directlink asset, we do not consider that it is efficient to have a position which carries out the planning, scheduling and supervision of completion of maintenance work as well as supervision of these activities.

We have therefore reduced the amount included in the Phacelift bottom up build to zero for each of the three positions in order to determine our alternative estimate.

- the capex phase reactor cooling revisions (Gotland solution) project is intended to address performance issues with the fiberglass 'igloos' that form part of the reactor cooling system. The old design, encompassing 'igloos' require significant maintenance. Once the igloos are replaced the maintenance requirements outlined in the proposal will fall considerably, as stated in the proposal:

The replacement Mullumbimby converter will use a modern design. It is understood that the modern design will address the above faults. The O&M Model therefore only applies the above maintenance to the 15 phase reactors of the original design.

All existing reactors are proposed to be modified in the first year of the regulatory period, The phase reactor maintenance is therefore not required after the first year. After 2015-16 all existing reactors will be modified and there will not be a requirement for the proposed maintenance.

We have therefore removed the phase reactor maintenance costs for the four years 2016-17 to 2019-20 in the Phacelift bottom up build for the purposes of deriving our alternative estimate.

After making these adjustments in the Phacelift bottom up build and removing the labour and material real price escalation and the 10 per cent APA Operations' margin, the residual amount of operating and maintenance costs is \$10.5 million over the 2016-20 regulatory period.

We assessed the prudence and efficiency of the proposed ABB retainer. Directlink submitted that the ABB retainer is necessary to secure timely expert engineering advice from ABB in relation to any issues arising with the converter station components of the interconnector assets.³⁴ Based our technical review, we consider that it is prudent to incur the costs in order to reduce the incidence of converter station faults and to enable fast fault remediation. This amounts to \$0.7 million over the 2016-20 regulatory period.

³⁴ Directlink, Revenue proposal, May 2014, p. 72.

We are satisfied, based on our review, that \$11.2 million over the 2016-20 regulatory period reasonably reflects the operating and maintenance costs required for Directlink to meet the opex criteria. We have therefore included \$11.2 million in its alternative estimate of forecast total opex.

We note that in the course of making our draft decision, Directlink indicated that it intends to update the timing of elements of its capex proposal in its revised proposal. The AER will review the changed timing of the proposed capex and accordingly adjust any capex dependent operating and maintenance expenditure in response to the revised proposal.³⁵

7.5.3 Insurance costs

We have not included Directlink's proposed insurance expenditure in our alternative estimate of total opex. We are not satisfied that Directlink's proposed insurance expenditure reflects the efficient cost that a prudent operator would require to achieve the operating expenditure objectives. This is because we do not agree with some of the assumptions Directlink applied in estimating its proposed insurance costs. We consider that these assumptions result in a forecast that is above an efficient and prudent level.

We have included in our alternative opex estimate insurance expenditure of \$1.8 million (real 2014-15) over the 2016-20 regulatory period (see table 7.5). The elements of our decision are set out below.

Table 7.5 AER insurance expenditure included in alternative opex estimate (\$000s, real 2014-15)

	2015-16	2016-17	2017-18	2018-19	2019-20	Total
Industrial special risks premium	251	244	251	257	244	1,247
Public liability premium	54	53	53	54	55	269
Self insurance costs	62	62	62	62	62	309
Total insurance costs	366	359	365	373	361	1,824

Source: AER analysis.

Note: This expenditure does not include the 10 per cent APA Operations margin.

Directlink's proposed insurance expenditure includes estimates of premiums for industrial special risks (property insurance) and public liability, and self insurance costs. Directlink proposed insurance costs of \$6.3 million (real \$2014-15, excluding APA Operations 10 per cent margin) over the 2015-16 to 2019-20 regulatory period, an increase of \$4.2 million or 200 per cent over the 2009-14 period.³⁶

Table 7.6 Directlink proposed insurance expenditure (\$000s, real 2014-15)

	2015-16	2016-17	2017-18	2018-19	2019-20	Total
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³⁵ Directlink, Response to Information Request OPEX 04, received 25 September 2014, question 1.

³⁶ Directlink, Revenue proposal, May 2014, Directlink Regulatory Information Notice Templates.xlsx.

	2015-16	2016-17	2017-18	2018-19	2019-20	Total
Industrial special risks premium	704	686	704	722	686	3,502
Public liability premium	440	429	429	440	451	2,190
Self insurance costs	130	130	130	130	130	652
Total insurance costs	1,275	1,246	1,264	1,293	1,267	6,344

Source: Directlink, Revenue Proposal, May 2014, Table 9.4, p.73; AER analysis.

Note: The AER has removed the 10 per cent APA Operations margin from the costs in Table 9.4.

Directlink attributes the increase in insurance costs to the claims experience associated with the Mullumbimby converter station fire, which occurred in August 2012.³⁷

Directlink estimated the proposed insurance cost by seeking an opinion from Marsh of the costs of insuring Directlink, as if it was a stand-alone asset.³⁸ Marsh arranges APA Group's insurance. Marsh states that the commercial insurance arrangements in its report for Directlink are:³⁹

....generally based on existing commercial insurance policies in place where the APA Group program has been utilised. However adjustments to the program have been made where appropriate in order to reflect open market terms as if the Directlink asset were ringfenced and placed as a standalone program.

In its report Marsh indicated that the insurance costs are forecast to increase due to the change in the risk assessment associated with the asset. It assessed that post the Mullumbimby fire the asset poses a higher risk.⁴⁰

Based on the information provided by Directlink, we have been able to establish that:⁴¹

- Under the operating agreement that Energy Infrastructure Investments (EII) has with APA Operations, APA Operations is required to assist EII to obtain insurance cover for Directlink (MOMSCA cl.11.4.1). The agreement provides for APA Operations to use the APA Group insurance policy to cover Directlink (MOMSCA cl. 11.11(b)). APA Operations does this.
- The APA Group insurance policy provides insurance for APA Group, all minority and joint venture parties or full or part owners of assets.⁴²

³⁷ Directlink, Revenue proposal, May 2014, p. 73.

³⁸ Directlink, Revenue proposal, May 2014, p. 73.

³⁹ Marsh, *Directlink: Quantification of Self-Insurance costs and estimation of insurance premiums 2015/2016 to 2019/2020*, Version 1, 29 May 2014, p. 8.

⁴⁰ Marsh, *Directlink: Quantification of Self-Insurance costs and estimation of insurance premiums 2015/2016 to 2019/2020*, Version 1, 29 May 2014, p.12.

⁴¹ Directlink, Revenue Proposal 2015-20, May 2014, Attachment 01 5 (c) MOMCSA redacted Directlink.pdf, cls.11.4.1, 11.11(a), (b) and (c).

⁴² Directlink, Response to Information Request OPEX 04, received 25 September 2014, 20140918 Directlink response to AER information request - Opex 03 Attachments, p.1.[CONFIDENTIAL] , Directlink provided a redacted version of the policy.

- Notwithstanding the premiums incurred under the APA Group insurance policy, the operating agreement also provides for APA Operations to obtain an independent stand-alone quote for insurance for Directlink (MOMSCA cl.11.11(a)). The agreement provides for APA Operations to charge EII insurance costs up to the value of an independent quote obtained for stand-alone insurance (MOMSCA cl.11.11(c)). Directlink has used the Marsh opinion on the stand-alone insurance cost for Directlink as the basis for its proposed insurance cost.

In relation to the insurance cost estimate, we have established the following:

- Directlink's forecast amount of costs for insurance is not based on revealed commercial costs. It is dependent on the allocation and cost assumptions applied by APA Operations.
- The apportionment of insurance costs across the EII assets in Directlink's method is asymmetric, which is likely to result in a biased allocation of insurance costs to the Directlink asset. This is likely to lead to a higher attribution of insurance premiums to Directlink compared with the other EII assets covered.
- The proposed industrial special risks (ISR) insurance costs and self insurance costs do not appear to reflect the capex and opex proposed by Directlink which is intended to reduce the risks associated with the Directlink asset to pre-fire levels. This will overstate the insurance premium estimates for these categories of insurance.
- The maximum claim amounts are lower in the APA Group policy for public liability and the Marsh certificate of currency than the amounts specified in the Marsh report. We expect the difference in maximum claim amounts to increase the Marsh premium estimates for public liability relative to the actual coverage securable for the lower maximum claim amount.

For these reasons, we are not satisfied that the proposed insurance is efficient expenditure that a prudent operator would require to achieve the operating expenditure objectives. As such, it would not be in the long term interests of consumers with respect to price.⁴³ Our reasoning is set out in more detail below.

Insurance cost estimate is not tied to revealed commercial costs

The estimate of insurance premiums does not reflect the commercial arrangements which APA Operations has in place to provide insurance coverage for Directlink. The insurance premium estimate is dependent on the allocation and cost assumptions applied by APA Operations. It is not based on the insurance costs actually incurred.

Directlink has estimated the insurance premiums for Directlink on a stand-alone basis. The magnitude of the proposed change in Directlink's insurance costs is attributable to the change from a revenue or asset value based share of the EII group estimate of insurance (applied during the 2008-13 period for ISR and during the 2008-14 period for public liability) to a Directlink stand-alone estimate (applied during the 2014-16 period for ISR and public liability) (see table 7.7⁴⁴).

Table 7-7 contains confidential annual insurance amounts (industrial special risks and public liability for Directlink and the EII total). Table 7-7 indicates that:

- At a total EII group level industrial special risk (ISR) estimates of insurance premiums have increased on average annually by 4.6 per cent over 2010-11 to 2013-14.

⁴³ NER cl.6A.6.6(c)(2). NGL Part 3, s.23.

⁴⁴ Table 7-7 has been removed from the public version due to confidential content.

- Directlink's ISR share of the premium estimate have moved in line with this, increasing on average 5.7 per cent annually over the same period.
- However, Directlink's ISR premium estimate is forecast to increase by 76 per cent in 2014-15 compared with 2013-14.
- At a total EII group level public liability estimates of insurance premiums have declined by 10 per cent annually on average over 2010-11 to 2013-14.
- Directlink's public liability share of the premium estimate have moved in line with this, decreasing on average 19 per cent annually over the same period.
- However, Directlink's public liability premium estimate is forecast to increase by 1,685 per cent in 2014-15 compared with 2013-14.

There is a relative increase in the insurance premium attributed to Directlink compared to that of the other EII assets. This is attributable to the allocation method applied. We do not consider this to be robust. Directlink is the only asset that has been estimated on a standalone basis. APA Operations has an estimate of the insurance premium which applies to the EII assets as a group. APA Operations has inconsistently estimated Directlink's share of the EII group estimate of insurance. It has only estimated Directlink on a standalone basis but has not obtained standalone estimates for the other EII assets. This denies Directlink access to its share of the cost savings arising from pooling of risk and purchasing economies. The savings realised through risk pooling and purchasing economies are shared amongst the rest of the EII group of assets. They are denied to Directlink. We consider that a prudent and efficient operator would not pay a stand-alone insurance cost when it is paying APA Operations a 10 per cent margin to access economies of scale and market access via the APA Group insurance program.

Another concern with have with the method of allocation is that it does not recognise any differential in risk between the Directlink asset and the residual pool of the EII group of assets. Given the nature of the other EII assets, there is potential for Directlink to be a lower risk asset than the residual group of EII assets. In apportioning the residual EII group premium cost amongst the residual assets it does not allow for a discount associated with Directlink being a lower risk than the residual group of assets. This is further discussed in the section 'Asymmetric apportionment of insurance costs across the EII assets' below.

The estimate of insurance premiums also does not reflect Directlink's proposed capex and opex, which reduces the risks associated with the Directlink asset to at or below the pre-fire risk levels. We consider that Directlink has not substantiated the assertion made in its regulatory proposal that the Mullumbimby converter station fire has adversely impacted upon its insurance premiums. We note that Directlink stated that the Directlink converter station fire claim had adversely impacted the insurance premiums, but provided no evidence of this. We requested the last five years of the APA Group insurance premiums to see verify this claim and see whether any such impacts were actually incurred in providing risk coverage to the Directlink asset. Directlink did not provide this information. Directlink stated that 'APA Group insurance costs are not relevant to the Directlink revenue proposal'.⁴⁵

However, we consider that a prudent and efficient operator, which has just incurred \$50.7 million (real 2014-15) on opex and capex to reduce risks to pre-fire levels would not incur a 200 per cent increase

⁴⁵ Directlink Response to information request OPEX 05, received 17 October 2014, p. 5.

in insurance without evidence of actual premium impacts - that is, actual revealed impacts on APA Group insurance premiums. Insurance premiums are expected to reflect the actual risk of the redesigned and better managed asset and not the risk associated with the former asset configuration and management practices. This does not appear to be the case in relation to the premiums being estimated for Directlink (see 'Reduction of the Directlink asset risk to pre-fire levels' below).

Asymmetric apportionment of insurance costs across the EII assets

There are two issues in Directlink's allocation of insurance costs which we consider result in an upwards bias of insurance costs allocated to Directlink. These are:

- Directlink has identified insurance as a shared cost. As a shared cost, Directlink's cost allocation methodology requires that the EII insurance cost is allocated according to each EII asset's contribution to total revenue. Directlink's proposed approach to forecasting the insurance premium doesn't accord with this method.
- Directlink has only estimated one of the EII assets on a standalone basis, that is, Directlink. Directlink stated that there are scale efficiencies and risk pooling benefits associated with quoting the cost of insurance for the EII assets as a group. However, by ring fencing Directlink, it does not benefit from its share of the cost savings realised through obtaining a quote on the EII group.

These issues are set out below.

Directlink indicated that it has allocated the total EII asset group insurance cost by assessing the insurance premiums for Directlink on a standalone basis, then subtracting this amount from the total EII group estimate of insurance costs. The residual amount was then apportioned across the rest of the assets according to their relative risk.⁴⁶

The stand alone insurance estimate was provided by Marsh. Marsh stated that it generally used the existing APA Group program of commercial insurance policies but made adjustments to the program "to reflect open market terms as if the Directlink asset were ringfenced and placed as a standalone program".⁴⁷

Directlink submitted that this allocation is consistent with its Cost Allocation Methodology (CAM).⁴⁸ Directlink's CAM states that "costs directly associated with the operation and maintenance of Directlink ... are directly attributed to the Directlink Joint Venture". Further guidance is provided by the CAM statement: "where a service can be directly attributed to the asset, such as a legal cost relating solely to the asset, then this is attributed as a direct other cost..."⁴⁹ Non-direct costs are "costs associated with the provision of other commercial services under MOMCSA". These "are allocated by EII to the Directlink Joint Venture using the allocation rules ..." on shared costs. The allocation rules for shared costs require that these be apportioned according to each EII's asset's contribution to group revenue.⁵⁰ Directlink identified insurance (and the commercial services fee) as a shared cost.⁵¹

As the insurance cost is not solely related to or directly associated with Directlink, Directlink's proposal to directly apportion a standalone estimate of the insurance cost to Directlink is inconsistent with

⁴⁶ Directlink, *Revenue Proposal*, May 2014, p.73.

⁴⁷ Marsh, *Directlink: Quantification of Self-Insurance costs and estimation of insurance premiums 2015/2016 to 2019/2020*, Version 1, 29 May 2014, p.7.

⁴⁸ Directlink, *Revenue Proposal*, May 2014, p.73.

⁴⁹ Directlink, *Revenue Proposal*, Attachment 3.2 Cost Allocation Methodology, May 2010, p. 11.

⁵⁰ Directlink, *Revenue Proposal*, Attachment 3.2 Cost Allocation Methodology, May 2010, pp. 6,14.

⁵¹ Directlink, Response to information request OPEX 01, received 29 August 2014, 20140829 Response to 140806 Information request.xlsx.

Directlink's CAM. Directlink's CAM requires that the EII asset group insurance costs, covered under the MOMSCA, are apportioned according to each Energy Infrastructure Investments asset's contribution to group revenue. Forecast opex proposed in a revenue proposal must be properly allocated in accordance with Directlink's CAM.⁵² On this basis, we consider that Directlink should be allocated its revenue share of the EII group insurance costs and not the amount attributed by gaining an estimate of the stand alone cost of insuring Directlink.

It is also methodologically not robust to calculate a stand alone estimate only for Directlink and deduct this amount from the EII group insurance estimate.

Directlink indicated that insurance costs for the EII group of assets is billed⁵³ by APA Operations to EII on the basis of the EII assets insured as a diversified portfolio.⁵⁴ Directlink indicated that calculating the billable amount on an EII group basis provides lower insurance costs than if they were each insured on a stand alone basis.⁵⁵

Directlink submitted that:⁵⁶

Calculating an insurance premium that assumes a diversified portfolio is insured would require the other (non-regulated) assets to subsidise the costs of insuring the Directlink asset, when indeed the increase in risk is directly attributable to the Directlink claims experience.

We consider that if Directlink is able to be valued on a standalone basis then the other assets belonging to the EII Group should also be able to be independently valued for insurance purposes and have standalone insurance premiums estimated. On the basis of the information provided by Directlink, it is reasonable to expect that the sum of the standalone estimates would be greater than the group premium due to purchasing economies and risk pooling realised through insuring as an asset group.⁵⁷ If the insurance for one asset is valued on a ring fenced basis then all assets in the group should be valued on a ring fenced basis in order to reflect the asset risk and loss of scale efficiencies and risk pooling advantages. In order to validly allocate the individual asset's share of the actual EII group insurance cost billed by APA Operations, the sum of the standalone premiums should be scaled back to the actual EII group insurance cost according to each asset's share of the total of the standalone insurance costs. In not doing this Directlink does not access its share of the cost savings attributable to risk pooling or purchasing economies. This necessarily results in an upward bias of the Directlink insurance premium. Directlink' consumers are paying for access to these cost savings via the margin expenditure.

A further issue with Directlink's methodology is that implicit in the allocation of the residual insurance amount to the other EII assets is that the residual asset group has the same risk profile as Directlink. It does not recognise any differential in risk between the Directlink asset and the residual pool of the EII group of assets. Given that the other assets in EII's portfolio include gas power generators, coal seam gas processing plants and gas pipelines this is highly unlikely. There is potential for Directlink to be a lower risk asset than the residual group of EII assets. In apportioning the residual EII group premium cost amongst the residual assets it does not allow for a discount associated with Directlink being a lower risk than the residual group of assets.

⁵² NER, clause 6A.6.7(b)(2).

⁵³ The reference to billed/billable amounts is to indicate that the insurance costs are not on the basis of the APA Group rate or any commercially incurred insurance cost. The calculation is based on the estimate/quote of stand alone insurance for the EII Group plus an ex gratia discount to recognise that APA Operations incurs scale efficiencies by purchasing insurance cover for the EII assets through its APA Group insurance policies.

⁵⁴ Directlink Response to information request OPEX 05, received 17 October 2014, pp. 1-2.

⁵⁵ Directlink Response to information request OPEX 05, received 17 October 2014, p. 2.

⁵⁶ Directlink Response to information request OPEX 05, received 17 October 2014, p. 2.

⁵⁷ Directlink Response to information request OPEX 05, received 17 October 2014, p. 2.

Reduction of the Directlink asset risk to pre-fire levels

Directlink engaged PSC to undertake a review of Directlink's compliance with good electricity industry practice (GEIP). PSC made recommendations to return risk levels to its assessed pre-fire risk in all but one risk (that is plant failure caused by accelerated ageing of equipment).⁵⁸ PSC stated that this relates to the irreversible reduction in the expected serviceable life of the phase reactors to below their 40-year design life). PSC stated that the reduction in serviceable life is due to pre-fire incidents of electrical tracking and the effects of failures and flashovers within the phase reactors.⁵⁹ We have conducted a technical review and consider that the 'igloos', which were impacted by electrical tracking and the effects of failures and flashovers, have been removed as part of the redesign of the asset. We also consider that the reactors do not contain any components that would have degraded as a result of electrical tracking, failures or flashovers. We have assessed that there is no evidence of a reduction in the serviceable life of the phase reactors, hence the post-fire risk level associated with plant failure is at or below pre-fire risk levels.

Directlink has proposed (and we have included in our alternative opex and capex estimates) a number of capex and opex risk mitigation measures, which, once implemented, will substantially change the design and operation of the asset. These measures include:

- Removal of the fiberglass 'igloos' from the reactors. We have concluded that with the removal of the fiberglass 'igloos' from the reactors under the proposed phase reactor cooling revision project, a key potential source of fire risk will be removed the converter buildings. Consequently, the fire risk associated with the converter buildings is likely to be significantly reduced and this will have plant performance implications as well as insurance implications for the facility.
- A fire suppression system (\$4.7 million). A fire suppression system is proposed in order to limit equipment damage, avoid the total loss of a converter station and the consequent extended shutdown, as well as limit third party damage. Directlink claimed that the installation of a fire suppression system will comply with the recommendations of insurance advisors and energy industry advisors.
- Phase reactor cooling revisions (Gotland solution) (\$2.3 million). Directlink is implementing a design change made by ABB to a similar plant in Gotland, Sweden. The proposed design change increases the air gap around the phase reactor coils by removing the fibre glass dome and ducting and removes the partial discharge path. The design eliminates the partial discharges which occurred in the previous Directlink phase reactor design. It also includes a proposed dust and contamination filtering method.
- Cable replacement (\$0.7 million). To address the high level of cable faults, resulting in facility outages, Directlink has developed a strategy of replacing significant lengths of cable adjacent to the fault. This strategy has been applied for approximately the past three years and has shown a considerable improvement in cable failure rates over this time. The cable fault rate has improved from 16 faults in 2010 to 7.5 faults in 2013.⁶⁰ Given the change in approach to cable repair and the cable capex included in our alternative capex estimate, the cable fault rate should continue to improve.

⁵⁸ Directlink, Revenue proposal, May 2014, Attachment 9.1: PSC Consulting, Good Electricity Industry Practice Review, May 2014; Directlink, Revenue proposal, May 2014, Attachment 9.2 PSC, Directlink Operating Cost Risk and Cost-Benefit Assessment, May 2014.

⁵⁹ Directlink, Revenue proposal, May 2014, Attachment 9.2 PSC, Directlink Operating Cost Risk and Cost-Benefit Assessment, May 2014, p.17.

⁶⁰ Directlink, Revenue proposal, May 2014, Attachment 13 (1)(d) Directlink Average Circuit Outage Rate Calcs.xls. The 7.5 faults in 2013 is imputed due to the varying numbers of circuit outages over the period.

- ABB service agreement (\$0.7 million). Directlink has negotiated a service level agreement, under which ABB undertakes to give priority consideration to Directlink queries and requests for assistance.
- Development of operational procedures (for example, Asset Management Plan, Network Management Plan, Compliance Plan and Incident Investigation, Documentation Improvement, High voltage switching and Access Procedures) and equipment maintenance procedures (included in \$10.6 million O&M expenditure described above). PSC indicates that the development of operational procedures will result in general improvements to O&M practices while the equipment maintenance procedures will result in specific improvement to the maintenance of equipment by type.⁶¹

It was not clear from the Marsh report whether the changed design and operation of the asset, achieved via the proposed capex and opex mitigation measures, was considered in forming an opinion on the likely insurance premiums for the next regulatory period.⁶² The AER sought clarification of this and requested that Marsh provide an updated opinion which took the capex and opex into account.⁶³ Directlink indicated that Marsh had not taken into account the proposed capex and opex which mitigates the Directlink asset risks to pre-fire levels.⁶⁴ Marsh stated that once the proposed capex and opex was undertaken/implemented it would result in a ten per cent reduction in its forecast of Directlink's industrial special risks insurance premium.⁶⁵ This is a ten per cent reduction off a 76 per cent increase in Marsh's estimate of the 2014-15 industrial special risk insurance premium.

We also consider that given PSC's statement that 'the insurer (FM global) re-assessed the financial cost of the converter building fire to be in the order of \$65m', that insurance coverage of \$500 million for a stand alone insurance estimate is likely to be excessive and more reflective of the APA Group policy requirements for the aggregate amount of coverage for all assets insured under the APA Group policy rather than the amount required to cover Directlink only.⁶⁶

In relation to self-insurance, Marsh has estimated working losses on the basis of the loss experience over the last 8 years.⁶⁷ It applied an assumption of a one-in-4 year or 0.25 annual probability of incurring a loss. For major property loss it considered the 2012 fire "when arriving at the estimated forecast frequency" and "failure of reactors and transformers, accidental or malicious damage at converter station, fire initiating on site or in surrounding vegetation".⁶⁸ Directlink indicated that Marsh had not taken into account the proposed opex and capex in forming a view on insurance costs.⁶⁹ Notwithstanding the proposed capex and opex mitigates many of these risks, Marsh submitted that when it took into account the proposed capex and opex it recommended no change to its self insurance estimates.⁷⁰

⁶¹ Directlink, Revenue proposal, May 2014, Attachment 9.2 PSC, Directlink Operating Cost Risk and Cost-Benefit Assessment, May 2014, p.4.

⁶² Marsh, *Directlink: Quantification of Self-Insurance costs and estimation of insurance premiums 2015/2016 to 2019/2020*, Version 1, 29 May 2014, p.8.

⁶³ AER, Information request OPEX 04, sent 11 September 2014, question 1.

⁶⁴ Directlink, Response to Information request OPEX 04, received 25 September 2014, p.1.

⁶⁵ Directlink, Response to Information request OPEX 04, received 25 September 2014, p.3.

⁶⁶ Directlink, Revenue proposal, May 2014, Attachment 9.2: PSC, Directlink Operating Cost Risk and Cost-Benefit Assessment, May 2014, p.16.

⁶⁷ Marsh, *Directlink: Quantification of Self-Insurance costs and estimation of insurance premiums 2015/2016 to 2019/2020*, Version 1, 29 May 2014, p.15.

⁶⁸ Marsh, *Directlink: Quantification of Self-Insurance costs and estimation of insurance premiums 2015/2016 to 2019/2020*, Version 1, 29 May 2014, p.16.

⁶⁹ Directlink, Response to Information request OPEX 04, received 25 September 2014, p.1.

⁷⁰ Directlink, Response to Information request OPEX 04, received 25 September 2014, p.3.

We consider that the capex and opex approved in this decision will substantially alter the design and operation of the Directlink asset and in particular, the Mullumbimby converter station. Based on our internal engineering expertise, we consider that the changes in design and operation will reduce the risk associated with the Directlink asset to at least pre-fire levels, if not lower. The risk assessed for the purposes of forming an opinion on the forecast insurance cost should be the risk associated with the changed asset design and operation, not the risk associated with the former asset configuration and management.

Given this evidence we consider that the insurance costs should be commensurate with the real costs of industrial special risks insurance incurred pre-fire, that is, in 2011-12.⁷¹ In the absence of the actual APA Group insurance cost incurred, we have defaulted to applying the 2011-12 actual industrial special risks insurance amount charged by APA Operations to EII indexed to real 2014-15. We then applied the adjustments which Marsh recommended for the softening insurance market over the 2016-20 regulatory period. We note that this is not based on the APA Group insurance premium but the EII group stand-alone quote amount that is charged to EII by APA Operations. Based on these assumptions, we have included an amount of \$1.2 million (\$2014-15) for industrial special risks insurance in our alternative estimate.

For self insurance, we have applied PSC's estimate of the pre-fire likelihood of 'a one in 42 year probability of a major failure to the Directlink facility' for the purposes of calculating an alternative estimate of working losses and major property loss.⁷² We have included an amount of \$0.3 million (\$2014-15) for self insurance in our alternative estimate.

Different maximum claim amounts between insurance policies and Marsh report

The maximum claim amounts are lower in the APA Group policies for industrial special risks and public liability and the Marsh certificate of currency than the amounts specified in the Marsh report.

The Marsh report specifies maximum claim amounts for public liability as \$650 million. Marsh indicated that it based its public liability premium on \$650 million instead of the current \$300 million limit as a result of a Maximum Foreseeable Loss study and the potential for liability connected with bushfire exposures.⁷³ We requested that Directlink justify the proposed increase. In particular we asked Directlink to explain what has changed that has impacted on the expected probability of a fire event and the consequence of a fire event and provide an estimate of the impact of the change(s) on the probability and the consequence.⁷⁴ Directlink did not respond to this question.

Directlink provided extracts of policy wording from the APA Group insurance policy for public liability. The policy wording specifies a significantly lower maximum claim amount.⁷⁵ The Certificate of Currency provided by Marsh indicates a \$300 million maximum claim amount.⁷⁶

⁷¹ We note that the Marsh insurance report indicates that the likelihood of a fire was identified as a possible event in informing its Property underwriting report in 2008. Marsh, *Directlink: Quantification of Self-Insurance costs and estimation of insurance premiums 2015/2016 to 2019/2020*, Version 1, 29 May 2014, p.15-16.

⁷² Directlink, Revenue proposal, May 2014, Attachment 9.2: PSC, Directlink Operating Cost Risk and Cost-Benefit Assessment, May 2014, p.23.

⁷³ Marsh, *Directlink: Quantification of Self-Insurance costs and estimation of insurance premiums 2015/2016 to 2019/2020*, Version 1, 29 May 2014, pp. 8,14.

⁷⁴ AER, Information Request OPEX 04, question 6, sent 11 September 2014.

⁷⁵ Directlink, Response to Information Request OPEX 04, received 25 September 2014, 20140918 Directlink response to AER information request - Opex 03 Attachments, p.1.[CONFIDENTIAL] Directlink did not provide to the AER the excess liability policies to enable the AER to verify the amount in the Marsh Certificate of Currency.

⁷⁶ Directlink, Response to Information request OPEX 04, received 25 September 2014, p.3.

We consider that the difference in maximum claim amounts will increase the Marsh premium estimates in the report relative to the existing assumptions for estimating public liability insurance premiums.

In arriving at an alternative forecast for public liability insurance we have taken into consideration that:

- We do not have evidence before us that indicates that the claims experience associated with the Mullumbimby converter station fire has had an impact on public liability insurance estimates. Therefore we do consider that Directlink's stand alone approach has any relevance to public liability insurance costs. We note that Directlink is covered under a separate APA Group policy for general and public liability to industrial special risks.
- We consider that the Marsh estimates are likely to overstate the public liability insurance premiums due to the \$650 million coverage assumption.

In the absence of actual revealed APA Group insurance costs, we have defaulted to estimating public liability insurance by applying the 2013-14 actual public liability insurance amount charged by APA Operations to EII indexed to real 2014-15. We then applied the adjustments which Marsh recommended for the softening insurance market over the 2016-20 regulatory period. Applying these assumptions, we have included \$0.3 million (real 2014-15) in our alternative estimate.

7.5.4 Commercial services fee (also referred to as management fees and expenses)

We have included \$352,367 (\$, 2014-15) per year for the commercial services fee in our alternative opex estimate. This is lower than Directlink's proposed amount of \$561,000 per year. This is because we are not satisfied that the assumptions made in allocating a proportion of the total EII commercial services fee to Directlink are robust.

Directlink proposed \$2.6 million for the commercial services fee for the 2015-20 period. This is a 31 per cent increase on the cost incurred over the 2009-14 period.⁷⁷

Table 7.8 Directlink proposed commercial services fee (management fees and expenses) (\$000s, real 2014-15)

	2015-16	2016-17	2017-18	2018-19	2019-20	Total
Proposed commercial services fee	510	510	510	510	510	2,550

Source: Directlink, *Revenue proposal*, May 2014, Regulatory Information Notice Templates, tab '2.1 Opex'; AER analysis to remove 10 per cent margin.

Directlink's parent company, EII, entered into an agreement with APA Operations to manage, operate and maintain the Directlink asset in 2008.⁷⁸ The agreement provides for APA Operations to recover from EII a commercial services fee, which is intended to reflect the overheads APA Operations incurs in managing the EII assets.

⁷⁷ Directlink, Revenue proposal, May 2014, Directlink - Regulatory Information Notice Templates - May 2014.xlsx, tab '2.1 Opex'. 2014-15 is excluded as it is a forecast year.

⁷⁸ Directlink, Revenue proposal, May 2014, p.68.

APA Operations receives a fixed commercial service fee of \$2.5 million per annum for 'carrying out all administrative, accounting and other business functions for all of the EII businesses'.⁷⁹

The MOMSCA sets out that for the commercial services fee EII must pay to APA Operations:⁸⁰

"All expenses reasonably incurred by the Operator; and

Costs for hours worked by APA Group personnel calculated by applying agreed hourly rates..."

It further sets out that the amounts referred to are to be invoiced by APA Operations to EII on a monthly basis.⁸¹

Notwithstanding the provisions of the operational agreement between EII and APA Operations, Directlink submitted that:⁸²

Neither Directlink nor EII have visibility of the APA Ops (EII) costs incurred in the provision of services in exchange for the Commercial Services Fee.

Having said that, APA Ops (EII) advises that, as the MOMSCA Commercial Services Fee was negotiated through bilateral negotiation as a fixed amount, as opposed to a cost recovery exercise, APA Ops (EII) does not track its costs in providing those services to EII. APA Ops (EII) cannot provide information related to material and labour costs (by position, hourly rate and FTE numbers) as requested.

Consequently, our review of the commercial services fee and the associated margin is based on our review of the terms of the MOMSCA and the information provided by Directlink in its proposal.

Under the MOMSCA the commercial service fee is allocated to the EII businesses on the basis of the asset's revenue contribution to the EII asset group total revenue.⁸³

Directlink submitted that the increase in Directlink's proposed revenue (attributable to increased return on and of capital and operating and maintenance and insurance opex) leads to an increase in its relative contribution to the total EII asset group revenue. As a result an increased proportion of the total EII asset group shared costs are allocated to Directlink. This is notwithstanding Directlink's indication that the overall amount of the commercial services fee is not expected to change by more than CPI and that the commercial services costs have not been significantly affected by the Mullumbimby fire.⁸⁴

We have identified a number of concerns with Directlink's proposed method of allocating the commercial services fee. These include:

- Use of forecast revenue for the regulated assets but use of CPI-indexed historical revenue for the non-regulated assets
- Dependency issues in using forecast revenue.

We also have concerns regarding potential cross subsidisation of the commercial services fee by consumers of services provided by regulated assets. This is due to the disconnect between the five-year static regulatory allowances received for commercial services for Murraylink and Directlink and the annual allocation according to actual revenue across the non-regulated EII assets. Murraylink's

⁷⁹ Directlink, Response to information request Opex 03, question 8, received 18 September 2014, p.5; Directlink, Revenue Proposal, May 2014, Attachment 09 4 Outsourcing arrangements and margins, p.14.

⁸⁰ Directlink, Revenue Proposal 2015-20, May 2014, Attachment 01 5 (c) MOMSCA redacted Directlink.pdf, cl.10.1(b).

⁸¹ Directlink, Revenue Proposal 2015-20, May 2014, Attachment 01 5 (c) MOMSCA redacted Directlink.pdf, cl.10.2.

⁸² Directlink, Response to Information request OPEX 05, received 17 October 2014, p. 6.

⁸³ Directlink, Revenue proposal, May 2014, p.74.

⁸⁴ Directlink, Revenue proposal, May 2014, p.74.

share of the EII commercial services fee was determined in April 2013 and the allowance set for the 2013-18 period. It was based on costs incurred in 2010-11.⁸⁵ Due to the timing differences there is the potential to over or under recover the share of the commercial services fee attributed to Murraylink and Directlink.

We consider that these factors result in a forecast that is not efficient and prudent. Our concerns with the allocation method are set out in more detail below.

Use of forecast revenue as the basis for the allocation of the total EII asset group commercial services fee to Directlink

Directlink forecast the allocation of commercial services fee on the basis of revenue estimates in 2015-16 (see table 7.9).

Table 7.9 Directlink's proposed allocation of commercial services fees

	CY 2013 revenue (\$000s)	Proportion (%)	Allocation of commercial services fee (\$000s)	2015-16 revenue (\$000s)	Proportion (%)	Allocation of commercial services fee (\$000s)
Directlink	12,460	13.6	374	19,000	19.4	561
Murraylink	13,773	15.0	414	13,505	13.8	398
Other EII assets	65,305	71.4	1,962	65,305	66.8	1,928
Total	91,538	100	2,750	97,810	100	2,889

Source: Directlink, Revenue proposal, May 2014, Table 9.5, p.75.

For Directlink, the estimated revenue requirement proposed in this determination has been used. For Murraylink, the AER approved regulatory allowance has been used. For the other, unregulated EII assets Directlink has calculated the 2015-16 estimates by applying two years of inflation to 2013 actual revenue.⁸⁶ Directlink stated that it does not have forecasts of the revenue for the other, unregulated EII assets.⁸⁷ It is not clear to us why revenue forecasts for the unregulated assets are not prepared. We note that the MOMSCA requires that a forecast for operating costs and capital for five calendar years be prepared for the EII assets (MOMSCA cl.9.3).

This means that Directlink has forecast unregulated EII assets revenue real growth of zero from 2013 while it has captured the upwards growth in the proposed revenue requirement for Directlink and the AER approved regulatory allowance for Murraylink. It is inconsistent to account for changes in Directlink's revenue without also accounting for the expected changes in revenue of the other assets.

We consider that the inconsistency in applied forecast method is likely to result in a biased forecast of the commercial services fee. We have estimated the amount of commercial services fee for inclusion in its alternative opex estimate by applying 2012-13 actual revenue for the unregulated EII assets and the smoothed maximum allowed revenue allowances for Directlink and Murraylink for 2012-13.(see table 7.10). We requested that Directlink provide audited statements of EII assets' revenue for the

⁸⁵ Murraylink, Revenue Proposal, May 2012: Attachment - Murraylink - Cost information template - May 2012.xls.

⁸⁶ Directlink, Revenue proposal, May 2014, p.75.

⁸⁷ Directlink, Response to information request OPEX 01, question 2(d), received 29 August 2014, p.2.

AER to verify the revenue derived from the other EII assets.⁸⁸ To date, Directlink has not provided this information.

Table 7.10 AER's allocation of commercial services fees

	2012-13 revenue (\$000s)	Proportion (%)	Allocation of commercial services fee (\$000s)
Fixed commercial services fee			2,500.0
Directlink	13,157	14.1	352.4
Murraylink	14,159	15.2	379.2
Other EII assets	66,034	70.7	1,768.5
Total	93,350	100	2,500.0

Source: AER, Directlink 2006-15 - PTRM - Final decision.xls; AER, Murraylink - PTRM - amended - final decision.xls; Directlink, Response to information request OPEX 01, 20140829 Response to 140806 Information request.xlsx; AER analysis.

This estimation method also obviates the dependency issue described below.

Dependency issues in using forecast revenue

The \$19.0 million of revenue attributed to Directlink in table 7.9 is a placeholder. The Directlink revenue amount is not able to be independently built up. This is because there is a dependency problem with the calculation of the allocation shares.

Directlink's total revenue depends on the share of the total EII asset group commercial services fee and insurance allocated to Directlink in 2015-16. However, the share of commercial services fee and insurance is calculated as Directlink's revenue share of the total EII asset revenue in 2015-16.

Due to this dependency issue it is not possible to use forecast revenue as the basis for determining revenue shares.

7.5.5 Margin on expenditure

We have included a margin amount of \$1.5 million in our alternative opex estimate. This reflects our acceptance of Directlink's reasoning for inclusion of a margin, in particular that it allows Directlink to access economies of scale and scope.

Directlink proposed \$2.4 million in margin expenditure. Our forecast of the margin reflects the lower amounts of operating and maintenance, insurance, commercial services fee and other costs included in our opex estimate. We have also not included a margin on self-insurance as it is a non-incurred or non-incurable expense.

⁸⁸ AER, Information request OPEX 03, question 2, sent 11 September 2014.

7.5.6 Other expenditure

In relation to the other expenditure elements we have made the following inclusions in our alternative opex estimate:

- For tax on property and capital we have included \$8,427. This is on the basis of invoice evidence we requested and received from Directlink.⁸⁹ Directlink submitted invoices for water rates, council rates, NSW land tax, archiving fees for fire safety and backflow devices.⁹⁰ These invoices totalled \$8,427.
- For accounting/audit fees we have included \$8,887. This is based on Directlink's revenue share of the cost of reviewing the Murraylink and Directlink Regulatory Financial Reports as per the latest service agreement for the 2014 calendar year.
- Directlink proposed \$5,000 to provide for any potential costs which TransGrid may seek to recover for carrying out its functions as Co-ordinating NSP in relation to calculating load export charges. We have not included an amount for 'Other' as TransGrid has indicated that it has no intent to charge Directlink for discharging its functions as Co-ordinating NSP. TransGrid stated that:⁹¹

"TransGrid does not currently charge any administration costs to any other parties for performing duties as coordinating TNSP. There is no reference to administration charges being applicable in either Chapter 6A of the National Electricity Rules or TransGrid's Pricing Methodology. TransGrid's draft Pricing Methodology for July 2015 to June 2019 does not contain any intention to apply an administration charge for the future period either....

TransGrid will not charge any administration costs associated with discharging its functions as Co-ordinating NSP relating to modified load export charges (MLEC) for interconnected regions, which come into effect from 1 July 2015....

TransGrid does not currently and will continue not to charge Directlink any administration costs for its role as Co-ordinating NSP for the allocation of all relevant aggregate annual revenue requirement within the region."

7.5.7 Rate of change

To forecast Directlink's annual change in opex, we have applied forecast CPI to account for changes to efficient opex for each year of the regulatory control period.

We have applied a rate of change approach in as set out in our Guideline for electricity service providers. Under this approach we account for the following factors:

- price change
- output change, and
- productivity change.

To apply a rate of change approach to distribution and transmission service providers we have relied upon the Economic Benchmarking Regulatory Information Notice (RIN) for historical data from 2006–13 to measure productivity over time. However, we do not have an equivalent data set for Directlink.

⁸⁹ AER, Information request - Directlink – Opex 02 – Accounting and auditing fees_tax on property and capital, sent 20 August 2014, question 2.

⁹⁰ Directlink, Response to Information Request - Directlink - Opex 02 - Accounting and auditing fees_tax on property and capital, received 20 August 2014.

⁹¹ TransGrid, Response to AER information request AER TransGrid Opex 10 – Directlink 'Other' Costs, received 26 August 2014, p.1.

Directlink proposed zero real cost escalation and elected to defer the level of real cost escalation to our final decision for the NSW distribution and transmission service providers.⁹² Directlink also did not propose any changes in output and productivity.

We consider the transmission industry to be more reflective of Directlink's network than the distribution industry because Directlink operates a high voltage network over long a long distance similar to the transmission industry.

The transmission industry productivity forecast is an overall productivity measure which includes the effect of labour productivity and economies of scale. Since Directlink is a static network and does not have any output change, applying the transmission industry average productivity may overstate Directlink's productivity.

In our previous approach to applying productivity, before economic benchmarking was available, we only applied economies of scale due to the risk of double counting productivity effects if we incorporated both economies of scale and labour productivity.⁹³

Since Directlink has no output change, there is no risk of double counting productivity effects if we were to incorporate labour productivity. However, we have previously noted that there are several estimation issues related to estimating productivity in the electricity industry so we do not consider forecasting the labour price and then adjusting for labour productivity to be a robust methodology to forecasting input price change.⁹⁴

Professor Borland undertook empirical analysis of the average rate of changes to the average weekly ordinary time earnings (AWOTE), Labour price index (LPI), labour productivity and CPI in Australia from 1997–98 to 2009–10. Professor Borland's analysis indicated that CPI plus an appropriate labour productivity measure is equal to the change in the labour price.⁹⁵

Since Professor Borland's analysis indicates over the long term productivity adjusted labour is equal to CPI and applying the transmission industry average productivity may result in overestimating productivity. We consider the CPI to be the best forecast of the rate of change rather than applying the input price adjusted for productivity from TransGrid's draft decision.

⁹² Directlink, Directlink proposal, p. 19.

⁹³ AER, Better Regulation – Explanatory statement draft expenditure forecast assessment guidelines for electricity transmission and distribution, August 2013, p. 36

⁹⁴ AER, Access arrangement draft decision Envestra Ltd 2013–17 – Part 3 – Appendices, September 2012, p. 76.

⁹⁵ Professor Jeff Borland, Labour cost escalations: choosing between AWOTE and LPI – report for Envestra Limited, March 2012, p. 6.