FINAL DECISION
Murraylink transmission determination
2018 to 2023

Attachment 6 – Capital expenditure

April 2018

AUSTRALIAN ENERGY REGULATOR

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Note

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

The final decision includes the following documents:

Overview

Attachment 1 – Maximum allowed revenue

Attachment 2 – Regulatory asset base

Attachment 3 – Rate of return

Attachment 5 – Regulatory depreciation

Attachment 6 – Capital expenditure

Attachment 8 – Corporate income tax

Attachment A – Negotiating framework

Attachment B – Pricing methodology

Contents

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

6 Capital expenditure

The National Electricity Rules (NER) requires Murraylink to include a forecast of total capital expenditure (capex) in its revenue proposal for the 2018–23 regulatory control period.[1] These capital costs are included in the return on and of capex components of the 'building blocks' that form Murraylink's total revenue requirement.[2]

We generally categorise capex as either network or non-network capex. Network capex includes:

- growth driven capex, including for augmentation and new connections
- non-load driven capex, including replacement and refurbishment capex.

Non-network capex includes capex to support the business such as business information technology (IT) and buildings/facilities.

This attachment sets out our final decision on Murraylink's total forecast capex for the 2018-23 regulatory control period.

6.1 Final decision

Our final decision is to accept Murraylink's revised total forecast capex of $29.0 million ($2017-18) for the 2018-23 regulatory control period. We compared it to our alternate estimate and we are satisfied that it reasonably reflects the capex criteria. Table 6-1 outlines our final decision.

Table 6-1 AER final decision on Murraylink's total capex ($2017-18, million)

	2018–19	2019–20	2020–21	2021–22	2022–23	Total
Murraylink's revised proposal	4.4	12.0	9.7	2.2	0.8	29.0
AER final decision	**4.4**	**12.0**	**9.7**	**2.2**	**0.8**	**29.0**
Difference ($million)	0	0	0	0	0	0
Difference (per cent)	0	0	0	0	0	0

Source: Murraylink, *Attachment 3.2 - Murraylink - Revised Proposal Capex Model*, 1 December 2017; AER analysis.

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

Table 6-2 summarises our findings and the reasons for our final decision.

1 NER, cl. 6A.6.7(a).

2 NER, cl. 6A.5.4(a)(1).

Table 6-2 Summary of AER reasons and findings

Issue	Reasons and findings
Total Capex	Our alternative estimate of total capex required for the 2018-23 regulatory control period is $28.7 million ($2017-18). This is a reduction of $0.2 million or 0.8 per cent from Murraylink's revised proposal of $29.0 million. As Murraylink's revised forecast is not materially different from our alternative estimate, we are satisfied that Murraylink's forecast reasonably reflects the capex criteria.
Control System Upgrade	We are satisfied that Murraylink's revised 'Control System Upgrade' forecast of $25.3 million reasonably reflects the capex criteria. In coming to this conclusion, we are satisfied that Murraylink has demonstrated that: • It does not 'double dip' on the recovery of the contract margin for this project as raised in our draft decision • the margin as applied in the contract included in forecast capex is in line with other margins in the industry; and • the entire contract cost, including the margin is likely to reasonably reflect prudent and efficient costs
Regulatory and Consumer Engagement Costs	Our alternative estimate did not include Murraylink's proposed $0.2 million for revenue determination and consumer engagement costs. While we consider that these costs would be better characterised as opex costs, these costs are not related to any new regulatory obligations. Relevantly, Murraylink has not demonstrated against the capex criteria that the inclusion of these costs are necessary to achieve the capex objectives.
Remaining capex	We accept all other aspects of Murraylink's revised capex proposal ($3.5 million) for the reasons outlined within our draft decision.

Source: AER analysis.

6.2 Murraylink's revised proposal

In its revised proposal, Murraylink proposed total capex of $29.0 million ($2017-18). This is $13.6 million or 88 per cent above Murraylink's actual and estimated capex for the 2013-18 regulatory period.[3] Its revised proposal is $2.3 million higher than our draft decision, and $4.9 million lower than Murraylink's initial proposal.

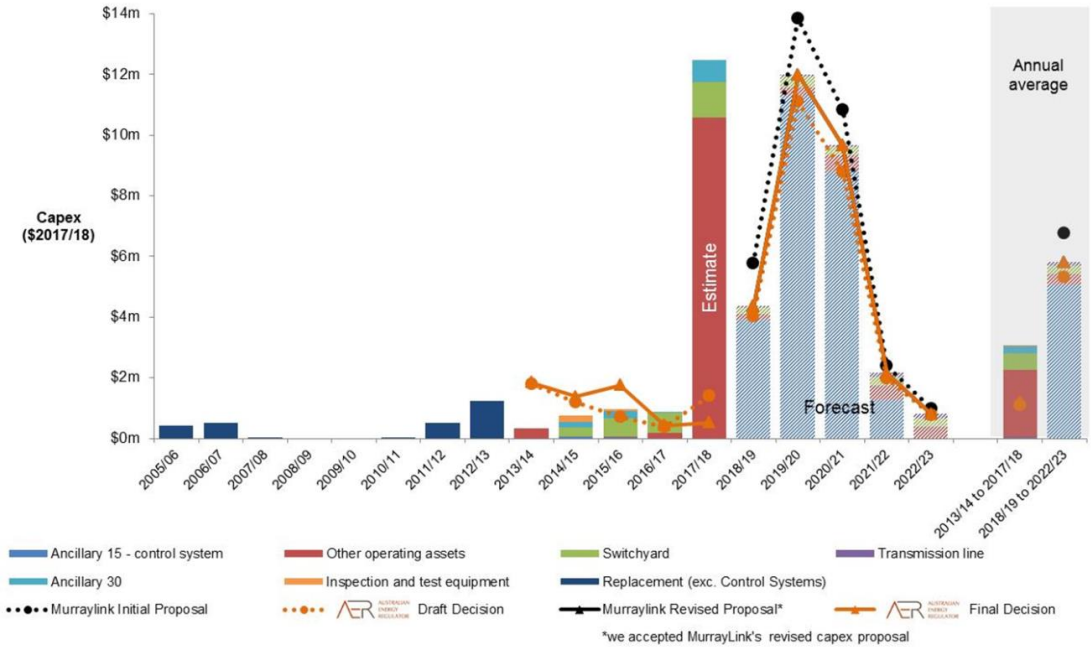
Murraylink has submitted that the majority (99 per cent) of its capex forecast relates to the replacement or refurbishment of network assets. The replacement of Murraylink's control system is the major driver of the capex forecast, accounting for approximately 87 per cent of its capex forecast.[4]

Figure 6-1 shows Murraylink's capex forecast for each year of the 2018-23 regulatory control period. It also shows Murraylink's actual and expected capex for the 2013-18 regulatory control period, the AER's determination for this regulatory control period and the AER's draft decision for the 2018-23 regulatory control period.

[3] AER analysis.

[4] Murraylink, *Revised revenue proposal*, 1 December 2017, p. 45

Figure 6-1 Murraylink total actual and forecast capex



Source: AER analysis

Murraylink's revised proposal is driven by capex for a project to upgrade its control systems (87 per cent of its revised capex). In its revised proposal, Murraylink proposed capex of $25.3 million for the 'Control System Upgrade' project. This is $2.5 million more than our draft decision, but $2.0 million less than the initial proposal. Murraylink disagreed with our draft decision to not include a margin for contract costs associated with the 'Control System Upgrade' project. This was on the basis that:[5]

- The comparison between Directlink and Murraylink costs in our draft decision does not provide a useful sense check on the proposed expenditure by Murraylink[6].
- Murraylink has demonstrated, using the AER's own framework, that the 'Management, Operations and Commercial Services Agreement (MOMSCA)[7] (which establishes the relevant contractual arrangements that the owners of Murraylink have with APA as the operator of the asset) is an efficient contract and that the full forecast of capex is consistent with NER requirements.
- A contract for a multi-dimension service cannot be considered against one project in isolation. Rather when assessing the efficiency of the contract, it must be considered as a whole.

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5 Murraylink, *Revised revenue proposal*, 1 December 2017, pp. 35-39

6 Directlink also proposed a similar project in its 2015-120 Revenue Determination.

7 The Management, Operations and Maintenance and Commercial Services Agreement (MOMSCA) is discussed in: our draft decision.

- There will be negative incentive properties if we maintained our draft decision by incentivising Murraylink to provide all services in house.

Murraylink's revised proposal also included proposed capex of $0.2 million for 'consumer engagement and revenue proposal costs'. The remainder of Murraylink's revised capex proposal either accepted our draft decision or included minor revisions to project forecasts.

6.3 Assessment approach

We must determine whether Murraylink's proposal reasonably reflects the capex criteria set out in the NER.[8] If we are satisfied that Murraylink's proposal reasonably reflects the capex criteria in meeting the capex objectives, we accept it.[9] If we are not satisfied the NER requires us to put in place a substitute estimate which we are satisfied reasonably reflects the capex criteria.[10] Where we have done this, our substitute estimate is based on our alternative estimate.

Our assessment approach is outlined in more detail in the draft decision.[11]

6.4 Reasons for final decision

Overall, we are satisfied that Murraylink's proposed total capex satisfies the capex criteria.[12] In constructing our alternative capex forecast, we arrived at an amount of $28.7 million. We compared Murraylink's proposed total capex forecast to our alternative capex forecast. Relevantly, as Murraylink's revised capex of $29.0 million is not materially different from our alternative estimate, we are satisfied that Murraylink's estimate reasonably reflects the capex criteria.

In coming to our final decision, we have accepted Murraylink's revised forecast of $25.3 million for the 'Control System Upgrade' project. We have accepted further capex of $3.5 million on the basis that the proposed projects either reflect our draft decision or only differ by a minor amount as a result of updated project forecasts. These projects include:

- Battery chargers
- Cable fault location relays (WAP)
- Cable relocation
- Coms Site Huts x 2
- NSW Runback Scheme

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8 NER, cl.6A.6.7(c)

9 NER, cl.6A.6.7(a)

10 NER, cl. 6A.14.2(2)(ii)

11 AER, *Draft decision - Murraylink transmission determination 2018-19 to 2022-23: Attachment 6 - Capital expenditure*, September 2017, pp.6-8 to 6-13

12 NER, cl. 6A.14.1(2)(ii), NER, cl. 6A.6.7(c), NEL, s.7 and s.7A.

- Other minor capital works
- Spare capacitors
- Spare IGBTs; and
- VSD refurbishment.

However, we have not included proposed capex associated with consumer engagement. We do not consider these are likely to be prudent and efficient.

6.4.1 Assessment of revised proposed capital expenditure

We are satisfied that Murraylink's revised total forecast capex of $29.0 million ($2017-18) is likely to reasonably reflect the capex criteria.

Our reasons are discussed below.

6.4.1.1 Control System Upgrade

Our final decision is to accept Murraylink's revised forecast capex of $25.3 million for the 'Control System Upgrade'. In our draft decision we considered that the margin paid by Murraylink to APA included in the 'Control System Upgrade' costs was not likely to be prudent and efficient. We recognise that both the CCP[13] and Government of South Australia[14] have recommended that we maintain our draft decision. In reaching our decision, we are satisfied that Murraylink has addressed the concerns we raised in our draft decision. We are now satisfied that proposed capex is likely to reflect prudent and efficient costs. We have reached this decision on the basis that:

- Murraylink has demonstrated that it does not 'double dip' on the recovery of the margin[15].
- Murraylink has provided further analysis demonstrating that the margin as applied in the outsourcing contract with APA (MOMSCA) is in line with margins earned by other contractors in the industry.
- Murraylink has provided further analysis demonstrating that the full contract cost is lower than other options available to Murraylink

As such, we are satisfied that it is likely to be efficient for Murraylink to include the margin on all 'Control System Upgrade' project costs.

Our further assessment of the margin included in the proposed capex associated with the 'Control System Upgrade' project is discussed below.

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13 Consumer Challenge Panel subpanel 9, *Submission on Murraylink's revised proposal*, 31 January 2018, p. 4

14 Government of South Australia, *Submission on Murraylink's revised proposal*, 18 December 2017, p. 1

15 AER, *Draft decision - Murraylink transmission determination 2018-19 to 2022-23: Attachment 6 - Capital expenditure*, September 2017, pp.6-22 to 6-23

'Double dip' on the recovery of the margin

In our draft decision we noted that Murraylink's contract costs, including the margin on these costs, based on the supporting information, appeared to be only relevant to operating costs and not capital costs.[16] In response to our draft decision, Murraylink submitted that its supporting information in regard to its outsourcing arrangements and margins[17] was 'mislabelled' in its reference to the margin as *inclusive* of only of operating costs.[18] Murraylink's revised proposal resubmitted this information, correcting its initial analysis to clarify that its margin for this project and proposed capex does include capital costs. Upon review of the revised information, we are satisfied that Murraylink's contract costs and therefore forecast capex relevant to the 'Control System Upgrade' does include a margin[19] that is inclusive of both operating and capital costs. Importantly, as the margin includes both operating and capital costs, our initial concern that capital costs are not intended to be part of the margin and therefore forecast capex may be overstated, is no longer an issue.

As discussed below, another important consequence of this 'mislabelling' of the contract costs included in the capex forecast, was that Murraylink significantly understated the historical and forecast total contract cost payable to APA under its outsourcing arrangement. In particular, the initial forecast total contract payment to APA was stated to be $4.2 million pa (inclusive of the margin).[20] This was revised to be $10.2 million pa (inclusive of the margin).[21] In regard to the margin component of this total contract cost, Murraylink re-submitted that this is forecast to be on average $0.99 million (nominal) per year of the 2018-23 regulatory control period, compared to the initially submitted $0.38 million (nominal) per year. We have considered below whether the total contract costs and the revised margin component (inclusive of the margin on the owners engineer costs) benchmarks favourably with comparable margins in the industry.[22]

Assessment of overall cost efficiency of existing contractual arrangements

Murraylink submitted that its outsourcing arrangements specified in the MOMSCA stipulates that the margin must be paid on all costs. If Murraylink does not pay the margin then APA will not provide the service.[23] Murraylink concluded that by not allowing the recovery of a margin on all costs, our draft determination directly contradicted the NER and the NEO.

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16 AER, *Draft decision - Murraylink transmission determination 2018-19 to 2022-23: Attachment 6 - Capital expenditure*, September 2017, pp.6-22 to 6-23

17 Murraylink, *Attachment 8.2 - Outsourcing arrangements and margins*, 31 January 2017

18 Murraylink, *Revised revenue proposal*, 1 December 2017, p. 39

19 The margin is also referred to as the management fee in our draft decision.

20 Murraylink, *Attachment 8.2 - Outsourcing arrangements and margins*, 31 January 2017, p. 10

21 Murraylink, *Response to information request 010*, 02 January 2018, p. 1

22 As discussed in our draft decision, Murraylink also included costs associated with specialist consultant engineers to manage the risk associated with installing the upgraded control system.

23 Murraylink, *Revised revenue proposal*, 1 December 2017, p. 38

We do not consider that the existing contract (MOMSCA) demonstrates that the proposed costs are likely to be prudent and efficient. However, based on further information, we consider that Murraylink has demonstrated the contract costs, including the margin, are likely to reflect prudent and efficient costs:

- the margin payable under the MOMCSA for the provision of asset management, operating, maintenance and capital services is in line with the margins earned by other contractors;[24] and
- the overall charge payable under the MOMCSA is likely to be lower than the cost of providing the services in-house.[25]

Comparison of the margin payable under the MOMSCA to those earned by other contractors

In assessing Murraylink's margin, we requested forecast values for the 2018-23 regulatory control period. Murraylink submitted as the information shown in Table 6-4.

Table 6-4 Forecast APA margin as a per cent of revenue ($million, nominal)

	17/18	18/19	19/20	20/21	21/22	22/23
Margin on expenditure ($m)	1.52	0.81	1.56	1.38	0.65	0.55
Murraylink revenue ($m)	13.8	15.1	16.4	17.8	19.2	20.6
Margin as a % of revenue	**11.0%**	**5.4%**	**9.5%**	**7.7%**	**3.4%**	**2.7%**

Source: Murraylink, *Response to information request 010*, 02 January 2018, p. 2

Based on the information in Figure 6-4, the margin on expenditure is expected to be 5.6 per cent of Murraylink's forecast total revenue over the 2018-23 regulatory control period. Combining historical and forecast data, the total margin on expenditure is estimated to be 4.4 per cent of Murraylink's revenue from 2008-09 to 2022-23.

Murraylink considered its margin is consistent with comparable contractors. It draws on a 2015 benchmark study of contractor profit margins to support its case.[26] Relevantly, the report found that a benchmark range of earnings before interest and tax (EBIT) as a percentage of contractor revenue used to estimate margins was:

- 5.3-7.3 per cent (using data from 2010 to 2014); and
- 5.9-7.3 per cent (using data from 2005 to 2014).

Murraylink submitted a calculation of their corresponding EBIT metric in support of the margin, which showed it to be 4.1 and 5.7 per cent of APA revenue (historical and

[24] Murraylink, *Attachment 6.2 - Outsourcing arrangements and margins*, 1 December 2017, p. 13
[25] Murraylink, *Attachment 6.2 - Outsourcing arrangements and margins*, 1 December 2017, p. 19
[26] Australian Gas Networks, *Attachment 2.4 K Lowe Benchmark Study of Contractor Profit Margins*, July 2015

forecast) and forecast revenue, respectively.[27] Murraylink also referred to a report by Evans & Peck (2003) which found an average profit margin of 9.5 per cent on base cost for firms that were providing construction operating and maintenance services.[28]

On review of the evidence provided by Murraylink, we are satisfied that that the margin is likely to be consistent with that of other contractors. In particular, the evidence suggests that the margin as a percentage of APA revenue is lower than or consistent with the benchmark range of industry margins.

Comparison of the total contract cost to the cost of alternative arrangements

Murraylink submitted that the MOMSCA contract cannot be considered against one project in isolation, in this case the 'Control System Upgrade' project.[29] Rather when assessing the efficiency of the contract, it must be considered as a whole. In particular, Murraylink submitted that our approach in the draft decision appears to 'cherry pick' aspects of its contractual arrangements.[30]

In order to demonstrate the efficiency of the overall contract, Murraylink compared the contract cost to alternative arrangements. In particular, Murraylink compared the total estimated MOMSCA contract cost for corporate services to the following scenarios:[31]

- estimated cost of 100 per cent APA ownership; and
- 'stand-alone' costs[32].

Murraylink submitted that the total MOMSCA contract costs included in the capex forecast were lower than both scenarios, and therefore the MOMSCA satisfies the capital expenditure criteria.[33] We do not consider a comparison with stand-alone costs to be a relevant counterfactual benchmark given that Murraylink could access scale and scope efficiencies from other contractors in the industry.

The CCP has submitted that a more appropriate alternative would be the costs of services provided by a specialist TNSP.[34] However, we note that the HVDC interconnector is itself a specialist transmission asset, which suggests that the costs of a specialist TNSP may not necessarily be lower than the current operating arrangements. Relevantly, we are satisfied that given APA's experience in the management of energy infrastructure and in the operation of a similar asset (Directlink), it is likely that APA is able to achieve scale and scope efficiencies.

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27 Murraylink, *Response to information request 010*, 08 February 2018, p. 2

28 Evans and Peck (2003), "Industry standard margins", prepared for Agility Management Pty Ltd and Australian Pipeline Trust on the Pipeline Management Agreement.

29 Murraylink, *Revised revenue proposal*, 1 December 2017, p. 37

30 Murraylink, *Revised revenue proposal*, 1 December 2017, p. 37

31 Murraylink, *Response to information request 010*, 12 January 2018

32 These are the estimated costs of Murraylink acting as its own entity, as opposed to being a part of a wider entity.

33 Murraylink, *Attachment 6.2 - Outsourcing arrangements and margins*, 01 November 2017, pp. 20-21

34 CCP Subpanel 9, *Submission on Murraylink's revised proposal*, 31 January 2018, pp. 12-13

In relation to the proposed costs of corporate services, we reviewed the analysis provided by Murraylink. This involved comparing the estimated MOMSCA corporate costs to the corporate costs of 100 per cent APA ownership. Based on the information available, it suggests that the MOMSCA total contract costs are the lowest cost option. In particular, Murraylink submitted that its further analysis demonstrates that:[35]

> … the cost of the margin to consumers is less than the benefit from the MOMSCA with respect to the provision of corporate services. Additional efficiency benefits exist relating to operational services.
>
> The expected margin to be paid for the five years of the next regulatory control period is $4.96m and the benefit [cost reductions] compared to in house provision in a larger entity of $5.71m. This ignores the additional other benefits that the MOMSCA provides Murraylink in terms of direct operating costs and capital expenditure efficiencies.

Based on the further information provided by Murraylink, we are satisfied that the arrangements as reflected in the MOMSCA are likely lead to lower operating costs than full APA ownership. As such we are satisfied that the outsourcing arrangements are reasonably likely to reflect prudent and efficient costs given these expected costs are lower than the costs of 100 per cent APA ownership, in circumstances where APA's costs are themselves likely to reflect scale and scope efficiencies from APA's management of infrastructure assets.

6.4.1.2 Revenue determination and consumer engagement

Murraylink's revised proposal included capex of $0.2 million ($2017-18) for consumer engagement and revenue proposal costs.[36] The Government of South Australia[37] and CCP[38] have recommended we do not accept this expenditure. Murraylink submitted that these costs are consistent with the NER as:[39]

> … it is necessary to comply with all applicable regulatory obligations or requirements associated with the provision of prescribed transmission services as the AER defines them.

In reviewing these costs, we consider (as did the CCP[40]) that these costs are better characterised as opex rather than capex. This is consistent with Murraylink's approach of depreciating these costs over a three year period, which indicates that these costs are effectively treated as an expense (opex). We have therefore applied our opex assessment approach[41] in assessing these costs, which would treat these costs as an opex 'step change'. Relevantly, as these costs do not reflect a mandatory new

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35 Murraylink, *Response to information request 10*, 02 January 2018, p. 5.

36 Murraylink, *Revised revenue proposal*, 1 December 2017, p. 43

37 Government of South Australia, *Submission on Murraylink's revised proposal*, 18 December 2017, p. 2

38 CCP Subpanel 9, *Submission on Murraylink's revised proposal*, 31 January 2018, p. 3

39 Murraylink, *Revised revenue proposal*, 1 December 2017, p. 43

40 CCP Subpanel 9, *Submission on Murraylink's revised proposal*, 31 January 2018, p. 9

41 AER, *Draft decision - Murraylink transmission determination 2018-19 to 2022-23: Attachment 7 - Operating expenditure*, September 2017, pp.7-13 to 7-14

obligation, they would not be considered as a 'step change' in costs to be compensated under our opex assessment framework. As such, we are not satisfied that these costs are likely to be prudent and efficient opex.

6.4.1.3 Consideration of the capex factors

In deciding whether or not we are satisfied Murraylink's forecast reasonably reflects the capex criteria, we have had regard to the following capex factors when applying our assessment techniques to the total proposed capex forecast. Table 6-5 summarises how we have taken into account the capex factors.

Table 6-5 AER consideration of the capex factors

Capex factor	AER consideration
The actual and expected capex of Murraylink during any preceding regulatory control periods	We have had regard to Murraylink's actual and expected capex during the 2013–2018 regulatory control period in assessing its proposed total forecast capex and in determining our substitute estimate for the 2018–23 regulatory control period. However, Murraylink's proposed capex reflects the costs of upgrading the control system on the basis of an 'end of life' replacement and so the majority of proposed capex does not reflect recurrent capital expenditure programs.
The most recent annual benchmarking report and benchmarking capex that would incurred by an efficient TNSP over the relevant regulatory control period	We have considered Murraylink's capex performance with the Directlink interconnector for some proposed capex as this asset is similar in nature (also a HVDC interconnector). This comparison discussed in our draft decision was relevant in considering some of the proposed capex programs and the proposed costs of the control system upgrade.
The extent to which the capex forecast includes expenditure to address concerns of electricity consumers as identified by Murraylink in the course of its engagement with electricity consumers	We have had regard to the extent to which Murraylink's proposed total forecast capex includes expenditure to address consumer concerns that have been identified by Murraylink. Murraylink has proposed $0.01 million of capex for stakeholder engagement in response to criticisms of its consumer engagement practices. However, as this does not reflect a new mandatory obligation, we have not included this amount in our alternative estimate of total capex.
The relative prices of operating and capital inputs	Murraylink did not propose material real cost escalators. We consider that real material cost escalation should not be applied in determining Murraylink's required capital expenditure.
The substitution possibilities between operating and capital expenditure	We have had regard to the substitution possibilities between opex and capex. We have considered whether there are more efficient and prudent trade-offs in investing more or less in capital in place of ongoing operations. We consider that Murraylink's operating risk should not increase based on the proposed replacement of the control systems. We also considered that Murraylink's proposed consumer engagement and revenue proposal costs were better characterised as opex costs. As such, we applied our opex assessment framework to assessing these costs.
Whether the capex forecast is consistent with any incentive scheme or schemes that apply to Murraylink.	We have had regard to whether Murraylink's proposed total forecast capex is consistent with the STPIS. We have previously not accepted proposed capex for the maintenance of surveillance cameras on the basis that this appears to be

	driven by reliability improvements that should be funded through the STPIS (as set out in Attachment 11) and not in the ex-ante capex forecast. Murraylink did not propose capex for surveillance cameras in its revised proposal in response to our draft decision.
The extent to which the capex forecast is referable to arrangements with a person other than the TNSP that do not reflect arm's length terms	We have had regard to whether any part of Murraylink's proposed total forecast capex or our substitute estimate is referable to arrangements with a person other than Murraylink that do not reflect arm's length terms. We did not identify any parts of Murraylink's proposed total capex or our substitute estimate is referable in this way. Though we did initially identify concerns with an aspect of the management fee that is levied by APA (the part owner and operator of the interconnector). However, on review of Murraylink's revised proposal we are satisfied that Murraylink has addressed the issues identified in our draft decision.
Whether the capex forecast includes an amount relating to a project that should more appropriately be included as a contingent project	We have had regard to whether any amount of Murraylink's proposed total forecast capex or our substitute estimate relates to a project that should more appropriately be included as a contingent project. We did not identify any such amounts.
The extent to which Murraylink has considered and made provision for efficient and prudent non-network alternatives	We have had regard to the extent to which Murraylink made provision for efficient and prudent non-network alternatives as part of our assessment of the capex associated with the non-network capex driver. On the information available to us, Murraylink has not identified any expenditure related to non-network alternatives.
Any relevant final project assessment report (as defined in clause 5.10.2 of the NER) published under clause 5.17.4(o), (p) or (s)	There are no final project assessment reports relevant to Murraylink for us to have regard to.
Any other factor for the AER considers relevant and which the AER has noticed Murraylink in writing, prior to the submission of its revised regulatory proposal under is a capex factor	We did not identify any other capex factor that we consider relevant.

Source: AER analysis

6.4.2 Conclusion

We have determined an alternative estimate of $28.7 million. We are satisfied that this amount is reasonably likely to reflect the capex criteria. In reaching this decision, we had regard to the capex factors. We compared our alternative estimate to Murraylink's revised proposal of $29.0 million. Given there is not a material difference, we are satisfied that this amount of $29.0 million ($2017-18) reasonably reflects the capex criteria. This should provide Murraylink with a reasonable opportunity to recover at least its efficient costs.[42]

Table 6-6 shows the adjustments we have made to Murraylink's proposed capex.

[42] NEL,s.7A.

Table 6-6 Final decision: capex adjustment ($2017-18, million)

Capex factor	Murraylink proposed capex	AER adjustment	Final decision
Replacement of Control System	25.3	-	25.3
Spare IGBT's	0.9	-	0.9
Other minor capital works	0.7	-	0.7
VSD Refurbishment	0.6	-	0.6
Spare Capacitors	0.5	-	0.5
Cable relocation	0.3	-	0.3
Revenue Determination	0.2	-	0.2
Coms Site Huts x 2	0.2	-	0.2
Battery chargers	0.1	-	0.1
Cable fault location relays (WAP)	0.1	-	0.1
TOTAL	**29.0**	**-**	**29.0**

Source: Murraylink, *Attachment 3.2 - Revised proposal capex model*, 01 December 2017

Note: Numbers may not add to total due rounding.