

# Issues Paper

## Murraylink

### Electricity transmission revenue proposal

1 July 2023 to 30 June 2028

March 2022

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# 1 Introduction

The AER exists to ensure energy consumers are better off, now and in the future. Consumers are at the heart of our work, and we focus on ensuring a secure, reliable and affordable energy future for Australia. We regulate electricity networks in all jurisdictions except Western Australia. Our primary role is in setting the maximum revenue that network businesses can recover from users of their networks. Our goal is to make decisions that ensure consumers pay no more than necessary for safe and reliable energy.

On 31 January 2022 we received a revenue proposal for electricity transmission network service provider Murraylink, for the five-year regulatory control period 1 July 2023 to 30 June 2028 (2023–28 period).<sup>1</sup>

The Murraylink interconnector delivers electricity between the South Australian and Victorian regions of the National Electricity Market (NEM). Murraylink consists of a single high voltage direct current transmission line, approximately 176 kilometres long, with converter stations at Red Cliffs, Victoria and Berri, South Australia. Murraylink has capacity to deliver 220 megawatts of power into the AC network in either state.

Our final decision on this proposal will set the revenue allowance that forms the major component of Murraylink's transmission charges for the five-year period.

Over the 2023–28 period, a number of additional mechanisms under the NER may operate to increase or decrease Murraylink's approved revenue in response to external drivers that materially change its efficient costs. For example, this may include the potential contingent project that Murraylink has suggested it might put forward as part of its 2023–28 proposal, and cost pass through events defined in the National Electricity Rules. We think it is important for stakeholders to be aware of these additional potential projects when considering the proposal put forward by Murraylink.

This Issues Paper highlights some of the key elements of the proposal, and identifies issues that, on preliminary review, are likely to be the focus of our assessment.<sup>2</sup> We have set out a number of questions throughout this paper. Stakeholders can assist our process by providing their views on these or any other aspect of the proposal.

## 1.1 How can you get involved?

Consumer engagement is a valuable input to our determinations. When we receive stakeholder submissions that articulate consumer preferences, address issues in a revenue proposal, and provide evidence and analysis, our decision-making process is strengthened.

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<sup>1</sup> <https://www.aer.gov.au/networks-pipelines/determinations-access-arrangements/murraylink-determination-2023%E2%80%9328>.

<sup>2</sup> As required under the National Electricity Rules (NER or Rules), cl. 6A.11.3(b1).

You can contribute to our assessment by:

- Making a written submission on Murraylink’s proposal to [Murraylink2023@aer.gov.au](mailto:Murraylink2023@aer.gov.au), by **11 May 2022**.
- Joining us and Murraylink at an online public forum on **30 March 2022**. Details of how to register for this forum are available on our website.

Table 1 sets out the key milestones planned for this review.

**Table 1 Key dates for Murraylink’s 2023–28 revenue determination**

Milestone	Date
AER publishes Issues Paper on Murraylink’s proposal	28 March 2022
AER holds public forum on Issues Paper and Murraylink’s proposal	30 March 2022
Submissions due on Murraylink’s proposal	11 May 2022
AER publishes draft decision	September 2022
AER holds public forum on draft decision (predetermination conference)	October 2022
Murraylink submits revised proposal to AER	November 2022
Submissions due on draft decision and Murraylink’s revised proposal	January 2023
AER publishes final decision	April 2023

Note: Timelines are indicative and subject to change.

## 2 Our initial observations

Murraylink has proposed total revenue of \$75.7 million (\$ nominal, smoothed) to be recovered from electricity consumers over the 2023–28 period. This is 6.1% lower than what we approved for the current, 2018–23, period. A transmission business recovers revenue from its consumers via network charges. While our decision will influence the revenue that Murraylink can recover from its prescribed transmission services, it will not set transmission charges or the retail prices that end-consumers pay.

The electricity consumed by South Australian and Victorian households and businesses is supplied through a network of ‘poles and wires’ divided into:

- transmission – high voltage electricity transmission networks connecting generators, distributors, and major end users.
- distribution – carrying electricity from the points of connection with the transmission network to virtually every residence and building.

Retail prices for electricity consumers in South Australia and Victoria include the costs associated with operating and maintaining the transmission (11%) and distribution (37%) networks, and also costs of generation (28%), environmental schemes (10%) and costs incurred by retailers in selling electricity (14%).<sup>3</sup>

Murraylink’s proposal goes to the transmission component of retail bills. Its charges are recovered through ElectraNet’s transmission charges in South Australia, and AusNet Services’ transmission charges in Victoria. Charges are allocated according to the value of Murraylink’s assets in each State.

Murraylink’s proposal is the first step in a 15-month review process. Over the course of this process, as we move from proposal to draft decision, and then to revised proposal and final decision, components of forecast revenue are likely to change. These changes may result from our taking a different view on proposed revenue to Murraylink’s. In addition, a standard part of our process is to update the forecast revenue for movements in market variables such as interest rates, bond rates and inflation. Movements in these market variables can have a material impact on the final revenue and therefore customer bills. Therefore, projected bill impacts at this stage should be treated as no more than potential impacts subject to changes in interest rates and inflation. For illustrative purposes, though, we estimate that Murraylink’s 2023–28 proposal would contribute to a \$0.1 (\$ nominal) increase in the transmission component of the average annual residential electricity bill in the 2023–28 period.<sup>4</sup>

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<sup>3</sup> AEMC, *Data Portal*, Trends in SA supply chain components 2021/22.

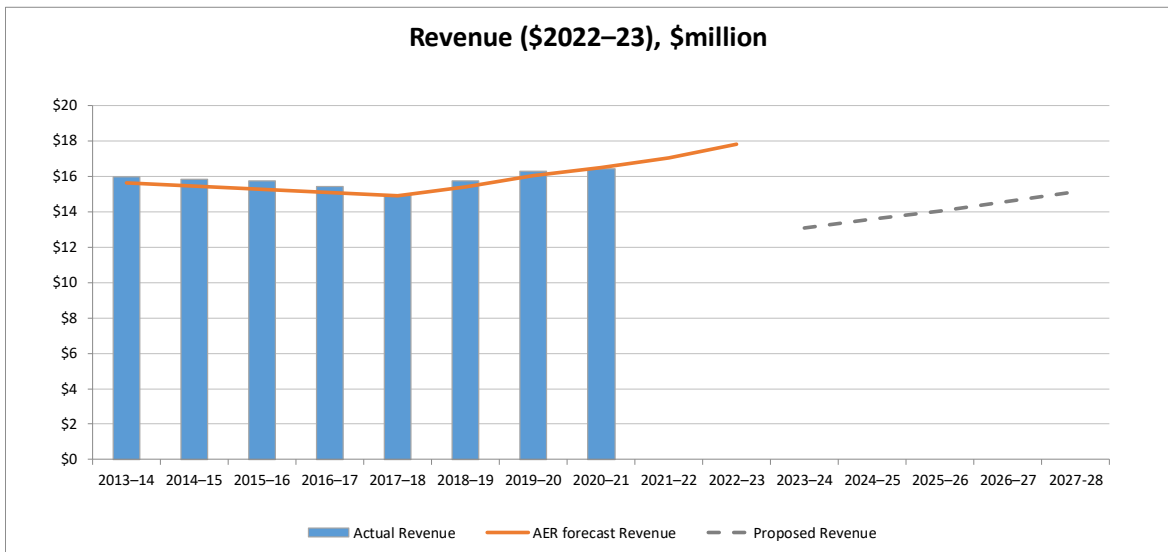
<sup>4</sup> Transmission network charges account for approximately 9% of the total electricity bill for a typical residential consumer on a single rate tariff in South Australia; Source: ElectraNet, *ENET048 – Workbook 7 – Indicative bill impact - Public*, January 2022.

## 2.1 What’s driving the reduction in revenue?

To compare revenue from one regulatory period to the next on a like-for-like basis we use ‘real’ values based on a common year (in this case, 2022–23), which have been adjusted to remove the impact of inflation.

In real terms, Murraylink’s proposal, if accepted, would allow it to recover \$70.4 million (\$2022–23, unsmoothed) from its consumers over the 2023–28 period. This is 15.0% lower than our decision for the 2018–23 period. Changes in Murraylink’s revenue over time are shown in Figure 1.

**Figure 1 Changes in regulated revenue over time (\$million, 2022–23)**



Source: AER, *Final decision post-tax revenue model* for Murraylink for 2013–18, April 2013; AER, *PTRM— Return on debt update 2021–22* for Murraylink for 2018–23, February 2021; Murraylink, *2023–28 Post-tax revenue model*, January 2022.

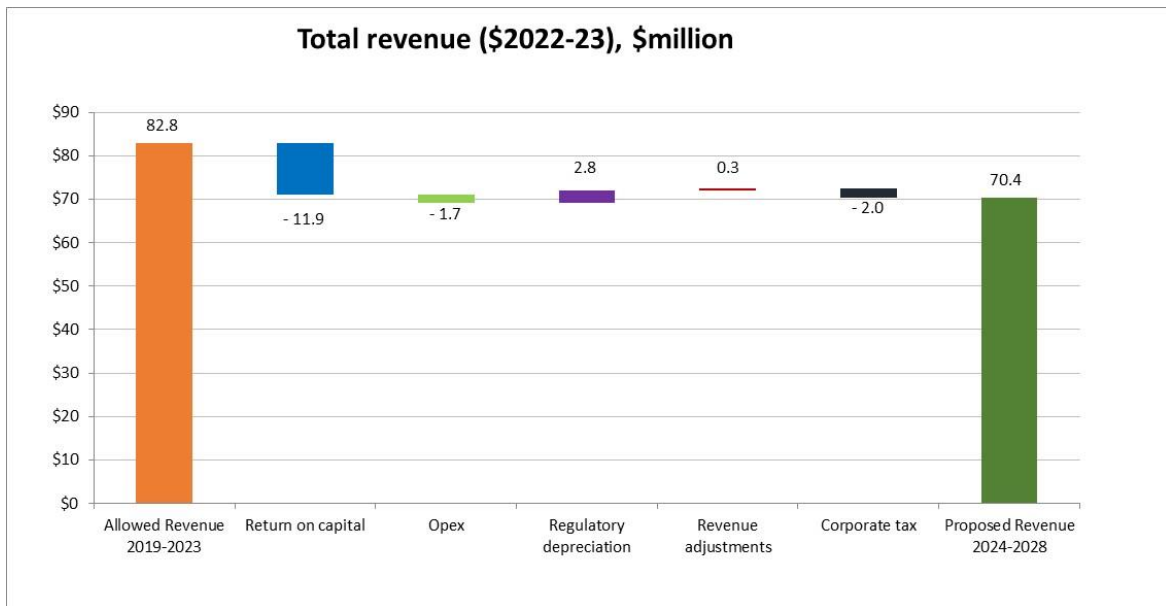
Figure 2 highlights changes in Murraylink’s proposal at a component, or ‘building block’, level to illustrate what is driving its proposed decrease in total revenue from 2018–23 to 2023–28. We discuss these building blocks further in section 4.

The largest contributor to the fall in revenue is the return on capital, with the lower rate of return under the AER’s 2018 Rate of Return Instrument applied to a declining RAB. Murraylink’s proposed forecast capital expenditure (capex) for the 2023–28 period is \$17.5 million (57.8%) lower than its expenditure in the current period. We are mindful, however, that elements of its forecast capex are potentially incomplete and that Murraylink has signalled that it may seek additional capex following further engagement with consumers. We discuss this further in section 4.3.4.

Smaller reductions to forecast operating expenditure (opex) and the net tax allowance (the latter is a result of our 2018 tax review) also contribute to falling revenue, although we note that Murraylink has adopted a simplified version of our opex forecasting methodology to arrive at its forecast that does not consider all of the issues we would typically take into account in our assessment. We discuss this further in section 4.4.3.

These reductions more than offset proposed increases in regulatory depreciation and positive revenue adjustments under the CESS and EBSS.

**Figure 2 Changes in total revenue 2018–23 to 2023–28 (\$ million, 2022–23, unsmoothed)**



Source: AER, PTRM – Return on debt update 2021–22 for Murraylink for 2018–23, February 2021; Murraylink, 2023–28 Post-tax revenue model, January 2022.



## 3 Murraylink’s consumer engagement

Murraylink is a natural monopoly supplying an essential service. Genuine, high quality consumer engagement by Murraylink is essential to ensuring that its proposal is driven by consumer preferences, supports delivery of services that meet the needs of its consumers, and does so at a price that is affordable and efficient. We’ve seen through experience that a regulatory proposal developed through genuine engagement with consumers is more likely to be largely or wholly accepted in our decisions.

Our framework for considering consumer engagement in network revenue determinations is set out in the Better Resets Handbook.

Used in conjunction with our technical analysis, the framework allows us to place weight on the outcomes of the engagement activities undertaken by a business to assist in providing an overall assessment of a proposal.

### 3.1 Nature of Engagement

The nature of engagement is about how networks engage with their consumers. Our expectations are that network businesses will sincerely partner with consumers and equip them to effectively engage in the development of their proposals.

Murraylink’s engagement with consumers in the preparation of this proposal is an improvement from its proposal for 2018–23, for which no engagement was undertaken.

On 30 August 2021, Murraylink established the Murraylink Community Engagement Group. An initial co-design session informed its stakeholder engagement plan and allowed participants to set the agenda for future discussions. At the beginning of the process, Murraylink invested time with stakeholders building knowledge of the asset before moving on to its proposal. Stakeholders commented on the benefit they gained from these wider insight sessions, and how this context equipped them to contribute to the process and the more focussed sessions that followed.

### 3.2 Breadth and Depth

The breadth and depth of engagement is about the scope of engagement with consumers and the level of detail at which network businesses engage on issues. It also covers the variety of avenues used to engage with consumers.

The engagement plan developed with the group through the co-design session was published on Murraylink’s website, outlining objectives, engagement issues and topics.

Murraylink’s engagement group included a good cross-section of interests with advocates for large and small users, representatives from the Victorian and South Australian transmission network services providers (ElectraNet, AusNet Services) through which its charges are recovered, and representatives from both the South Australian and the Victoria Government.

The group met for three workshops in the course of preparing the proposal, beginning with context and background to engagement and moving on to Murraylink’s suggested approach to forecast revenue.

The final workshop before submission of the proposal explored preferred ways to manage a late and unexpected change to the capex forecast and program previously presented to the group. Murraylink was unable to resolve these changes, which we discuss further in section 4.3, before the deadline for submission of its proposal. As we set out in the Better Resets Handbook, consultation on a regulatory proposal should not end with the submission of that proposal. If circumstances change and it is necessary to update a proposal, we expect networks to engage with consumers on those changes. Stakeholders were very clear that they wanted to see a transparent proposal from Murraylink for continued stakeholder engagement in relation to this issue. Murraylink’s proposal confirms that this will be the subject of additional engagement and workshops by Murraylink over the course of this determination.

### 3.3 Clearly Evidenced Impact

We look for clear evidence of the impact of engagement, and how a proposal represents and is shown to represent consumer views.

While Murraylink is a relatively small asset, consumers still benefit from the shared experience of stakeholder engagement and being included in decisions they can influence and that affect them. Stakeholders were encouraged to nominate topics they wanted to discuss at Murraylink’s workshops, and resultant discussions appeared to be responsive to this. It is less clear to what extent, if at all, the proposal now before us was actually influenced or driven by that engagement.

We expect Murraylink’s engagement to continue in the lead up to our draft decision and Murraylink’s revised proposal. Central to this will be Murraylink’s continued engagement on its capex forecast. Executed properly, this engagement will go further than Murraylink did in the lead up to its January proposal by thoroughly exploring the risk to be addressed, and allowing consumers to partner in the consideration of credible options and to drive the preferred approach.

Question
1. Do you think Murraylink has engaged meaningfully with consumers on all key elements of its 2023–28 proposal? Are there any key elements that require further engagement?
2. To what extent do you consider you were able to influence the topics engaged on by Murraylink and the outcomes reflected in its proposal? Please give examples.

## 4 Key elements of Murraylink’s revenue proposal

The regulatory framework governing electricity networks and our assessment of Murraylink’s proposal is set out in the National Electricity Law and Rules. Our work is guided by the National Electricity Objective (NEO) which promotes efficient investment in, and operation and use of, electricity services in the long-term interests of consumers.<sup>5</sup>

The foundation of our regulatory approach is a benchmark incentive framework to setting maximum revenues: once regulated revenues are set for the five-year period, a network that keeps its actual costs below the regulatory forecast of costs retains part of the benefit. Service providers have an incentive to become more efficient over time, as they retain part of the financial benefit from improved efficiency. This delivers benefits to consumers as efficient costs are revealed over time and drive lower cost benchmarks in subsequent regulatory periods. By only allowing efficient costs in our approved revenues, we promote delivery of the NEO and ensure consumers pay no more than necessary for the safe and reliable delivery of electricity.

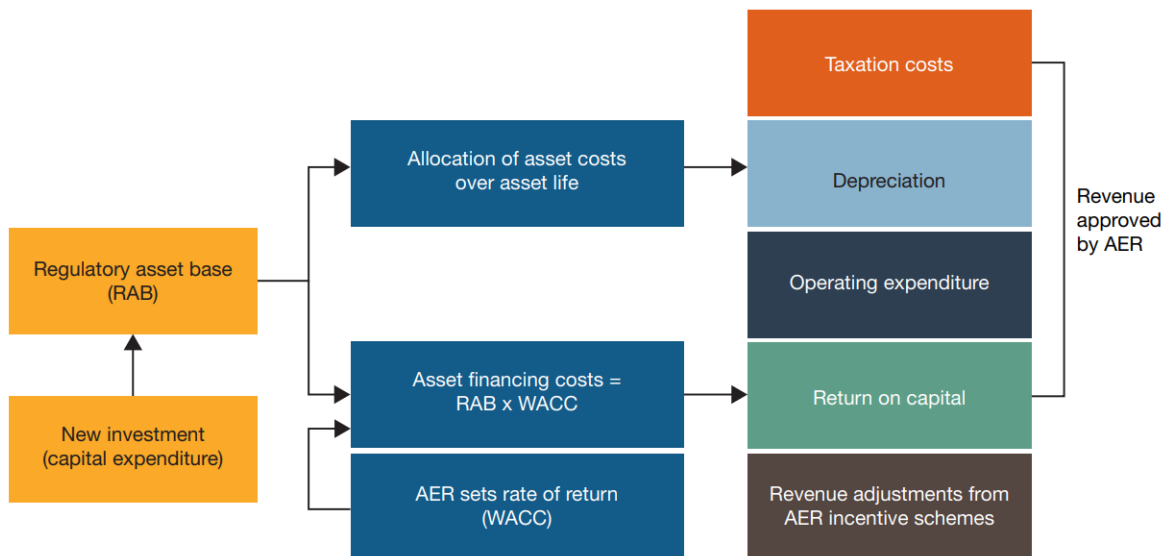
Murraylink’s proposed revenue reflects its forecast of the efficient cost of providing transmission network services over the 2023–28 period. The revenue proposal, and our assessment of it under the Law and Rules, are based on a ‘building block’ approach which looks at five cost components (see Figure 3):

- return on the regulatory asset base (RAB) – or return on capital, to compensate investors for the opportunity cost of funds invested in this business
- depreciation of the RAB – or return of capital, to return the initial investment to investors over time
- forecast opex – the operating, maintenance and other non-capital expenses, incurred in the provision of network services
- revenue increments/decrements – resulting from the application of incentive schemes, such as the efficiency benefit sharing scheme (EBSS) for opex, capital expenditure sharing scheme (CESS) for capex and demand management innovation allowance mechanism (DMIAM) for research and development in demand management projects that have the potential to reduce long-term network costs
- estimated cost of corporate income tax.

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<sup>5</sup> National Electricity Law (NEL or Law), s. 7.

**Figure 3 The building block model to forecast network revenue**



Source: AER, *State of the Energy Market 2021*, June 2021, p. 134.

Our assessment breaks these costs down further. For example:

- Capital expenditure (capex)—the capital costs and expenditure incurred in the provision of network services—mostly relates to assets with long lives, the costs of which are recovered over several regulatory control periods. The forecast capex approved in our decisions directly affects the size of the capital base and, therefore, the revenue generated from the return on capital and depreciation building blocks. All else being equal, higher capex will lead to a higher RAB, return on capital and depreciation.
- The RAB accounts for the value of regulated assets over time. To set revenue for a new regulatory control period, we take the opening RAB value from the end of the last period, and roll it forward year-by-year by indexing it for inflation, adding new capex and subtracting depreciation and other possible factors (such as disposals or consumer contributions).<sup>6</sup> This gives us a closing RAB value at the end of each year of the regulatory control period. The RAB value is used to determine the return on capital and depreciation building blocks.

## 4.1 Rate of return

The return each business is to receive on its capital base (the ‘return on capital’) is a key driver of proposed revenues. We calculate the regulated return on capital by applying a rate of return to the RAB value.

We estimate the rate of return by combining the returns on two sources of funds for investment: equity and debt. The allowed rate of return provides the business with a

<sup>6</sup> The term ‘rolled forward’ means the process of carrying over the value of the RAB from one regulatory year to the next. This is reflected in the AER’s roll forward model (RFM).

return on capital to service the interest rate on its loans, and give a return on equity to investors.

Murraylink proposes a return on capital of \$23.0 million (\$2022–23) for the 2023–28 period, which is \$11.9 million (34.1%) lower than for the 2018–23 period. This is largely driven by a decline in the rate of return over recent years from around 5.44% to 4.25% (indicative) in the first year of the 2023–28 period.

The approach that Murraylink, and we, must take to estimate the rate of return, including the return on debt and the return on equity, as well as the value of imputation credits, is set out in our binding Rate of Return Instrument. We publish a new Rate of Return Instrument every 4 years. For the purpose of its proposal Murraylink has applied our current, 2018 Rate of Return Instrument. Our final decision on Murraylink’s proposal, which will be made in April 2023, will apply the new 2022 rate of return instrument we will publish later this year. Therefore, stakeholders should treat the rate of return estimates submitted by Murraylink as indicative pending the 2022 rate of return instrument.

In 2020, we concluded a review of our approach to estimating expected inflation. Murraylink has applied the approach we established in that review, but once again the estimates provided by Murraylink should be considered indicative because estimates of inflation may change as we move through the process.

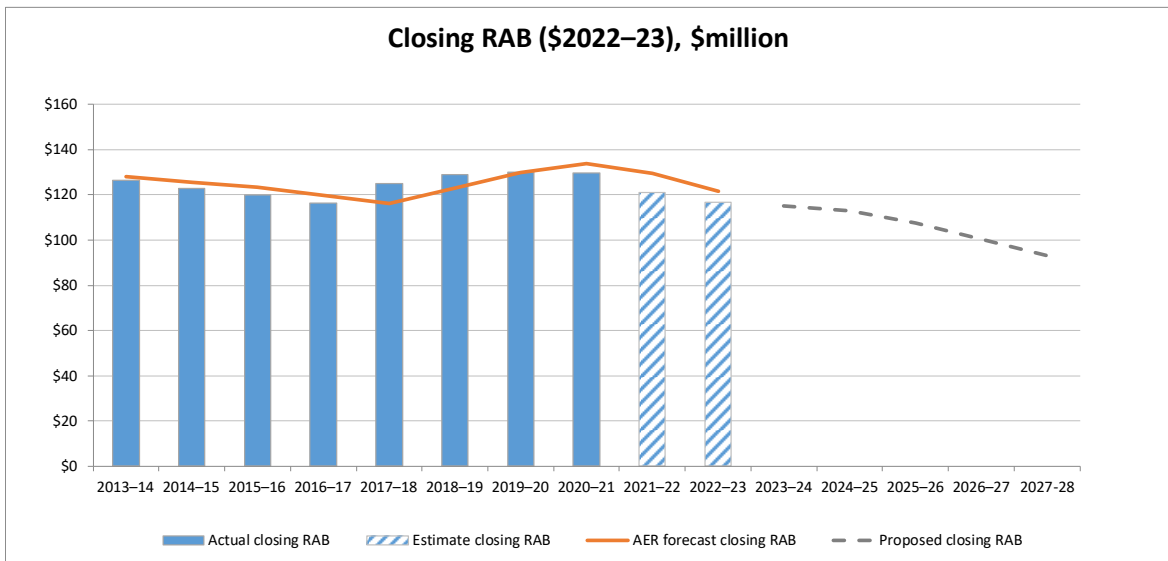
## **4.2 Regulatory asset base and depreciation**

The RAB is the value of assets used by Murraylink to provide network services. The value of the RAB substantially impacts Murraylink’s revenue requirement, and the price consumers ultimately pay. Other things being equal, a higher RAB would increase both the return on capital and depreciation components of the revenue determination.

Murraylink proposes a RAB of \$104.8 million (\$ nominal) by the end of the 2023–28 period, which is \$12.0 million lower than at the end of the 2018–23 period. This follows a forecast RAB increases of \$4.1 million (\$ nominal) over the 2018–23 period.

In real terms, removing the changing impact of inflation over time, Murraylink’s RAB value fell over the current period by \$8.1 million and will fall by a further \$23.6 million over the 2023–28 period as shown in Figure 4. This is driven by lower forecast capex relative to the 2018–23 period.

**Figure 4 Murraylink’s RAB value over time (\$ million, 2022–23)**



Source: AER, *Final decision roll forward model* for Murraylink for 2013–18, April 2013; AER, *Final decision post-tax revenue model* for Murraylink for 2013–18, April 2013; AER, *PTRM – Return on debt update 2021–22* for Murraylink for 2018–23, February 2021; Murraylink, *2023–28 Roll forward model* for 2018–23, January 2022; Murraylink, *2023–28 Post-tax revenue model* for 2023–28, January 2022.

Regulatory depreciation is provided so investors recover their investment over the economic life of the asset (return of capital). Murraylink’s proposed regulatory depreciation allowance is \$2.8 million (13.6%) higher than the 2018–23 period in real terms. This increase is mainly due to the difference in the allocation of capex by asset class and the timing (or profile) of forecast capex compared with the 2018–23 period. Lower forecast inflation when compared with the rate applied for the 2018–23 period is also a contributing factor.

Murraylink proposes to continue to apply the weighted average remaining life depreciation approach for calculating the straight-line depreciation for existing assets at the start of the 2023–28 period. It proposes to maintain the same standard asset lives as approved in the 2018–23 determination. However, it proposes to rename a number of asset classes from those approved in the 2018–23 determination. It stated that the proposed changes are required to better clarify the nature of the assets being added. It also submitted that the current definitions for these asset classes are overly restrictive.<sup>7</sup> We note that the proposed changes have a very small (\$0.04 million) impact on depreciation as Murraylink has only allocated a very small amount of forecast capex in these renamed asset classes.

**Question**

- Do you have views on Murraylink’s proposed changes to the asset classes used for depreciation, as set out in its 2023–28 proposal?

<sup>7</sup> Murraylink, *Transmission determination – Overview – Public*, January 2022, pp. 30 and 31.

## 4.3 Capital expenditure

Capital expenditure (capex) refers to the capital cost and expenditure incurred in the provision of Murraylink’s network services. Capex is added to the RAB, and so forms part of the capital costs of the building blocks used to determine total revenue.

We must accept the proposed forecast of total capex if we are satisfied it reasonably reflects the capex criteria set out in the Rules.<sup>8</sup> The capex criteria relate to the efficient costs incurred by a prudent operator in light of realistic demand forecasts and cost inputs. We must have regard to the capex factors in the Rules when making that decision.<sup>9</sup>

### 4.3.1 How we assess capex

We assess forecast capex proposals through a combination of top-down and bottom-up assessments. Our focus is typically on determining the prudent and efficient level of forecast capex in aggregate. In undertaking a bottom-up assessment, we undertake a project level assessment of the need for the expenditure, and the efficiency of the proposed projects and related expenditure to meet any justified expenditure need. This is likely to include consideration of the timing, scope, scale and level of expenditure associated with proposed projects.

If we are satisfied the service provider’s proposal reasonably reflects the capex criteria, we accept it. If we are not satisfied, the Rules require us to put in its place a substitute estimate which we are satisfied reasonably reflects the capex criteria taking into account the capex factors.<sup>10</sup>

The assessment techniques that we may adopt to assess Murraylink’s forecasts of total capex are outlined in our expenditure forecast assessment guideline.<sup>11</sup> We note that unlike our assessment for opex, past actual capex for transmission network service providers may not be an appropriate starting point given it is largely non-recurrent and hence more ‘lumpy’, and so past expenditures or work volumes may not be indicative of future volumes. Further, transmission networks tend to propose smaller volumes of large, high-cost projects which we may need to consider on a case-by-case basis.

### 4.3.2 Murraylink’s capex proposal

Murraylink proposes forecast capex of \$12.7 million (\$2022–23) for the 2023–28 period.<sup>12</sup> This is a \$17.5 million (57.8%) decrease from its actual/expected expenditure for the 2018–23 period, and also a reduction on prior periods.<sup>13</sup> A key driver of capex in the current period was the replacement of the control and protection system (estimated actual capex of \$28.6 million).<sup>14</sup> Subject to resolution of uncertainty following a late change to its proposal—discussed in section 4.3.4—its forecast capex for 2023–28 does not include any projects of that scale.

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<sup>8</sup> NER, cl. 6A.6.7(c).

<sup>9</sup> NER, cl.6A.6.7(e).

<sup>10</sup> NER, cl.6A.13.2(b)(4).

<sup>11</sup> AER, *Expenditure forecast electricity distribution guideline*, November 2013.

<sup>12</sup> Murraylink, *Murraylink transmission determination 2023–28 - Overview* - 31 January 2022, p. 11.

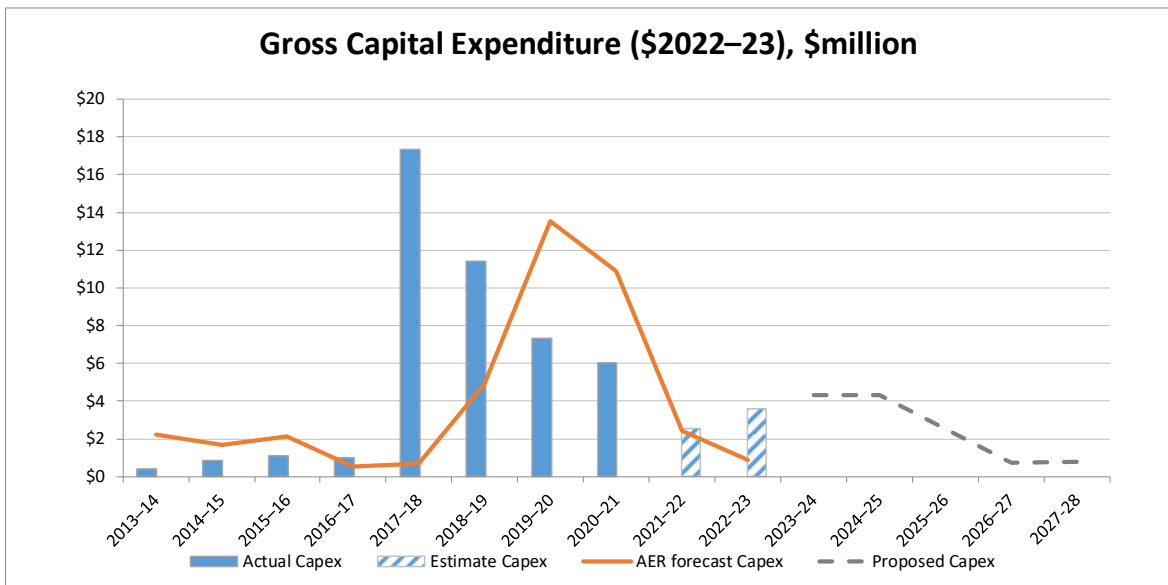
<sup>13</sup> Murraylink, *Murraylink transmission determination 2023–28 - Overview* - 31 January 2022, p. 11.

<sup>14</sup> Murraylink, *Murraylink transmission determination 2023–28 - Overview* - 31 January 2022, pp. 37-38.



Figure 5 shows Murraylink’s proposed capex forecast compared to historic levels.

**Figure 5 Murraylink’s capex over time (\$ million, 2022–23)**



Source: AER, *Murraylink 2018–23 - Post-tax revenue model*, April 2018; AER, *Murraylink 2018–23 - Roll forward model*, April 2018; Murraylink, *Murraylink - Attachment 14 – PTRM*, 31 January 2022; Murraylink, *Murraylink - Attachment 03 - Reset RIN - Workbook 1 - Forecast and Historical*, 31 January 2022.

### 4.3.3 Key drivers of the capex proposal

Murraylink’s proposed capex forecast is predominantly replacement capex (98.4% of total capex).<sup>15</sup> This is made up of:<sup>16</sup>

- \$3.4 million for ‘Stay In Business’ projects, including
  - projects to replace aging equipment to prevent unplanned equipment failure
  - modifying the NSW runback scheme to meet the requirements of Project Energy Connect
  - SCADA upgrades; and
  - periodic refurbishment of rotating machinery.
- \$3.2 million for an enhanced cooling system to manage the heat generated by the AC-DC conversion process
- \$2.4 million for cable protection and modification to prevent or mitigate unintended third-party interference with Murraylink’s cables; and

<sup>15</sup> Murraylink, *Murraylink transmission determination 2023–28 - Overview* - 31 January 2022, p. 31.

<sup>16</sup> Murraylink, *Murraylink transmission determination 2023–28 - Overview* - 31 January 2022, pp. 26–31.



- \$1.7 million to mitigate the risks that threaten the reliable operation of Murraylink. This expenditure includes maintaining the reliability of the control system and flood mitigation measures.

Murraylink has also proposed \$0.2 million non-network expenditure for the preparation of its proposal.<sup>17</sup>

Questions
4. Do you consider Murraylink’s capex proposal addresses the concerns of electricity consumers as identified in the course of its engagement on the proposal?
5. Do you consider Murraylink’s approach to forecasting replacement capex is appropriate and likely to produce a forecast of efficient replacement capex?
6. Do you consider Murraylink’s economic assessment framework and project documentation provide appropriate justification for its proposed capex projects and programs?
7. Do you consider Murraylink’s total forecast capex reasonably reflects the efficient costs of a prudent operator?

### 4.3.4 Obsolete Insulated Gate Bipolar Transistors IGBTs and contingent project

Not included in Murraylink’s capex forecast is anticipated expenditure to replace obsolete Insulated Gate Bipolar Transistors (IGBTs). An IGBT is a three-terminal power semiconductor device primarily used as an electronic switch for high-voltage, high-current applications. IGBTs are an integral part of the operation of the Murraylink converter stations. In early engagement on its proposal Murraylink proposed to purchase adequate spares to replace failing assets during the period (250 units, at an estimated cost of \$3.9m).<sup>18</sup>

In December, the sole provider of IGBTs advised that the relevant units are no longer in production, and that Murraylink would have access to only 115 new units.

Murraylink brought this to the attention of its Community Engagement Group, and arranged a dedicated workshop in January to seek views on how to manage the resultant uncertainty. Participants in that workshop accepted a process for further investigation of and engagement on options. This is to be done in parallel with our assessment of other elements of the proposal, with a view to presenting forecast capex for a preferred option in its revised proposal.

Potential options currently contemplated by Murraylink include the purchase of used IGBTs or new but unwanted units from other users of the technology, to increase Murraylink’s stock of spares and its ability to continue with the current technology for longer. Another option is a contingent project should it become necessary to replace its control and protection system within the 2023–28 control period.

<sup>17</sup> Murraylink, *Murraylink transmission determination 2023–28 - Overview* - 31 January 2022, p. 29.

<sup>18</sup> Murraylink, *Murraylink IGBT Obsolescence - Presentation to the Murraylink Stakeholder Engagement Group*, 17 January 2022.

Murraylink submits that it will likely have access to 145 older Generation 2 IGBTs available to keep it operating in its current configurations. At a predicted failure rate of 24 IGBTs per annum, Murraylink considers it could operate for six more years prior to the obsolescence of the Generation 2 IGBTs.

At that point, Murraylink considers that it would be necessary to replace its valve room at an estimated cost of \$30 million dollars.<sup>19</sup> Murraylink has not proposed this upgrade as part of its capex program because there is some uncertainty about the failure rate of Generation 2 IGBTs, which means the timing of the need to upgrade the valve room is uncertain. Instead, it has suggested that approval of capex for this project could be a contingent project, subject to the following trigger events occurring:<sup>20</sup>

- completion of a required Regulatory Investment Test - Transmission
- approval of the project by the EII Board
- the stock of spare IGBTs falling to a minimum level to enable confidence that they are likely to last until the replacement is complete (currently estimated at 72).

Should the contingent project become part of the solution ultimately identified, we will assess whether Murraylink's proposed trigger events are appropriate. Any contingent project triggers would need to be well defined, demonstrate a reasonable need, and be easily verifiable and probable in the circumstances. Sections 1.9 and 5 of Murraylink's revenue proposal provide further details on its issues with IGBTs and the proposed contingent project.

We expect Murraylink's engagement on this issue to go beyond informing stakeholders of a preferred option. It should involve genuine collaboration and partnership with consumers to:

- identify the risk to be addressed
- explore the costs and benefits of a range of credible options to address that risk, and
- arrive at a solution that reflects consumer preferences identified through that engagement.

#### Question

8. Do you have views on the potential options Murraylink has presented to manage the risk of obsolete IGBTs, including the potential contingent project for the 2023–28 period? Should that option prevail, are the proposed project triggers appropriate?
9. Do you have views on the engagement process Murraylink has outlined for the development and consideration of options to address this issue in parallel to our determination process?

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<sup>19</sup> Murraylink, *Murraylink transmission determination 2023–2028 - Overview* - 31 January 2022, pp. 33–36.

<sup>20</sup> Murraylink, *Murraylink transmission determination 2023–2028 - Overview* - 31 January 2022, p. 16.

## 4.4 Operating expenditure

Operating expenditure (opex) refers to the operating, maintenance and other non-capital expenditure incurred in the provision of network services. It includes labour costs and other non-capital costs that a prudent service provider is likely to require for the efficient operation of its network. Forecast opex is one of the ‘building blocks’ used to determine Murraylink’s total revenue requirement.

We must accept a service provider’s forecast of total opex if we are satisfied it reasonably reflects the opex criteria.<sup>21</sup> The opex criteria relate to the efficient costs incurred by a prudent operator in light of realistic expectations of the demand forecast and cost inputs. We must have regard to the opex factors when assessing the service provider’s forecast opex.<sup>22</sup>

If we are not satisfied the opex proposal reasonably reflects the opex criteria, we must not accept it.<sup>23</sup> We must estimate the total required opex that, in our view, reasonably reflects the opex criteria, taking into account the opex factors.

### 4.4.1 How we assess opex

We have outlined our approach to assessing forecasts of total opex in our expenditure forecast assessment guideline.<sup>24</sup>

Our approach is to compare the service provider’s total forecast opex with an alternative estimate that we develop and that reasonably reflects the opex criteria.<sup>25</sup> By doing this, we form a view on whether we are satisfied that the service provider’s proposed total forecast opex reasonably reflects the opex criteria. If we conclude the proposal does not reasonably reflect the opex criteria, we use our estimate to develop a substitute forecast.

Our estimate is unlikely to exactly match the service provider’s forecast because it 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.

If a service provider’s total forecast opex is materially different to our estimate and we find 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 service provider’s forecast reasonably reflects the opex criteria, we will accept the forecast.<sup>26</sup>

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<sup>21</sup> NER, cl. 6A.6.6(c).

<sup>22</sup> NER, cl. 6A.6.6(e).

<sup>23</sup> NER, cl. 6A.6.6(d).

<sup>24</sup> AER, *Expenditure forecast assessment guideline*, November 2013.

<sup>25</sup> AER, *Expenditure forecast assessment guideline*, November 2013, p. 7.

<sup>26</sup> NER, cl. 6A.6.6(c).

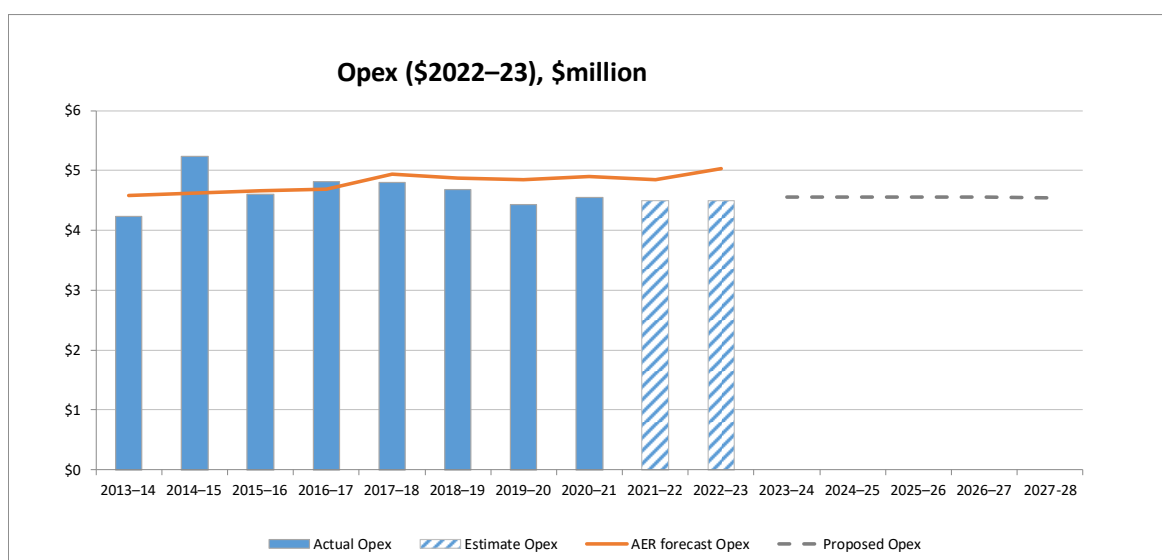
## 4.4.2 Murraylink’s opex proposal

Murraylink has proposed total opex of \$22.8 million (\$2022–23) for the 2023–28 period.<sup>27</sup> This is:

- \$0.12 million (0.5%) more than Murraylink’s estimated opex spend over the 2018–23 period
- \$1.7 million (7.5%) less than the opex forecast we approved for the 2018–23 period.

Figure 6 shows the trend in Murraylink’s total opex over time. Murraylink’s proposed opex forecast is broadly consistent with the opex it has incurred over the last six years. This may, in part, reflect that it contracts APA to provide opex services. APA charges a flat fee for commercial services and the asset management, operating, maintenance and capital services are provided on a cost plus 10% basis.<sup>28</sup>

**Figure 6 Murraylink’s opex over time (\$ million, 2022–23)**



Source: Murraylink, *Economic benchmarking – Regulatory Information Notice response 2006–20*; AER, Murraylink *Final decision PTRM 2008–13*; AER, Murraylink *Final decision 2013–18 PTRM*; AER, Murraylink *Final decision 2018–23 PTRM and Opex model*; Murraylink *transmission determination 2023–28 - Overview - 31 January 2022*; AER analysis.

Note: Includes debt raising costs.

## 4.4.3 Key drivers of the opex proposal

Murraylink has used a simplified version of the base-step-trend approach to assessing opex outlined in our *Expenditure forecast assessment guideline* to prepare its opex forecast for 2023–28.

It has proposed 2020–21 as its base year, stating it chose that year because it was the most recent year and represented the best basis for forecasting.<sup>29</sup>

<sup>27</sup> Including debt raising costs.

<sup>28</sup> Murraylink, *Murraylink transmission determination 2023–2028 – Overview*, 31 January 2022, p. 29

<sup>29</sup> Murraylink, *Murraylink transmission determination 2023–2028 – Overview*, 31 January 2022, p. 13

Unlike our standard approach, Murraylink did not include a forecast trend (also called rate of change). That is, it did not include any forecast output, price or productivity growth. Murraylink also did not propose any step changes.

The only category specific forecast Murraylink included in its forecast was for debt raising costs.

In scoping engagement with stakeholders at its initial co-design workshop, Murraylink noted that forecast opex would be similar to the current period, subject to there being no additional obligations. Its forecast (and simplified forecasting approach), while noted at a high level in later sessions, does not appear to have been identified as an area of focus for early engagement.

#### Question

10. Do you consider Murraylink's opex proposal addresses the concerns of electricity consumers as identified in the course of its engagement on the proposal?
11. Do you consider Murraylink's forecast opex for the 2023–28 period reasonably reflects the efficient costs of a prudent operator?
12. Do you consider Murraylink's simplified forecasting approach reasonably accounts for expected changes in input prices, output and productivity over the 2023–28 period?

## 4.5 Corporate income tax

The building block approach to calculating annual revenue includes an amount for the estimated cost of corporate income tax payable by the business. We forecast tax in accordance with the requirements of the Rules.<sup>30</sup>

In December 2018, we completed a review of our regulatory tax approach.<sup>31</sup> Murraylink has applied this approach in its proposal, resulting in a \$0.6 million tax allowance in its proposed revenue requirement for the forthcoming regulatory period.

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<sup>30</sup> NER, cl. 6A.6.4.

<sup>31</sup> AER, *Final report: Review of regulatory tax approach*, December 2018, p. 76.

## 5 Incentive schemes and allowances to apply for 2023–28

Incentive schemes are a component of incentive-based regulation and complement our approach to assessing efficient costs. They provide important balancing incentives under network determinations, encouraging businesses to pursue expenditure efficiencies while maintaining the reliability and overall performance of its network.

Incentive schemes that may apply to transmission network businesses include:

- **Efficiency benefit sharing scheme (EBSS):** This provides Murraylink with a continuous incentive to pursue efficiency improvements in opex and provide for a fair sharing of these between Murraylink and network users. Consumers benefit from improved efficiencies through lower opex in regulated revenues for future periods.
- **Capital expenditure sharing scheme (CESS):** This incentivises Murraylink to undertake efficient capex throughout the period by rewarding efficiency gains and penalising efficiency losses, each measured by reference to the difference between forecast and actual capex. Consumers benefit from improved efficiencies through a lower RAB, which is reflected in regulated revenues for future periods.
- **Service target performance incentive scheme (STPIS):** The STPIS provides a financial incentive to Murraylink to maintain and improve service performance. There are two components of the STPIS that are applicable to Murraylink:
  - The service component, which incentivises Murraylink to reduce the frequency of unplanned outages and the time taken to return the network to service, and
  - The market impact component, which incentivises Murraylink to minimise the financial impact of outages on the dispatch of generation.
- **Demand management innovation allowance mechanism (DMIAM):** This funds Murraylink for research and development in demand management projects that have the potential to reduce long-term network costs. Projects to be funded under the DMIAM must meet approval criteria, as set out in the DMIAM instrument.

In the current period Murraylink was subject to the CESS, EBSS and STPIS. Consistent with the positions we put forward in our Framework and Approach Paper for Murraylink in July 2021, its proposal includes the continued application of those schemes in 2023–28.

Our Framework & Approach Paper also suggested that the DMIAM could apply to Murraylink as it does to other transmission network service providers. Murraylink has not proposed this.

Demand management is typically achieved through load shifting, increasing the level of embedded generation sources, and to a lesser extent minimising energy losses. Murraylink is a point-to-point interconnector between South Australia and Victoria. The power flowing through this link is determined by the price differential between the two regions and other network constraint factors at the time of generation dispatch by AEMO. There is no scope for Murraylink to manage the power flow volume by load shifting or to connect new embedded generators. Nor can it reduce losses within the link without some

sort of capital investment. Given the DMIAM does not allow capex expenditure under the mechanism,<sup>32</sup> the scope for loss reduction under the DMIAM is limited.

The position presented in our Framework & Approach Paper does not bind us or Murraylink, and it is open to us not to apply the DMIAM. Under the current operational framework we consider that there will be very limited utility to energy users were Murraylink to invest in researching demand management opportunities through the DMIAM.

**Question**

13. Do you agree that we should apply the incentive schemes as proposed by Murraylink?

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<sup>32</sup> AER, *Explanatory statement Draft demand management innovation allowance mechanism for Electricity transmission network service providers*, December 2020, p.13

## 6 Pricing methodology and negotiating framework

Our transmission determination for Murraylink must specify a pricing methodology for its prescribed transmission services.<sup>33</sup>

Its role is to answer the question ‘who should pay how much’<sup>34</sup> in order for a transmission business to recover its costs.

Murraylink’s proposed pricing methodology does not make any substantive changes to the methodology applied in the current period. It includes amendments to reflect:

- updates to the Rules; and
- changes to the description of Murraylink transmission system assets.

### Questions

14. Do you consider Murraylink’s proposed changes to its pricing methodology are appropriate and give effect to the pricing principles for prescribed transmission services?

By virtue of clause 11.98.8 of the Rules, the provisions for negotiated transmission services in version 109 of the Rules continue to apply in Victoria. This means that as part of our transmission determination for Murraylink we must make a decision on the Negotiating Framework and Negotiated Transmission Service Criteria (NTSC) to be applied by Murraylink in negotiating terms and conditions of access for any negotiated transmission services.

Murraylink’s proposed negotiating framework for 2023–28 is the same as that approved for the current period. Our proposed NTSC for Murraylink were published with its proposal on 16 February 2022, and are consistent with those approved in our recent transmission determination for Victorian electricity transmission network service provider AusNet Services.

### Questions

15. Do you have any comments on Murraylink’s proposed negotiating framework or our proposed negotiated transmission service criteria?

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<sup>33</sup> NER, cl. 6A.2.2(4)

<sup>34</sup> AEMC, Rule determination: National Electricity Amendment (Pricing of Prescribed Transmission Services) Rule 2006 No. 22, 21 December 2006, p. 1.



# Summary of questions

## Murraylink's consumer engagement

1. Do you think Murraylink has engaged meaningfully with consumers on all key elements of its 2023–28 proposal? Are there any key elements that require further engagement?
2. To what extent do you consider you were able to influence the topics engaged on by Murraylink and the outcomes reflected in its proposal? Please give examples.

## Regulatory asset base and depreciation

3. Do you have views on Murraylink's proposed changes to the asset classes used for depreciation, as set out in its 2023–28 proposal?

## Capital expenditure

4. Do you consider Murraylink's capex proposal addresses the concerns of electricity consumers as identified in the course of its engagement on the proposal?
5. Do you consider Murraylink's approach to forecasting replacement capex is appropriate and likely to produce a forecast of efficient replacement capex?
6. Do you consider Murraylink's economic assessment framework and project documentation provide appropriate justification for its proposed capex projects and programs?
7. Do you consider Murraylink's total forecast capex reasonably reflects the efficient costs of a prudent operator?
8. Do you have views on the potential options Murraylink has presented to manage the risk of obsolete IGBTs, including the potential contingent project for the 2023–28 period? Should that option prevail, are the proposed project triggers appropriate?
9. Do you have views on the engagement process Murraylink has outlined for the development and consideration of options to address this issue in parallel to our determination process?

## Operating expenditure

10. Do you consider Murraylink's opex proposal addresses the concerns of electricity consumers as identified in the course of its engagement on the proposal?
11. Do you consider Murraylink's forecast opex for the 2023–28 period reasonably reflects the efficient costs of a prudent operator?
12. Do you consider Murraylink's simplified forecasting approach reasonably accounts for expected changes in input prices, output and productivity over the 2023–28 period?

## Incentive schemes

13. Do you agree that we should apply the incentive schemes as proposed by Murraylink?

## Pricing methodology and negotiated services

14. Do you consider Murraylink's proposed changes to its pricing methodology are appropriate and give effect to the pricing principles for prescribed transmission services?
15. Do you have any comments on Murraylink's proposed negotiating framework or our proposed negotiated transmission service criteria?

## Shortened forms

Shortened form	Extended form
AEMC	Australian Energy Market Commission
AEMO	Australian Energy Market Operator
AER	Australian Energy Regulator
Capex	Capital expenditure
CESS	Capital expenditure sharing scheme
DMIAM	Demand management innovation allowance mechanism
EBSS	Efficiency benefit sharing scheme
IGBT	Insulated Gate Bipolar Transistor
2018 Instrument	2018 Rate of Return Instrument
NEL or Law	National Electricity Law
NEM	National Electricity Market
NEO	National Electricity Objective
NER or Rules	National Electricity Rules
NTSC	Negotiated Transmission Service Criteria
Opex	Operating expenditure
PTRM	Post-tax revenue model
RAB	Regulatory asset base
RFM	Roll forward model
STPIS	Service target performance incentive scheme