FINAL DECISION
ElectraNet
Contingent Project

Eyre Peninsula Reinforcement

September 2020

AUSTRALIAN ENERGY REGULATOR

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Executive Summary

ElectraNet is proposing to replace the existing transmission line on the Eyre Peninsula in South Australia with:

- a new 132 kV double-circuit line from Cultana to Yadnarie (constructed with the option to be energised at 275 kV if required in the future), and
- a new 132 kV double-circuit line from Yadnarie to Port Lincoln.

The project is expected to provide total net benefits to consumers of approximately $50 million. The project will enable ElectraNet to replace an ageing asset and enhance the reliability and security of supply to homes and businesses on the Eyre Peninsula. This includes reducing network outages for customers in the region, as well as saving consumers the ongoing cost of paying for back-up generation and the costs for repairing the existing transmission line.

ElectraNet has sought regulatory approval of the incremental revenues required to deliver the Eyre Peninsula Reinforcement project. The new transmission line is expected to be completed by 31 December 2022.

We have determined that ElectraNet can recover $3.7 million in additional revenue from customers during the remainder of the 2018-23 regulatory control period. The impact of our decision is that annual transmission charges will increase by 0.4 per cent in 2021–22 and 0.7 per cent in 2022-23. This would provide an indicative increase of $1 per year for an average residential electricity bill in South Australia.

The regulatory approval process

This decision is the final step in the regulatory approval process that will allow ElectraNet to deliver the Eyre Peninsula Reinforcement project within the 2018-23 regulatory control period.

On 30 April 2018, we released our final decision on ElectraNet's revenue determination for the 2018–23 regulatory control period. The revenue determination included $74 million in capex for the refurbishment of the existing Eyre Peninsula transmission line. This was the minimum investment required to address the condition of the line and maintain the current reliability and security of supply.

However, the determination also included a contingent project relating to potential alternative investment options for reliable and secure electricity supply in the Eyre Peninsula region that ElectraNet was considering in its *Eyre Peninsula Electricity Supply Options* regulatory investment test for transmission (RIT-T).

Contingent projects are significant network augmentation projects that may arise during a regulatory control period but the need and or timing is uncertain. While the expenditures for such projects do not form part of the total forecast capex in a normal revenue determination, the project costs may ultimately be recovered from customers if the trigger event defined in the relevant revenue determination is met.

On 18 October 2018, ElectraNet published the final report for its RIT-T. ElectraNet's report identified that the preferred investment option was the replacement and duplication of the existing transmission line, rather than its refurbishment.

On 11 April 2019, we published a determination that the preferred option identified by ElectraNet satisfied the requirements of the RIT-T. This was the first step in the regulatory approval process for the Eyre Peninsula Reinforcement project.

The final step in the regulatory approval process is the submission of a contingent project application to determine the incremental revenues required to recover the efficient costs of this project. ElectraNet submitted its application on 22 May 2020.

The forecast costs of the Eyre Peninsula Reinforcement

The key aspect of our decision is the capex reasonably required to construct the new Eyre Peninsula transmission line. This will determine the additional revenues required in the current regulatory period, and any incentive rewards or penalties ElectraNet receives once it completes the project.

ElectraNet's application proposed $290 million ($2017-18) in capex to undertake the Eyre Peninsula Reinforcement project.[1] We examined ElectraNet's proposed capex forecast and found that it is substantially expenditure that would be incurred by an efficient and prudent operator to deliver this project. This is because:

- the majority (80 per cent) of the estimated capex is based on tender prices derived from appropriate competitive market tendering, and
- the proposed scope of works reflected in these tendered costs, while generally conservative, reflects the necessary works to construct and install the new transmission lines and deliver the needs of the project.

However, while we found the tendered costs to be reasonably prudent and efficient, we found that ElectraNet has overestimated the capex required for its internal project delivery requirements and its project risk costs.

Our estimate of the prudent and efficient capex required to deliver the Eyre Peninsula Reinforcement project is $280 million ($2017-18). This is 3.5 per cent less than ElectraNet's proposal. We have not accepted ElectraNet's forecast capex in its application and substituted our own forecast. The actual project expenditure will be added to ElectraNet's regulatory asset base (RAB) at the end of the current regulatory control period.

We note that the opportunity remains for ElectraNet to lower overall project costs as it finalises the project design with its third-party contractor. We consider that ElectraNet could have done more to seek or incentivise innovative solutions in the early stages of the project and its tendering process. We encourage ElectraNet to

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[1] ElectraNet, *Eyre Peninsula Reinforcement: Contingent Project Application*, 22 May 2020, p. 17.

consider any remaining opportunities for cost savings to the extent possible in finalising its contracting process, noting that the majority of these savings will be passed on to consumers.

Our decision will only require an incremental $206 million increase in forecast capex to ElectraNet's revenue determination. This is because ElectraNet's revenue determination currently includes $74 million in capex for the refurbishment of the existing Eyre Peninsula transmission line. This contingent project has replaced the original proposal to refurbish the existing transmission line.

Contents

1 The Eyre Peninsula Reinforcement project

Contingent projects are significant network augmentation projects that may arise during a regulatory control period, but the need and or timing of the project is uncertain. As such, project costs are not provided for in expenditure forecasts for a regulatory control period. Rather, contingent projects are linked to unique investment drivers, which are defined by a 'trigger event' set by the AER when it determines to accept a proposed contingent project in a revenue proposal.[2]

The Eyre Peninsula Reinforcement project is a proposed $290 million ($2017-18) contingent project to replace the existing transmission line on the Eyre Peninsula in South Australia with:[3]

- a new 132 kV double-circuit line from Cultana to Yadnarie (constructed with the option to be energised at 275 kV if required in the future), and
- a new 132 kV double-circuit line from Yadnarie to Port Lincoln.

The construction of the new transmission line is expected to be completed by 31 December 2022.[4] ElectraNet is seeking $4.1 million in incremental revenues over the 2018–23 regulatory control period to undertake the Eyre Peninsula project.[5] The actual project capex will then be added to ElectraNet's regulatory asset base (RAB) at the end of the current regulatory control period.

The forecast expenditure associated with this project was not included in ElectraNet's revenue allowance for the 2018–23 regulatory control period. Rather, our revenue determination included $74 million in capex for the refurbishment of the existing Eyre Peninsula transmission line. This was the minimum investment required to address the condition of the line and maintain the current reliability and security of supply. However, our determination accepted a contingent project relating to potential investment options for maintaining a reliable and secure electricity supply in the Eyre Peninsula region that ElectraNet was considering in its *Eyre Peninsula Electricity Supply Options* RIT-T process.

On 18 October 2018, ElectraNet released its final report in the Eyre Peninsula RIT-T process. This report identified that the preferred investment option to maintain the reliability and security of supply on Eyre Peninsula was the replacement and duplication of the existing transmission line, rather than its refurbishment.[6]

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2 National Electricity Rules (NER), cl. 6A.8.1(c).

3 ElectraNet, *Eyre Peninsula Electricity Supply Options Project Assessment Conclusions Report*, 18 October 2018, p. 4.

4 ElectraNet, *Eyre Peninsula Reinforcement: Contingent Project Application*, 22 May 2020, p. 16.

5 ElectraNet, *Eyre Peninsula Reinforcement: Contingent Project Application*, 22 May 2020, p. 26.

6 ElectraNet, *Eyre Peninsula Electricity Supply Options Project Assessment Conclusions Report*, 18 October 2018, p. 4.

The total net benefits of the investment are estimated at around $50 million. The market benefits are avoided future costs of refurbishing the existing transmission lines, avoided costs associated with future network support contracts, reductions in unserved energy, changes in fuel costs arising from different patterns of generation dispatch, and avoided costs of future mining connections.[7]

On 11 April 2019, we published our determination that the preferred option identified by ElectraNet satisfied the requirements of the RIT-T.[8] This determination was the first step in the regulatory approval process for the Eyre Peninsula project.

Since our determination on the RIT-T, ElectraNet has refined the project cost estimates through market testing and is in the process of appointing a third-party contractor to design and construct the project. It also updated the project cost-benefit assessment to account for the refined cost estimates and a delay in project commencement due to COVID-19. This confirmed that the project still provides a net benefit to consumers.

The final step in the regulatory approval process is the submission of a contingent project application to determine the incremental revenues required to recover the efficient costs of this project. ElectraNet submitted its application on 22 May 2020.

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7 ElectraNet, *Eyre Peninsula Electricity Supply Options Project Assessment Conclusions Report*, 18 October 2018, p. 4.

8 This followed a request by ElectraNet on 23 November 2020 that the AER for a determination that the preferred option identified in PACR satisfies the requirements of the RIT-T.

2 Our contingent project determination

Our determination is that ElectraNet may recover the efficient costs of the Eyre Peninsula Reinforcement project in its allowed revenues for the 2018–23 regulatory control period.

We made our determination on ElectraNet's contingent project application in accordance with clause 6A.8.2 of the National Electricity Rules (NER), which specifies the process we must undertake and the determination we must make on a contingent project application.

First, to be eligible to seek approval of the funding for a contingent project, ElectraNet must demonstrate that the specified trigger event has occurred and that the project costs exceed a materiality threshold. As set out in this section, we accept that the Eyre Peninsula Reinforcement project meets these conditions because:

- each element of the trigger event for this project has occurred (see section 0)
- the capex amount sought exceeds the applicable materiality threshold of $30 million (see section 0).

Second, in accordance with clause 6A.8.2(e), we have determined:

- the total capex that is reasonably required for the project and the amount of capex for each remaining year of the regulatory control period (see section 3.1)
- the incremental opex for each remaining year of the regulatory control period (section 3.2)
- the incremental revenue which is likely to be required by ElectraNet for each remaining regulatory year as a result of the efficient capex and opex for the contingent project (see section 4), and
- that the project has commenced and is likely to be completed by December 2022.

We have amended ElectraNet's 2018–23 revenue determination to add these additional allowed revenues and costs. This is accompanied by a supporting post-tax revenue model on our website that sets out the calculation of ElectraNet's annual revenues, including the contingent project allowance.

In making our determination, we were required under clause 6A.8.2(f) to consider whether we can accept ElectraNet's proposed revenues and project expenditure included in its application. This includes considering if its proposed project costs are prudent and efficient. If we are not satisfied that we can accept ElectraNet's forecast revenues and project costs, we can determine a different forecast.

We are also required to publish ElectraNet's application and invite interested parties to make written submissions.[9] We published ElectraNet's application on 27 May 2020. We did not receive any submissions on ElectraNet's application.

Based on our review of ElectraNet's application, and additional analysis undertaken for us by Energy Market Consulting associates (EMCa), we do not accept ElectraNet's forecast capex for the project. We have determined a different capex forecast that reflects the prudent and efficient costs that we consider are reasonably required for undertaking the project. Our reasoning is set out in section 3.

Having determined the capex and opex reasonably required to deliver the project (including a different forecast of capex), we modified ElectraNet's proposed post-tax revenue model to reflect these amounts.[10] We have accepted all other elements of ElectraNet's application.

2.1 The trigger event has occurred

In our April 2018 final decision on ElectraNet's 2018–23 revenue determination, we set out three elements of an event that would trigger the Eyre Peninsula Reinforcement contingent project. The trigger event is the completion of all three elements.

We are satisfied that all the applicable elements set out in our determination have occurred, and therefore that the trigger event has occurred. Table 1 outlines these elements and how each of them has been met.

9 NER, cl. 6A.8.2(c).

10 NER, cl. 6A.8.2(h).

Table 1 Eyre Peninsula contingent project trigger elements

AER determination	Contingent project application
Successful completion of a RIT-T including an assessment of credible options identifying the duplication or replacement of the existing Cultana to Yadnarie and/or Yadnarie to Port Lincoln transmission lines as the preferred option that maximises positive net economic benefits and/or addresses a reliability corrective action.	On 18 October 2018, ElectraNet completed the Eyre Peninsula Reinforcement RIT-T demonstrating that the replacement and duplication of the existing transmission line was the preferred option that maximised net economic benefits. This satisfied the first element of the trigger event.
Determination by the AER that the proposed investment satisfies the RIT-T.	On 11 April 2019, the AER determined that the preferred option identified by ElectraNet had satisfied the RIT-T requirement of the NER. This satisfied the second trigger element.
ElectraNet Board commitment to proceed with the project subject to the AER amending the revenue determination pursuant to the Rules.	On 30 April 2020 the ElectraNet Board committed to proceed with the project subject to the AER amending the revenue determination. ElectraNet provided an extract of the Board minutes as evidence of this event having been satisfied. This satisfied the third trigger element.
Clauses 1 and 2 do not apply if a change in the law occurs that allows the inclusion of the proposed investment in ElectraNet's maximum allowed revenue under this revenue determination even if a RIT-T is not carried out.	Not applicable.

Source: AER determination; ElectraNet, *Eyre Peninsula Reinforcement: Contingent Project Application*, 22 May 2020, p. 26.

Updated RIT-T cost benefit analysis

One element of the trigger element was the successful completion of a RIT-T that identified the duplication or replacement of the existing Eyre Peninsula transmission lines as the preferred option that maximises positive net economic benefits.

ElectraNet's contingent project application includes an updated cost-benefit assessment to account for the following changes to inputs and assumptions since completion of the RIT-T:[11]

[11] ElectraNet, *Eyre Peninsula Reinforcement: Contingent Project Application*, 22 May 2020, p. 12.

- Updated capital cost estimates and expenditure profiles for the options (and base case), including a $50 million increase in the costs of the preferred option.
- Network support cost assumptions forecast with a greater degree of certainty.
- A later commissioning date of December 2022 (informed by the contracting and procurement process undertaken and accounting for the impacts of COVID-19).

The updated net present value of the preferred option results in positive net benefits of around $50 million compared to the line refurbishment option. This is a decrease of approximately $10 million in net benefits from the original RIT-T.[12] The Eyre Peninsula Reinforcement project remains the top-ranked option.[13]

The assessment primarily updated the costs for the various project options and the costs of avoided network support (which is a key benefit for the project). It did not involve updating the wholesale market benefits modelling as the key inputs and assumptions for this analysis had not materially changed.

The updates to the cost-benefit analysis undertaken by HoustonKemp on behalf of ElectraNet mean that the analysis accounts for the most recent costing information and delivery schedule, and provides assurance that the project continues to be the preferred option. While the wholesale market benefits have not been re-modelled and may potentially be different to the original RIT-T analysis, these market benefits are not a primary source of benefit for the project (the primary benefits are the avoided network support costs and refurbishment costs). Changes in wholesale market benefits are therefore unlikely to materially change the outcome.

2.2 The expenditure threshold is met

The expenditure threshold applicable to the forecast capex for the project is:[14]

> either $30 million or 5% of the value of the maximum allowed revenue for the relevant Transmission Network Service Provider for the first year of the relevant regulatory control period whichever is the larger amount.

The applicable threshold for the Eyre Peninsula contingent project is $30 million.[15] ElectraNet's forecast capex for the contingent project is $290 million ($2017-18).[16] This exceeds (and therefore meets) the expenditure threshold of $30 million.

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12 HoustonKemp, *Updated RIT-T cost-benefit assessment for the Eyre Peninsula*, 12 May 2020, p. 10.

13 ElectraNet, *Eyre Peninsula Reinforcement: Contingent Project Application*, 22 May 2020, p. 3.

14 NER, clause 6A.8.1(b)(2)(iii).

15 In contrast, 5 per cent the maximum allowed revenue in the first year of ElectraNet's 2018-23 regulatory control period is $15.2 million.

16 ElectraNet, *Eyre Peninsula Reinforcement: Contingent Project Application*, 22 May 2020, p. 17.

3 Forecast capital and operating expenditure

This section determines the forecast expenditure required to undertake the Eyre Peninsula Reinforcement project, consisting of:

- the total capex that is reasonably required for the purpose of undertaking the project, and
- the capex and incremental opex that is reasonably required for the remainder of the regulatory control period.

These forecasts of capex and opex are building block inputs to determine the incremental revenue ElectraNet may recover in the current regulatory control period. They will also be added to the target capex and opex for ElectraNet's expenditure incentive schemes.[17] Any incentive rewards and penalties ElectraNet receives as a result of under or overspending on the project will be applied as additional revenue adjustments in the next regulatory control period.

If we are satisfied that ElectraNet's proposed expenditure forecasts are prudent and efficient, we must accept it.[18] However, if we are not satisfied that this is the case, we can determine a different forecast. The following sections set out our assessment of ElectraNet's proposal and our decision.

3.1 Forecast of capital expenditure

Table 2 sets out our determination of the total capex for the project and the capex for each year of the 2018-23 regulatory control period. We have not accepted ElectraNet's proposed forecast capex and have determined a different forecast.

Table 2 AER estimate of forecast capex ($m, 2017-18)

	2018-19	2019-20	2020-21	2021-22	2022-23	Total
Total capex	0.6	8.7	57.3	164.7	48.6	279.9
ElectraNet's proposal	0.6	9.0	59.4	170.6	50.3	289.9

Source: AER analysis.

Note: Numbers may not add up due to rounding.

[17] The Capital Expenditure Sharing Scheme (CESS) and the Expenditure Benefit Sharing Scheme (EBSS).

[18] NER, clause 6A.8.1(f).

ElectraNet's proposal

ElectraNet's contingent project application forecasts that the project will require $290 million ($2017-18) in capex.[19] This forecast is comprised of:[20]

- $234 million in new transmission lines and substation upgrades, which is being outsourced to an external contractor via a competitive tender process
- $30 million in ElectraNet's project overheads to oversee the contractor and ensure overall project delivery
- $18 million in allowance for project risk
- $9 million in land access and approval costs, including environmental offsets and land acquisition.

ElectraNet's contingent project application includes a range of confidential supporting documents. This includes a detailed scope of work document, a summary of its procurement process and a detailed break-down of the project cost elements. It also provides a detailed 'risk register' that sets out the detailed information supporting the calculation of the project risk allowance.

We sought additional information from ElectraNet to help us better understand elements of the capex forecast, including more information about its tender process, project scope and the basis of estimate for its non-tendered cost components.[21]

Why we do not accept ElectraNet's forecast capex

We have examined ElectraNet's proposed capex forecast and found that a prudent and efficient estimate of the forecast capex for the Eyre Peninsula project is $280 million ($2017-18). This is 3.5 per cent less than ElectraNet's proposal. We have therefore not accepted ElectraNet's forecast capex in its application.

We assessed ElectraNet's capex forecast by examining its forecasting methodology for each component of the forecast. In particular, we have:

- Reviewed the tendered costs by focusing on ElectraNet's tendering and procurement process and its proposed contracting approach.
- Reviewed the non-tendered costs by reviewing the basis of estimates, including underlying cost inputs and assumptions, for each cost component from a top-down and bottom-up perspective.

We were supported by our consultants, Energy Market Consulting associates (EMCa), which applied its technical and engineering expertise to examine the capex

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19 ElectraNet, *Eyre Peninsula Reinforcement: Contingent Project Application*, 22 May 2020, p. 17.

20 ElectraNet, *Eyre Peninsula Reinforcement: Contingent Project Application*, 22 May 2020, p. 17; ElectraNet, *Response to AER Information Request dates 17 July 2020*, 31 July 2020, p. 21.

21 ElectraNet, *Response to AER Information Request dates 17 July 2020*, 31 July 2020; ElectraNet, *Response to AER Information Request dates 15 June 2020*, 26 June 2020.

forecast, identify key areas of ElectraNet's application that required further analysis, and assess the prudency and efficiency of the forecast.[22] Where EMCa found that a component of ElectraNet's capex proposal did not reasonably reflect a prudent and efficient amount for the required work, it identified an alternative estimate. EMCa's report is available on our website alongside this decision.

Based on our review and EMCa's supporting analysis, we found that the majority of ElectraNet's forecast is expenditure that would be incurred by an efficient and prudent operator to deliver the Eyre Peninsula project. This is because:

- The competitive tender process ElectraNet undertook for the majority of project capex should ensure that the estimated costs reasonably reflect a competitive market outcome for the scope of the project as specified by ElectraNet.
- The proposed scope of the project that is reflected in the tendered costs reflects the necessary works to construct and install new transmission lines and deliver the needs of the project.
- The land access and approvals costs, which is primarily comprised of expected environmental offsets, is a reasonable estimate of the costs required to manage and comply with environmental protection obligations on the Eyre Peninsula.

While the tendered costs are likely to be reasonably prudent and efficient, we found that ElectraNet has forecast more capex than required for its internal project delivery requirements and its project risk. This means that the overall forecast of capex is likely more than reasonably necessary to prudently and efficiently deliver the project.

There remains scope for ElectraNet to lower overall project costs as it finalises the design with its third-party contractor. We consider that ElectraNet could have done more to seek or incentivise innovative solutions in the early stages of the tendering process. We encourage ElectraNet to consider any remaining opportunities to reduce project costs to the extent possible in finalising its contracting process, noting that the majority of these savings will be passed on to consumers when the lower costs are rolled into the RAB.Table 3 sets out our own estimate of forecast capex. To calculate this forecast, we accepted ElectraNet's tendered cost component and land access costs, and then formed an alternative estimate of the project delivery and project risk costs.

[22] EMCa, *ElectraNet's Eyre Peninsula Reinforcement Project — Assessment of Aspects of the Proposed Capital Costs*, September 2020.

Table 3 AER estimate of forecast capex ($m 2017-18)

	2018-19	2019-20	2020-21	2021-22	2022-23	Total
Transmission lines and substation works	0.47	7.26	47.84	137.44	40.59	233.61
Project Delivery Costs	0.05	0.78	5.12	14.70	4.34	24.98
Project Risk	0.03	0.40	2.60	7.48	2.21	12.72
Land Access & Approvals	0.02	0.27	1.78	5.11	1.51	8.68
Total	0.57	8.70	57.34	164.73	48.65	279.99

Source: AER analysis.

Note: Numbers may not add up due to rounding.

The remainder of this section sets out our assessment of:

- ElectraNet's costs for transmission lines and substation works (section 3.1.1)
- ElectraNet's project delivery overheads (section 3.1.2)
- ElectraNet's risk allowance (section 3.1.3).

3.1.1 Costs for transmission lines and substation works

The largest component of the Eyre Peninsula project is the costs for designing, constructing and installing the new transmission towers and conductors, and the associated upgrades to ElectraNet's substations. This comprises a total of $234 million ($2017-18), which is 80 per cent of the total project costs.

ElectraNet is outsourcing the design, construction and delivery of the transmission lines and substation works to a third party engineering contractor. It has estimated the costs for these works through a competitive tendering and procurement process it has been conducting since late 2019.[23] ElectraNet is expecting to execute a fixed price design-and-construct contract with the contractor in November 2020, and it is currently finalising the project design, costs and regulatory approvals.[24]

The forecast capex included in this application reflects the combination of:[25]

- the amount tendered by the successful contractor to design and construct the required transmission lines and substation upgrades (which comprises the majority of the forecast capex)

[23] ElectraNet, *Eyre Peninsula Reinforcement Project: Procurement Summary Report (Confidential)*, 22 May 2020.

[24] ElectraNet, *Eyre Peninsula Reinforcement Project: Procurement Summary Report (Confidential)*, 22 May 2020, p. 4; ElectraNet, *Response to AER Information Request dates 17 July 2020*, 31 July 2020.

[25] ElectraNet, *Eyre Peninsula Reinforcement: Contingent Project Cost Estimate model*, 22 May 2020.

- additional amounts to reflect changes in project scope and cost estimates identified in early engagement with the contractor, including design changes due to cultural heritage and environmental constraints, and the impact of COVID-19
- an allowance for valid contract variations expected to be incurred during the course of the contract.

How we have assessed tendered project costs

We have assessed these costs by reviewing ElectraNet's tendering process and how it is proposing to contract with the third party contractor. We have focused on the process because the competitive tendering of costs can ensure that costs are market tested and reflect a realistic expectation of costs that can be delivered. This is especially important for large and discrete projects, such as the Eyre Peninsula Reinforcement project, where it may be difficult to estimate prudent and efficient costs using historical revealed costs and benchmarks.

Our review was informed by analysis undertaken by EMCa of ElectraNet's tendering process and documentation, and the technical scope of works that is reflected in the cost estimates. EMCa examined:[26]

- the competitiveness of the tendering process itself, including its market review, tender evaluation process and selection of the successful bidder
- the technical scope of works that is reflected in the tendered amount
- the choice of project delivery and contracting model, including the process of determining the final costs, and how responsibilities and risk are shared between ElectraNet and the contractor.

As part of the review, we sought further information from ElectraNet about its tender process and documentation, the process for determining the project scope of works (including technical documents), and basis of estimates descriptions of the costs identified following the tender process.[27]

ElectraNet's tendering process was competitive but conservative

We found that ElectraNet's estimated costs for the transmission lines and substation works were appropriately determined through a competitive tender process. This means that the costs likely reflect a prudent and efficient amount that is reasonably

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[26] EMCa, *ElectraNet's Eyre Peninsula Reinforcement Project — Assessment of Aspects of the Proposed Capital Costs*, September 2020, p. 14.

[27] EMCa, *ElectraNet's Eyre Peninsula Reinforcement Project — Assessment of Aspects of the Proposed Capital Costs*, September 2020, p. 9; ElectraNet, *Response to AER Information Request dates 17 July 2020*, 31 July 2020; ElectraNet, *Response to AER Information Request dates 15 June 2020*, 26 June 2020.

required to undertake the project as specified by ElectraNet. As informed by EMCa's review, this is because:[28]

- ElectraNet's tender process reflected a competitive process. ElectraNet conducted a market evaluation process and sought bids from multiple high-quality engineering firms. It then appropriately identified the bid with the lowest cost and highest non-price attributes using an evaluation process that was consistent with good industry practice.
- The proposed scope of the project that is reflected in the tendered costs reflects the necessary works to construct and install new transmission lines on the Eyre Peninsula and deliver the needs of the project.
- ElectraNet's project delivery model (e.g. fixed price design and construction contract) and early contractor involvement phase should provide opportunities to reduce the project costs and efficiently share risk.

While we accept that ElectraNet's forecast costs likely reflect the prudent and efficient amount to deliver the project needs, the tender process may have restricted the extent to which bidders proposed more cost effective design solutions. EMCa's review of ElectraNet's tendering process found that a lower tendered amount may potentially have been achieved if ElectraNet had further explored alternative transmission design and construction approaches.[29] This is because:[30]

- ElectraNet conducted only minimal examination of alternative line design and construction techniques.
- The tenders proposed traditional towers and construction techniques because they were broadly constrained by the narrow technical specifications in ElectraNet's request for tender documentation.
- ElectraNet did not incentivise tenderers to propose innovative solutions for the design and construction of the transmission towers and lines that may have reduced overall costs.

An alternative approach to the tendering process may have sought to find ways to reduce costs in the initial conceptual design phase, the tender phase, and in the follow-up phase of finalising the design and construction approach. This could have involved incentivising tenderers to identify and propose alternative offers — such as 'non-conforming offers' — that may have allowed ElectraNet to identify an even more cost effective solution proposed by the market.

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[28] EMCa, *ElectraNet's Eyre Peninsula Reinforcement Project — Assessment of Aspects of the Proposed Capital Costs*, September 2020, p. 13, 24.

[29] EMCa, *ElectraNet's Eyre Peninsula Reinforcement Project — Assessment of Aspects of the Proposed Capital Costs*, September 2020, p. 24.

[30] EMCa, *ElectraNet's Eyre Peninsula Reinforcement Project — Assessment of Aspects of the Proposed Capital Costs*, September 2020, p. 25.

It is not clear whether any substantial alternative designs are achievable at this stage of the process. EMCa's report considered that the opportunity for reducing costs through innovation in the design of transmission towers and footings is limited at this stage and has likely passed.[31] However, there may remain some opportunity for design optimisation and more cost effective construction techniques, which may reduce the overall project costs. This is because ElectraNet and the contractor are still in the process of finalising the design and costs of the project, prior to executing a fixed price contract in November 2020.

Where ElectraNet and the contractor are able to identify any further design and/or construction techniques that lower the overall project costs, these costs savings should be reflected in the final contract price. The majority of these lower costs will then be passed through to consumers when the actual project costs are added to the RAB at the start of the next regulatory control period.

3.1.2 Project delivery overheads

ElectraNet's forecast capex includes $30 million ($2017-18) for its project delivery overhead costs. ElectraNet explained that its project delivery costs reflect:[32]

> … the complexity of the works involved in a major greenfield line project of this nature, and include project management, planning, reporting, procurement, scoping, estimating, design management, engineering advice and support, engineering review and sign-off, planning and environmental approvals, cultural heritage and native title management, field surveillance, works oversight, quality assurance, deliverables confirmation and sign-off, network management, network planning, conduct of the RIT-T and general corporate support, together with the expenses associated with factory visits, travel, vehicle costs, general expenses and site office costs.

ElectraNet's forecast is based on a bottom-up build of additional staff required to deliver the project and the specific activities proposed to be undertaken for each project stage. It also includes costs that have already been incurred for design, procurement, consultation and approvals. These costs were not subject to a competitive tender process, and so we have examined them in more specific detail. We did this from both a top-down (e.g. benchmarking) and a bottom-up perspective.

We found that ElectraNet's project delivery costs are overstated and more than reasonably required to deliver the Eyre Peninsula Reinforcement project. This is because:

- ElectraNet's forecast project delivery costs are up to 40 per cent higher than the project delivery costs it proposed in recent major projects, and across its historical capitalised costs since 2009.

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31 EMCa, *ElectraNet's Eyre Peninsula Reinforcement Project — Assessment of Aspects of the Proposed Capital Costs*, September 2020, pp. 23-24.

32 ElectraNet, *Response to AER Information Request dates 15 June 2020*, 26 June 2020, p. 19.

- The greenfields nature of the Eyre Peninsula Reinforcement project means there may be additional project management costs relating to land and environmental approvals. However, a significant share of these costs are likely to be borne by the contractor or are otherwise captured by ElectraNet's forecast capex for 'land and access' costs (and project risk allowance).
- A bottom-up examination of ElectraNet's forecast labour costs for project management suggests that ElectraNet has overstated these costs by between 25 and 35 per cent. This reflects EMCa's evaluation of ElectraNet's proposed staffing for the project and the application of benchmark unit salary rates.

We have calculated an alternative estimate of project delivery costs that takes account of EMCa's alternative estimate of the forecast labour component of the project delivery costs, while accepting other costs that ElectraNet has incurred to date on the project. We consider that applying EMCa's alternative estimate is reasonable because it results in project delivery costs that are more aligned with ElectraNet's historical project delivery costs and better reflects ElectraNet's necessary roles and responsibilities in delivering the project.

Table 4 AER estimate of project delivery capex ($m, 2017-18)

	2018–19	2019–20	2020–21	2021–22	2022–23	Total
Proposed overheads	0.06	0.93	6.11	17.55	5.18	29.83
AER alternative overheads	0.05	0.78	5.12	14.70	4.34	24.98
Difference	-0.01	-0.15	-0.99	-2.85	-0.84	-4.84

Source: AER analysis; ElectraNet's proposal.

ElectraNet's project delivery costs are likely overstated

ElectraNet's application states that its forecast of project delivery costs is supported by top-down benchmarks previously supported by the AER.[33] In particular, it noted that the AER accepted project delivery costs of 12 per cent in its 2009 decision for ElectraNet's Adelaide Central Reinforcement contingent project.[34] ElectraNet's forecast project delivery costs represents 10 per cent of its total forecast capex.

EMCa's report considered these previous benchmarks and found them inconclusive, stating:[35]

[33] ElectraNet, *Eyre Peninsula Reinforcement: Contingent Project Application*, 22 May 2020, p. 18.

[34] ElectraNet, *Response to AER Information Request dates 15 June 2020*, 26 June 2020, p. 19. For the AER's 2009 decision, see AER, *Decision: Contingent project application: ElectraNet, Adelaide Central Reinforcement Project*, November 2009, p. 6.

[35] EMCa, *ElectraNet's Eyre Peninsula Reinforcement Project — Assessment of Aspects of the Proposed Capital Costs*, September 2020, p. 28.

> Our understanding is that the benchmark ElectraNet is referring to was initiated over 10 years ago and we are unaware of the basis of the assessment.
>
> However, there are recognised project management cost benchmarks, which are typically 10-12% of total project costs for large, complex projects. However, in this case that would also include the Contractor's project management costs which we understand to be approximately 6% of its costs. On this basis, the ElectraNet deliver costs should be about 6% of total costs.

We note that ElectraNet has realised project overheads of closer to seven per cent of total capitalised project costs since 2009. In particular:

- ElectraNet's 2019 main grid system strength contingent project proposed project delivery costs of 6.8 per cent of the project costs.[36] This is a major $185.2 million project ElectraNet is undertaking to install high-inertia synchronous condensers in South Australia. It similarly engaged a contractor to undertake the majority of the project work. In our assessment of ElectraNet's forecast capex for the project, we accepted its forecast of project delivery overheads.
- ElectraNet's capitalised network and corporate overheads across the entirety of its capital projects from 2009 and 2018 is 6.9 per cent of total capex (on average). This is based on audited data submitted in response to the AER's annual regulatory information notices.

When considered from a top-down perspective, ElectraNet's forecast project delivery costs for the Eyre Peninsula Reinforcement project are approximately 40 per cent higher than these historical projects, including the recent main grid system strength. ElectraNet argued that its forecast project delivery costs are not directly comparable with other recent transmission projects reported by the business.[37] This is because the Eyre Peninsula Reinforcement project is the first major greenfields line project of this scale undertaken by its business in the last decade, and potentially has more complex project management requirements including planning and environmental approvals, cultural heritage and native title management.[38]

We agree that the greenfields nature of the Eyre Peninsula project means that it may require additional costs relating to land and environmental approvals and management, compared to other projects such as its 2019 main grid system strength which was more brownfields in nature.

However, ElectraNet itself may not necessarily require significantly more than a standard amount of project overheads for the Eyre Peninsula Reinforcement project. This is because a large proportion of the costs associated with managing the

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36 ElectraNet, *System Strength Contingent Project Capital Cost Input File (Confidential)*.

37 ElectraNet, *Response to AER Information Request dates 15 June 2020*, 26 June 2020, p. 19.

38 ElectraNet, *Response to AER Information Request dates 15 June 2020*, 26 June 2020, p. 19.

greenfields nature of this project are forecast to be incurred by the contractor. For example, while ElectraNet is responsible for stakeholder engagement and preparing environmental and land approvals, the contractor will be responsible for designing and constructing the project, preparing and enacting and reporting on environmental management and cultural heritage plans, monitoring cultural heritage sites, and conducting geotechnical investigations.[39]

In addition, ElectraNet has already separately forecast elements of the costs it expects to incur for environmental and cultural heritage offsets, approvals, consultation and negotiations. This is within its 'land and approvals' capex forecast (and also reflected in elements of its proposed project risk allowance). If these costs were instead added to ElectraNet's forecast of project delivery costs, the total amount would represent up to 13 per cent of total project costs.

When considering project overheads from a top-down perspective, the scale of the project is also relevant. The Eyre Peninsula Reinforcement project is one of ElectraNet's largest projects undertaken in recent years (in terms of total capex). The total capex is more than 50 per cent greater than the main grid system strength project. While larger projects may involve more complex project delivery issues to manage, the project management costs do not typically scale up as the total project costs increase. Instead, relatively fixed project management costs are spread over larger project material and labour costs, and the proportion of overheads as a percentage of total project costs decreases.[40]

On balance, these observations suggest that ElectraNet has likely overstated the additional amount of internal project delivery costs required to deliver the Eyre Peninsula Reinforcement project.

Bottom-up alternative estimate of project delivery costs

ElectraNet's project delivery costs is primarily comprised of internal labour costs for project management. Other costs include actual costs incurred to date on project design, consultation and regulatory approvals, and other general expenses.

In response to our information requests, ElectraNet provided a detailed breakdown of its internal labour costs, the number of roles for each project stage, and descriptions of the roles and responsibilities.[41] This informed our analysis of the forecast capex.

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39 ElectraNet, *Response to AER Information Request dates 15 June 2020*, 26 June 2020, p. 14-18.

40 This is an observation we made in our decision on TransGrid's QNI Minor Upgrade contingent project application, which was supported by its expert consultant. See AER, *Final Decision TransGrid Contingent Project QNI Minor Upgrade*, April 2020, p. 21.

41 ElectraNet, *Response to AER Information Request dates 17 July 2020*, 31 July 2020.

We asked EMCa to examine ElectraNet's project delivery overheads in detail. It primarily did so by undertaking a bottom-up assessment of the proposed internal labour costs. EMCa assessed ElectraNet's proposed labour costs by:[42]

- First, examining the proposed numbers of roles that ElectraNet allocated to each stage of the project and assessing whether these appear reasonable for ElectraNet's tasks and responsibilities in relation to the project. Where EMCa identified that ElectraNet had overstated the number of roles that would be reasonably required, it identified the alternative number of roles that a prudent operator would require.
- Second, applying benchmarks unit rates of salaries to construct an alternative estimate for the labour costs required at each project stage. These benchmarks were based on EMCa's own experience, from working in transmission planning, design, and construction, and relevant information from the Hays 2019-20 Salary Guide[43] (plus estimated corporate overhead allocations and on costs).

EMCa's analysis found that ElectraNet's project team structure was appropriate for the type, scope and complexity of the project. However, it found that ElectraNet's proposed total number of staff across the major project stages appears in excess of what would be required.[44] This was due to a combination of factors, including the significant responsibilities born by the contractor, the relative short duration of the project stages, and that some of the costs have likely already been sunk.[45]

Following these observations, EMCa constructed its alternative estimate using its combination of benchmark unit rates and found that:

- ElectraNet's proposed labour costs for the initial project stage (called 'early constructor involvement') are likely overstated by between 20 and 30 per cent[46]
- ElectraNet's proposed labour costs for the main design and construction stage are likely overstated by between 25 and 35 per cent.[47]

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42 EMCa, *ElectraNet's Eyre Peninsula Reinforcement Project — Assessment of Aspects of the Proposed Capital Costs*, September 2020, p. 27.

43 EMCa obtained salary cost estimates from the Hays Salary Guide 2019-20, drawing on the South Australian, Adelaide salaries guide and selecting what EMCa consider to be the equivalent role/seniority from the relevant sector. The annual Hays Salary Guide provides a snapshot of salaries for more than 1,000 positions across Australia and New Zealand at a point in time.

44 EMCa, *ElectraNet's Eyre Peninsula Reinforcement Project — Assessment of Aspects of the Proposed Capital Costs*, September 2020, pp. 29, 34.

45 EMCa, *ElectraNet's Eyre Peninsula Reinforcement Project — Assessment of Aspects of the Proposed Capital Costs*, September 2020, pp. 29-32, 34-36.

46 EMCa, *ElectraNet's Eyre Peninsula Reinforcement Project — Assessment of Aspects of the Proposed Capital Costs*, September 2020, p. 32.

47 EMCa, *ElectraNet's Eyre Peninsula Reinforcement Project — Assessment of Aspects of the Proposed Capital Costs*, September 2020, pp. 36-37.

Overall, EMCa found that the labour component of ElectraNet's proposed labour costs for project delivery were overstated by between 25 and 35 per cent.[48] This reflected the combination of its bottom-up estimates for the two project stages.

EMCa also reviewed the other smaller project delivery costs (e.g. costs incurred to date, general expenses) and found that they appeared reasonable given the type of work required for the Eyre Peninsula project.[49]

We have taken EMCa's findings and calculated an alternative estimate of ElectraNet's forecast project delivery costs. We have applied a reduction of 25 per cent to the labour proportion of the costs, and accepted all other elements. We have applied the lower end of the adjustment range of benchmark salary rates identified by EMCa. This is a conservative approach which accounts for EMCa's independent expert review, while recognising that the application of external benchmarks of this nature necessarily relies on a number of broad and simplifying assumptions.

This approach leads to an alternative estimate of $24.9 million ($2017-18) in project delivery costs, which is an overall reduction of 16 per cent when compared to ElectraNet's proposed project delivery costs. This alternative estimate represents 8.9 per cent of the total project costs. We consider that applying EMCa's alternative estimate is reasonable because the amount of project delivery overheads is consistent with our top-down analysis of the project requirements. Notably, it remains above ElectraNet's revealed project delivery overheads of seven per cent in recent years, recognising the specific project delivery challenges of this major project, but less than the 10 per cent of project costs proposed by ElectraNet.

On balance, we consider that this alternative estimate reflects the prudent and efficient project delivery costs that may be reasonably required for this project. This reflects both our top-down findings that ElectraNet's proposed costs are likely overstated, and EMCa's additional independent bottom-up review.

3.1.3 Allowance for project risk

ElectraNet's forecast capex include $18 million in allowance for project risk costs. These reflect activities or events where there is some uncertainty over the potential impacts on costs, and have not otherwise been factored into the fixed price contract for the transmission lines and substation works or forecast project delivery costs.

The project risk allowance reflects the potential impact of over sixty individual risks, including changes in design due to cultural heritage areas, delays in land access

[48] EMCa, *ElectraNet's Eyre Peninsula Reinforcement Project — Assessment of Aspects of the Proposed Capital Costs*, September 2020, p. 39.

[49] EMCa, *ElectraNet's Eyre Peninsula Reinforcement Project — Assessment of Aspects of the Proposed Capital Costs*, September 2020, p. 37-38.

and approvals, increased costs due to COVID-19 delays and restrictions, changes in materials costs and foreign exchange risk.[50]

ElectraNet evaluated each risk item by estimating the likelihood of occurrence, mitigation strategies and range of potential cost impacts.[51] It assessed and valued each risking using its "professional engineering judgement and project delivery experience" and its risk management framework.[52] It then calculated the likely impact applying a probabilistic assessment using a Monte Carlo simulation.

We have found that ElectraNet adopted a prudent approach to measuring project risk. However, we found that a number of the specific risk items included within ElectraNet's risk allowance are not risks that should be borne by consumers, or overstate the likelihood and consequence of the risk occurring. We have therefore found that ElectraNet's total risk allowance overstates the efficient amount of project risk cost associated with the Eyre Peninsula Reinforcement project.

We have determined an alternative allowance for project risks of $12.7 million. This reflects our alternative assessment of project risk, drawing on advice from EMCa on the reasonableness of ElectraNet's assumed risk probabilities and consequences, and updated information provided by ElectraNet. Our assessment and reasoning is set out in the remainder of this section.

Table 5 AER estimate of project risk capex ($m, 2017-18)

	2018–19	2019–20	2020–21	2021–22	2022–23	Total
Proposed project risk	0.04	0.55	3.65	10.49	3.10	17.82
AER alternative project risk	0.03	0.4	2.6	7.48	2.21	12.72
Difference	-0.01	-0.15	-1.05	-3.01	-0.98	-5.1

Source: AER analysis; ElectraNet's proposal.

How we assess allowances for project risk

We examined whether it would be prudent or efficient for consumers to bear this sort of project risk through the ex-ante expenditure allowance. We did this from a bottom-up perspective by examining the individual risk items included within ElectraNet's risk allowance. There are few available top-down benchmarks of efficient project risks, as risks are inherent to the nature of individual projects.

In considering whether specific individual risk items are reasonable, we have considered that it would be prudent to allow risks that:

[50] ElectraNet, *Eyre Peninsula Reinforcement: Project Risk Register (Confidential)*, 22 May 2020.
[51] ElectraNet, *Eyre Peninsula Reinforcement: Contingent Project Application*, 22 May 2020, p. 18.
[52] ElectraNet, *Response to AER information request dated 17 July 2020*, 31 July 2020, p. 9.

- are related to a realistic latent condition with the site (for example, environmental and cultural heritage conditions); or
- were associated with the actions or requirements of a third party not under contract to ElectraNet and hence the risk cannot be addressed through enforcing contract terms (for example, regulatory approvals and land owners).

However, we consider that it would not be prudent to provide a risk cost allowance for risk items that are:

- under ElectraNet's control
- normally managed by ElectraNet as part of its business as usual practices (including as accommodated by its existing revenue allowance)
- reasonably covered by contract terms; or
- covered by insurance (for example, fire).

We have assessed ElectraNet's proposed project risk cost allowance by examining the individual risk items included within its allowance against these criteria. We also examined ElectraNet's methodology for calculating the probability and financial impact of each risk. Here we also considered whether there were offsetting factors such as duplication between risk items or symmetrical likelihood of risks relating to both cost increases as well as cost savings.

This was informed by EMCa's review, which used its expert engineering judgement and expertise to evaluate the drivers for each risk item and the likely probability of occurrence and the financial impact.[53] Where EMCa found that specific risk items did not meet the above criteria or were overstated, it recommended either removing specific risk items or adjustments to the likelihood or financial consequence.

ElectraNet's supporting information for each risk was confidential because it included information about the status of ongoing negotiations with third parties (e.g. land owners and native title holders) and other market sensitive information. As part of EMCa's review, we sought additional information from ElectraNet about the status of individual risks and how they had changed since ElectraNet had estimated the risks and submitted its contingent project application. While the additional information ElectraNet provided was also confidential, it ensured that EMCa's review reflected the most up-to-date information regarding project status and the allocation of risks between ElectraNet and its project contractor.

ElectraNet's proposed allowance for project risk is overstated

We found that ElectraNet's methodology and process for calculating its risk allowance was logical and well documented, and its use of probabilistic calculations

[53] EMCa, *ElectraNet's Eyre Peninsula Reinforcement Project — Assessment of Aspects of the Proposed Capital Costs*, September 2020, pp. 40-44.

should, depending on the inputs and assumptions applied, result in an overall allowance that reasonably reflects the likelihood of the project risks occurring and their costs.

We sought advice from EMCa on the reasonableness of the inputs and assumptions underlying each individual risk item proposed by ElectraNet. EMCa found that a number of the specific risks ElectraNet identified were appropriate, and should be included in a risk allowance and reasonably borne by consumers. However, EMCa also found that a number of the individual risk items that ElectraNet had originally forecast were not appropriate to be borne by consumers, or overstated the likelihood and financial impact of specific project risks.[54]

As noted above, we then sought more information from ElectraNet about the status of individual risk items and shared EMCa's assessment of the risk items included in the original proposal. In response, ElectraNet provided updated information on specific risks items and ensured that EMCa understood the basis of their calculation. EMCa reviewed the new information and revised its assessment so that it reflected the current status of project risk.[55]

EMCa recommended that a prudent and efficient estimate of project risk is $12.7 million ($2017-18).[56] This is 29 per cent less than ElectraNet's proposed project risk allowance. We have applied EMCa's recommendation because it accounts for the latest information available from ElectraNet about the status of project risks, and reflects its independent judgement on the likelihood and consequences of specific risks occurring in the context of this project.

3.2 Forecast of operating expenditure

Table 6 sets out our determination of the incremental opex for each year of the 2018-23 regulatory control period. We have accepted ElectraNet's proposed incremental opex in its application.

Table 6 Proposed incremental opex forecast ($m, 2017-18)

	2018-19	2019-20	2020-21	2021-22	2022-23	Total
Total opex	0.0	0.0	0.0	0.0	-1.3	-1.3

Source: ElectraNet, *Eyre Peninsula Reinforcement: Contingent Project Application*, 22 May 2020, p. 22.

[54] EMCa, *ElectraNet's Eyre Peninsula Reinforcement Project — Assessment of Aspects of the Proposed Capital Costs*, September 2020, pp. 41-42.

[55] EMCa, *ElectraNet's Eyre Peninsula Reinforcement Project — Assessment of Aspects of the Proposed Capital Costs*, September 2020, pp. 42-43.

[56] EMCa, *ElectraNet's Eyre Peninsula Reinforcement Project — Assessment of Aspects of the Proposed Capital Costs*, September 2020, p. 44.

ElectraNet's opex forecast is negative because it reflects a reduction in ongoing network support payments. ElectraNet currently purchases network support services that enable it to call upon diesel fired generation at Port Lincoln when needed due to an interruption on the existing transmission line. One of the primary benefits of the new transmission line on Eyre Peninsula is to avoid these network support payments.

The incremental opex reduction reflects only two months of reduced network support payments because the new transmission line will be commissioned, and then tested, up until near the end of 2022-23, the final year of the current regulatory control period. The full reduction in network support costs will be realised in the next regulatory control period.

4 Calculation of incremental allowed revenues

This section determines the incremental revenue that ElectraNet is allowed to recover from customers to account for the efficient costs of the contingent project. We have applied an annual building block revenue approach, in accordance with clause 6A.8.2(h) of the NER. ElectraNet's application is consistent with this approach.

Table 7 shows that ElectraNet can recover $3.7 million in additional revenues from customers over the 2018–23 regulatory control period. This will increase annual transmission charges by about 0.4 per cent in 2021–22 and 0.7 per cent in 2022–23. We estimate that the average residential electricity bill in South Australia will increase by about $1 per year.

Table 7 Incremental revenue calculation ($m, nominal)

	2018–19	2019–20	2020–21	2021–22	2022–23	Total
Return on capital	0.0	–0.1	–0.7	1.1	10.3	10.6
Return of capital	0.0	0.0	0.3	–0.5	–5.4	–5.5
Operating expenditure	0.0	–0.0	–0.0	0.0	–1.5	–1.5
Revenue adjustments	0.0	0.0	0.0	0.0	0.0	0.0
Net tax allowance	0.0	–0.0	–0.0	0.0	0.2	0.2
Annual building block revenue requirement (unsmoothed)[a]	0.0	–0.0	–0.4	0.7	3.6	3.8
Annual expected maximum allowable revenue (smoothed)	0.0	0.0	0.0	1.2	2.5	3.7
Increase to annual expected MAR (smoothed) (%)	0.0%	0.0%	0.0%	0.4%	0.7%	0.2%

Source: AER analysis.

(a) The incremental revenue requirements for 2019–20 and 2020–21 do not flow into the expected MAR for these years and are instead smoothed into the expected MARs for 2021–22 and 2022–23.

Note: '–0.0' reflects small negative incremental change; Numbers may not add up due to rounding.

Table 8 shows the effect of the resultant incremental increase in revenues on ElectraNet's total annual building block revenue requirement (unsmoothed), expected maximum allowable revenues and the X-factor for each regulatory year of the remainder of the regulatory control period.

Table 8 Annual building block revenue requirement, expected MAR and X-factors ($m, nominal)

	2018–19	2019–20	2020–21	2021–22	2022–23	Total
Annual building block revenue requirement (unsmoothed)	286.1	314.5	327.0	349.5	354.6	1631.7
Annual expected MAR (smoothed)	305.3	312.5	322.3	336.7	351.7	1628.6
X-factors	n/a	0.08%	–0.67%	–1.96%	–1.96%	n/a

Source: AER analysis.