DRAFT DECISION
Murraylink transmission determination
2018 to 2023

Attachment 7 – Operating expenditure

September 2017

AUSTRALIAN ENERGY REGULATOR

Inquiries about this publication should be addressed to:

Australian Energy Regulator
GPO Box 520
Melbourne Vic 3001

Tel: (03) 9290 1444
Fax: (03) 9290 1457

Email: AERInquiry@aer.gov.au

Note

This attachment forms part of the AER's draft decision on Murraylink's transmission determination for 2018–23. It should be read with all 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

Attachment 13 – Pass through events

Attachment 14 – Negotiated services

Contents

Note 7-2

Contents 7-3

Shortened forms 7-4

7 Operating expenditure 7-6

7.1 Draft decision 7-6

7.2 Murraylink's proposal 7-7

7.2.1 Submissions on Murraylink's proposal 7-8

7.3 Assessment approach 7-8

7.4 Reasons for draft decision 7-10

7.4.1 Base opex 7-11

7.4.2 Rate of change 7-12

7.4.3 Step changes 7-13

7.4.4 Category specific forecasts 7-14

7.4.5 Interrelationships 7-15

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	annual service revenue requirement
augex	augmentation expenditure
capex	capital expenditure
CCP	Consumer Challenge Panel
CESS	capital expenditure sharing scheme
CPI	consumer price index
DMIA	demand management innovation allowance
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

Shortened form	Extended form
RPP	revenue and 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

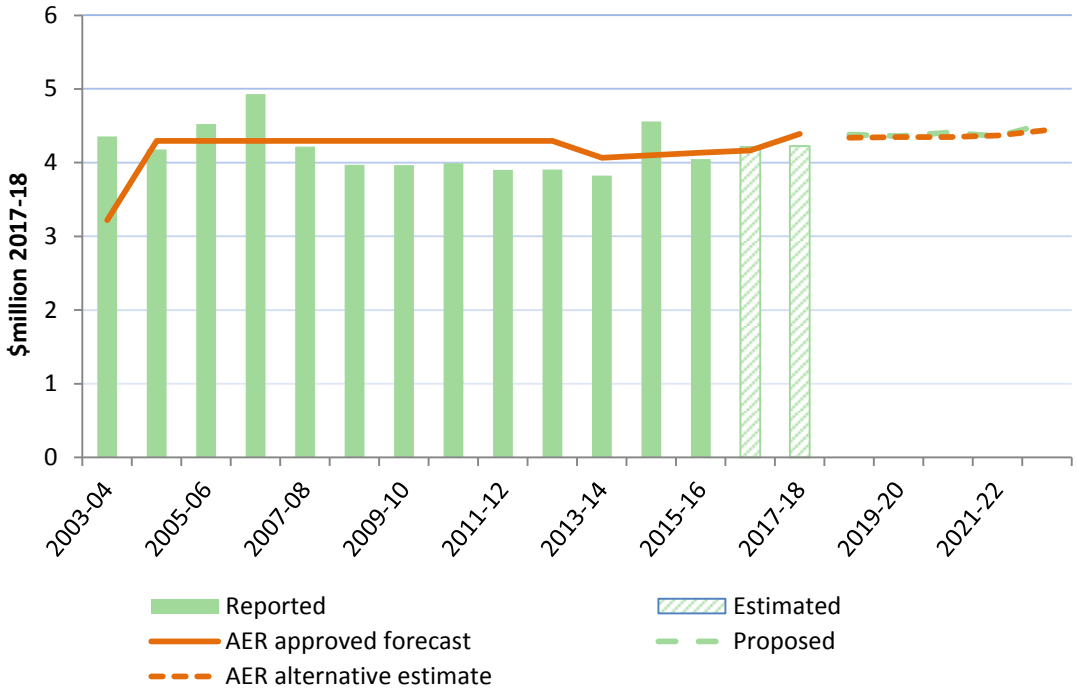
Operating expenditure (opex) refers to operating, maintenance and other non-capital expenses. Forecast opex for prescribed transmission services is one of the building blocks that make up a service provider's total revenue requirement. This attachment outlines how we assessed Murraylink's proposed total opex forecast.

7.1 Draft decision

We accept Murraylink's opex forecast of $22.1 million ($2017–18).[1] We are satisfied that it reasonably reflects the opex criteria.[2]

Figure 7.1 shows Murraylink's opex forecast, its actual opex, our previous regulatory decisions and our alternative estimate.

Figure 7.1 Historical and forecast opex ($ million, 2017–18)



Source: Murraylink, *Regulatory accounts 2003–04 to 2015–16*; Murraylink, Murraylink, *Economic benchmarking RIN response 2006 to 2015,* Murraylink, *Revenue proposal*, *Opex model*, 31 January 2017; Murraylink, *Revenue proposal*, *PTRM*, 31 January 2017; AER analysis.

Note: Includes debt raising costs.

[1] Including debt raising costs; Murraylink, *Revenue proposal, PTRM*, 31 January 2017.

[2] NER, cl. 6A.6.6(c).

7.2 Murraylink's proposal

Murraylink proposed total forecast opex of $22.1 million ($2017–18)[3] (see table 7.1). This represents a 5.6 per cent increase compared to its reported and estimated opex in the 2013–18 regulatory control period.

Table 7.1 Murraylink's proposed opex ($ million, 2017–18)

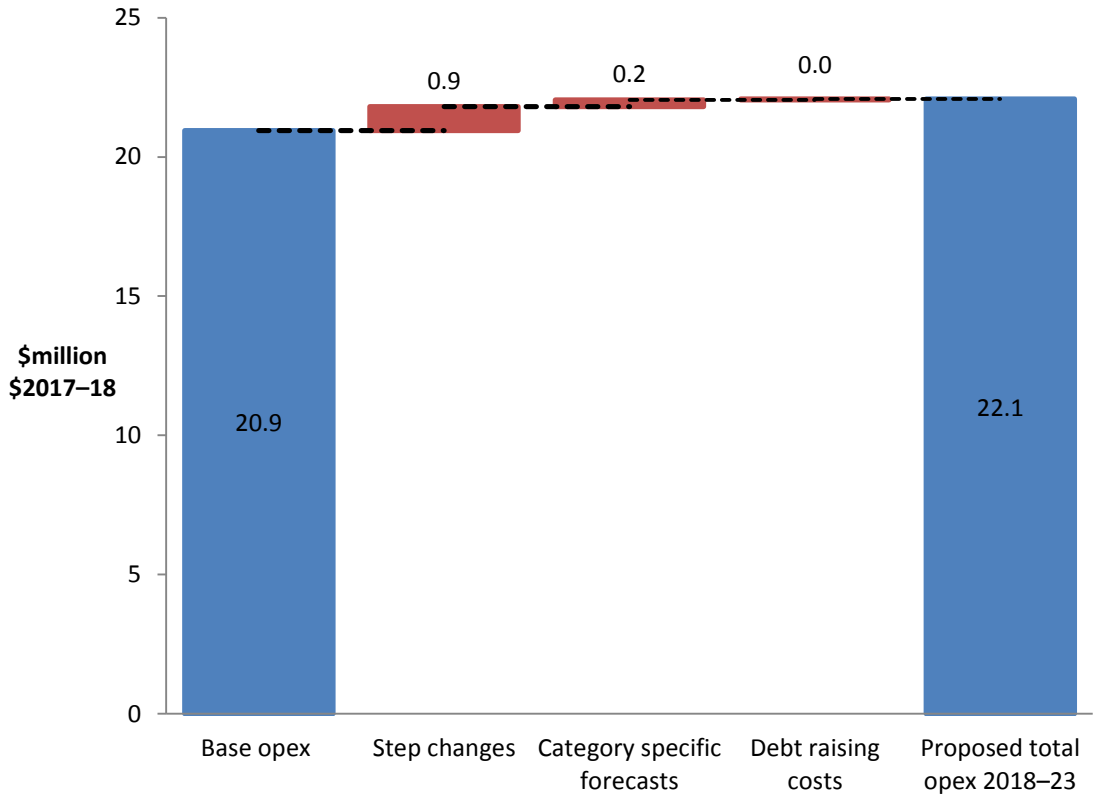
	2018–19	2019–20	2020–21	2021–22	2022–23	Total
Total forecast opex	4.4	4.4	4.4	4.4	4.5	22.1

Source: Murraylink, *Revenue proposal Opex model*, 31 January 2017; Murraylink, *Revenue proposal PTRM*, 31 January 2017.

Note: Includes debt raising costs. Numbers may not add up to total due to rounding.

In figure 7.2 we separate Murraylink's proposed opex forecast into its different elements.

Figure 7.2 Murraylink's opex forecast ($ million, 2017–18)



Source: Murraylink, *Revenue proposal Opex model*, 31 January 2017; AER analysis.

[3] Including debt raising costs. Murraylink, *Revenue proposal PTRM*, 31 January 2017.

Murraylink stated that it adopted our forecasting method to forecast opex for the 2018–23 regulatory control period.[4] It combined 'base–step–trend' and bottom-up approaches. The key elements of Murraylink's proposal are:

- Murraylink used the opex it incurred in 2015–16 as the base to forecast.[5] If no other adjustments were made, this would lead to base opex of $20.9 million ($2017–18) over the 2018–23 regulatory control period.
- Murraylink proposed no real price, output or productivity growth.[6]
- Murraylink proposed one step change of $0.9 million ($2017–18).[7]
- Murraylink proposed category specific forecasts of:
    - $0.2 million ($2017–18) for non-recurrent maintenance activities[8]
    - $0.04 million ($2017–18) for debt raising costs.[9]

This resulted in total opex forecast of $22.1 million ($2017–18).[10]

7.2.1 Submissions on Murraylink's proposal

We received four submissions on Murraylink's opex proposal from the Consumer Challenge Panel (CCP 9), Business SA, Central Irrigation Trust and Murraylink.[11] We have had regard to these in our assessment of Murraylink's proposed step change in section 7.4.3.

7.3 Assessment approach

Our role is to decide whether to accept a business's total opex forecast. We are to form a view about whether a business' forecast of total opex 'reasonably reflects the opex criteria'.[12] In doing so, we must have regard to the opex factors specified in the NER.[13]

The *Expenditure forecast assessment guideline* (the Guideline) together with an explanatory statement set out our assessment approach in detail.[14] While the Guideline provides for greater regulatory predictability, transparency and consistency,

---

4 Murraylink, *Revenue proposal*, 31 January 2017, p. 97.
5 Murraylink, *Revenue proposal*, 31 January 2017, pp. 101–102.
6 Murraylink, *Revenue proposal*, 31 January 2017, p. 102.
7 Murraylink, *Revenue proposal*, 31 January 2017, p. 103; Murraylink, *Revenue proposal*, *Opex model*, 31 January 2017.
8 Murraylink, *Revenue proposal*, 31 January 2017, pp. 103–105.
9 Murraylink, *Revenue proposal*, *PTRM*, 31 January 2017.
10 Murraylink, *Revenue proposal*, *PTRM*, 31 January 2017.
11 Consumer Challenge Panel subpanel 9, *Response to proposals from Murraylink,* 12 May 2017; Business SA, *Submission on Murraylink revenue proposal*, 12 May 2017; Central Irrigation Trust (CIT), *Submission on Murraylink Revenue proposal 2018–2023*, 12 May 2017; Murraylink, *Response to AER issues paper,* 12 May 2017.
12 NER, cl. 6A.6.6(c).
13 NER, cl. 6A.6.6(e).
14 AER, *Expenditure forecast assessment guideline for electricity transmission*, November 2013; AER, *Expenditure forecast assessment guideline*, Explanatory statement, November 2013.

it is not mandatory. However, if we make a decision that is not in accordance with the Guideline, we must state the reasons for departing from the Guideline.[15]

Our approach is to assess the business' forecast opex over the regulatory control period at a total level, rather than to assess individual opex projects. To do so, we develop an alternative estimate of total opex using a 'top-down' forecasting method, known as the 'base-step-trend' approach.[16] We compare our alternative estimate with the business' total opex forecast to form a view on the reasonableness of the business' proposal. If we are satisfied the business' forecast reasonably reflects the criteria, we accept the forecast.[17] If we are not satisfied, we substitute the business' forecast with our alternative estimate that we are satisfied reasonably reflects the opex criteria.[18]

In making this decision, we take into account the reasons for the difference between our alternative estimate and the business' proposal, and the materiality of the difference. Further, we take into consideration interrelationships between opex and the other building block components of our decision.[19]

Figure 7.3 summarises the base–step–trend forecasting approach.

15 NER, cl. 6A.2.3(c).

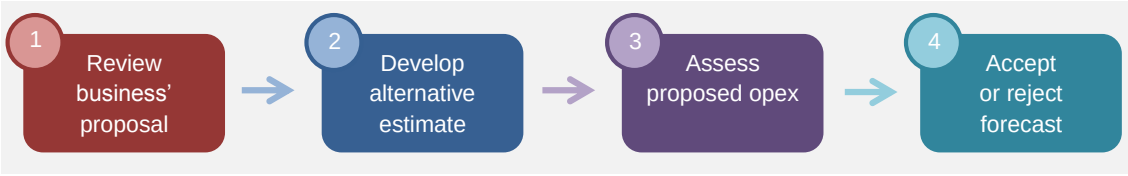
16 A 'top-down' approach forecasts total opex at an aggregate level, rather than forecasting individual projects or categories to build a total opex forecast from the 'bottom up'.

17 NER, cl. 6A.6.6(c).

18 NER, cll. 6A.6.6(d) and 6A.14.1(3)(ii).

19 NEL, s.16(1)(c).

Figure 7.3 Our opex assessment approach



1. Review business' proposal

We review the business' proposal and identify the key drivers.

2. Develop alternative estimate

Base

We use the business' opex in a recent year as a starting point (revealed opex). We assess the revealed opex (e.g. through benchmarking) to test whether it is efficient. If we find it to be efficient, we accept it. If we find it to be materially inefficient, we may make an efficiency adjustment.

Trend

We trend base opex forward by applying our forecast 'rate of change' to account for growth in input prices, output and productivity.

Step

We add or subtract any step changes for costs not compensated by base opex and the rate of change (e.g. costs associated with regulatory obligation changes or capex/opex substitutions).

Other

We include a 'category specific forecast' for any opex component that we consider necessary to be forecast separately.

3. Assess proposed opex

We contrast our alternative estimate with the business' opex proposal. We identify all drivers of differences between our alternative estimate and the business' opex forecast. We consider each driver of difference between the two estimates and go back and adjust our alternative estimate if we consider it necessary.

4. Accept or reject forecast

We use our alternative estimate to test whether we are satisfied the business' opex forecast reasonably reflects the opex criteria. We accept the proposal if we are satisfied.

If we are not satisfied the business' opex forecast reasonably reflects the opex criteria we substitute it with our alternative estimate.

7.4 Reasons for draft decision

Our draft decision is to accept Murraylink's total opex forecast of $22.1 million ($2017–18).[20] We are satisfied this forecast reasonably reflects the opex criteria.[21]

[20] Including debt raising costs.

[21] NER, cl. 6A.6.6(c).

Our alternative estimate of total opex is $21.8 million ($2017–18). It is not materially different from Murraylink's forecast.

Table 7.2 compares the differences between our alternative estimate and Murraylink's proposal. While the components of our forecast are different to Murraylink's, the differences largely offset each other. Our forecast differs from Murraylink's because:

- we used our guideline approach to forecast the change in opex between the base year (2015–16) and the final year of the current regulatory control period (2017–18)
- we included forecast real price growth
- we did not include any step changes
- we did not include the category specific forecasts Murraylink included for non-recurrent maintenance activities.

Table 7.2 Our alternative estimate compared to Murraylink's proposal ($ million, 2017–18)

	Murraylink	Our alternative estimate	Difference
Base opex	20.9	20.3	–0.7
Opex change 2015–16 to 2017–18	–	1.2	1.2
Price growth	–	0.3	0.3
Step changes	0.9	–	–0.9
Category specific forecasts	0.2	–0.0	–0.3
Debt raising costs	0.0	0.0	–
Total opex	**22.1**	**21.8**	**–0.3**

Source: Murraylink, *Revenue proposal, Opex model*, 31 January 2017; AER analysis.

Note: Numbers may not add up to total due to rounding.

We discuss the components of our alternative estimate below. Full details of our alternative estimate are set out in our opex model, which is available on our website.

7.4.1 Base opex

We have used the opex Murraylink incurred in 2015–16 to forecast total opex. This is consistent with Murraylink's proposal. However, unlike Murraylink, we have removed connection costs from base opex and forecast them separately as a category specific forecast. We have accepted Murraylink's proposed cost pass through event for the difference between forecast and incurred connection costs (see attachment 13). Consequently, we need a category specific forecast of connection costs to implement the pass through.

Murraylink's opex was subject to the incentives of an ex ante regulatory framework including the application of an efficiency benefit sharing scheme in the 2013–17 period.

This gave it an incentive to reduce its opex in its proposed base year. In addition, we are not aware of any evidence to suggest that the opex Murraylink proposed in 2015–16 was materially inefficient. Therefore, we consider it reasonable to use the opex Murraylink incurred in 2015–16 to forecast base opex (excluding debt raising costs and connection charges).

7.4.2 Rate of change

We have forecast an average annual rate of change of 0.55 per cent. It is attributable entirely to forecast price growth. We have forecast no output or productivity growth. Murraylink did not include any price, output or productivity growth in its opex forecast.[22]

Forecast price growth

We have forecast real average annual price growth of 0.55 per cent in our alternative opex forecast. This increased our alternative estimate of total opex by $0.3 million ($2017–18).

Our price growth forecast is a weighted average of forecast labour price growth and non-labour price growth:

- To forecast labour price growth, we have used the growth in the wage price index for the South Australian utilities industry forecast by Deloitte Access Economics.
- To forecast non-labour price growth, we have applied the forecast growth in CPI.
- We have applied weights to account for the proportion of opex that is labour and the proportion that is non-labour (62:38).[23] Our labour and non-labour price weights reflect the benchmark efficient mix of labour and non-labour inputs.

Forecast output growth

We have not included any forecast output growth. This is consistent with Murraylink's proposal. It is also consistent with Murraylink's capex proposal, which does not include any expansion capex in the 2018–23 regulatory control period. Murraylink stated:[24]

> The demand for Murraylink's service will remain equal to its maximum capability throughout the 2018–23 regulatory control period. The capital expenditure described in this proposal is therefore not growth related, although the contingent project that would increase the capability of the interconnection to transfer power forms part of this submission. Expenditure is directed at maintaining the maximum capability of the link with a high degree of reliability,

---

22 Murraylink, *Revenue proposal*, 31 January 2017, pp. 102.

23 We applied Economic Insights' benchmark opex price weightings for labour and non-labour: 62 per cent for labour and 38 per cent for non-labour. For more detail for our approach to forecasting price changes refer to AER, *Draft decision, AusNet Services transmission determination 2017–18 to 2021–22*, *Attachment 7*, 20 July 2016, pp. 47–52.

24 Murraylink, *Revenue proposal*, January 2017, p. 88.

whilst ensuring that all regulatory, statutory and legislative requirements are met.

Forecast productivity growth

We have not included any forecast productivity growth. This is consistent with Murraylink's proposal.

Ideally we would forecast opex productivity growth based on past industry average productivity growth to the extent we think it represents business as usual. However, we are not able to measure industry opex productivity growth for interconnectors. There is insufficient data to do so. We note that productivity growth for distribution businesses has been negative while that of transmission businesses has been modestly positive. On balance, we consider zero is a reasonable estimate of productivity growth for interconnectors.

7.4.3 Step changes

We have not included any step changes in our alternative total opex forecast. We consider adding a step change for the cost driver Murraylink identified would lead to a forecast of opex that is above efficient levels. The CCP 9's submission supported this view.[25]

However, Murraylink submitted that its proposed step change satisfies the opex objective. Murraylink considered the proposed step change is required to:[26]

- maintain the quality, reliability and security of supply of prescribed transmission services
- maintain the reliability and security of the transmission system through the supply of prescribed transmission services.

Murraylink also suggested that our guideline approach to assess step changes represents an incorrect test.[27]

We consider that Murraylink has mischaracterised our assessment approach. Our task is to determine whether total forecast opex reasonably reflect the opex criteria.[28] The focus of our assessment is therefore on total opex rather than individual projects or categories. Changes in regulatory obligations and capex substitutions are the most likely circumstances in which a step change is appropriate, but there may be other limited circumstances also.

We adopt a 'top-down' assessment approach that forecasts total opex at an aggregate level. We do not assess individual projects or categories against the opex criteria to

---

[25] Consumer Challenge Panel subpanel 9, *Response to proposals from Murraylink*, 12 May 2017, pp. 4, 11–12.
[26] Murraylink, *Response to AER issues paper,* 12 May 2017, pp. 9–10.
[27] Murraylink, *Response to AER issues paper,* 12 May 2017, p. 9.
[28] NER cl. 6A.6.6.

derive a total opex forecast from the 'bottom up'. We do not determine what activities a network business should undertake or how much it should spend on particular categories of opex.

An opex project that satisfies one or all of the opex criteria does not necessarily require an increase in our total opex forecast under the base-step-trend approach. This is because we recognise that network businesses have an incentive to identify cost increases but not cost decreases. Yet, numerous countervailing factors impact a business' opex requirements such that its revealed aggregate opex remains relatively stable. It is within this context that we assess whether a business' revealed cost is likely to be sufficient for the forecast period, taking into account the circumstances surrounding the step change proposed by the business. Therefore, under our assessment approach, simply demonstrating a proposed expenditure is efficient and prudent does not justify a step change.

We do not consider Murraylink's proposal justifies a departure from our assessment approach, as set out in our Guideline and further refined in recent determination decisions.[29] We consider that our alternative total opex forecast reasonably reflects the opex criteria. Murraylink ought to be able to manage this opex, including of the kind and magnitude contemplated by the proposed step change, within that overall forecast.

7.4.4 Category specific forecasts

We have included category specific forecasts for debt raising costs and connection charges. We have not included any other category-specific forecasts proposed by Murraylink.

Our preferred forecasting approach is to forecast opex using base opex and the rate of change. However, in limited circumstances, we may forecast a particular category of opex independent of the base opex to ensure consistency with other part of the building block model. Alternatively, we may use category specific forecast where the total opex forecast becomes highly volatile if a specific category of opex is included in base opex.

Debt raising costs

We accept Murraylink's forecasting approach for debt raising costs, which is consistent with ours.

Debt raising costs are transaction costs incurred each time a business raises or refinances debt. Our preferred approach is to forecast debt raising costs using a benchmarking approach rather than a service provider's actual costs in a single year. This provides for consistency with the forecast of the cost of debt in the rate of return building block. We discuss this in attachment 3.

[29] AER, *AusNet Services transmission determination*, *Final decision, Attachment 7*, April 2017, pp. 13–23.

Connection charges

We have included Murraylink's connection charge forecasts of $5.1 million ($2017–18). We have accepted Murraylink's proposed cost pass through event for the difference between forecast and incurred connection costs (see attachment 13). Consequently, we need a category specific forecast of connection costs to implement the pass through.

Category specific forecasts for non-recurrent expenditure

Murraylink's included category specific forecasts totalling $0.2 million ($2017–18) in its total opex forecast for non-recurrent activities. We have not included a category specific forecast for these costs in our alternative estimate. We consider base opex, escalated by the rate of change, is sufficient for these opex projects.

A network business will undertake different opex activities from year to year. We do not consider a category specific forecast is required for specific activities simply because a business did not undertake those same projects in the base year. The business will have undertaken other different projects in the base year that it will not undertake in every year going forward. The important consideration is whether *total* opex is recurrent.

7.4.5 Interrelationships

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

- the EBSS carryover—the level of opex used as the starting point to forecast opex (the final year of the current period) should be the same as the level of opex used to forecast the EBSS carryover. This consistency ensures that the business is rewarded (or penalised) for any efficiency gains (or losses) it makes in the final year the same as it would for gains or losses made in other years.
- the operation of the EBSS in the 2013–18 regulatory control period, which provided Murraylink an incentive to reduce opex in the base year
- the impact of cost drivers that affect both forecast opex and forecast capex. For instance, forecast labour price growth affects forecast capex and our forecast of forecast price growth used to estimate the rate of change in opex
- the approach to assessing the rate of return, to ensure there is consistency between our determination of debt raising costs and the rate of return building block
- concerns of electricity consumers identified in the course of its engagement with consumers.