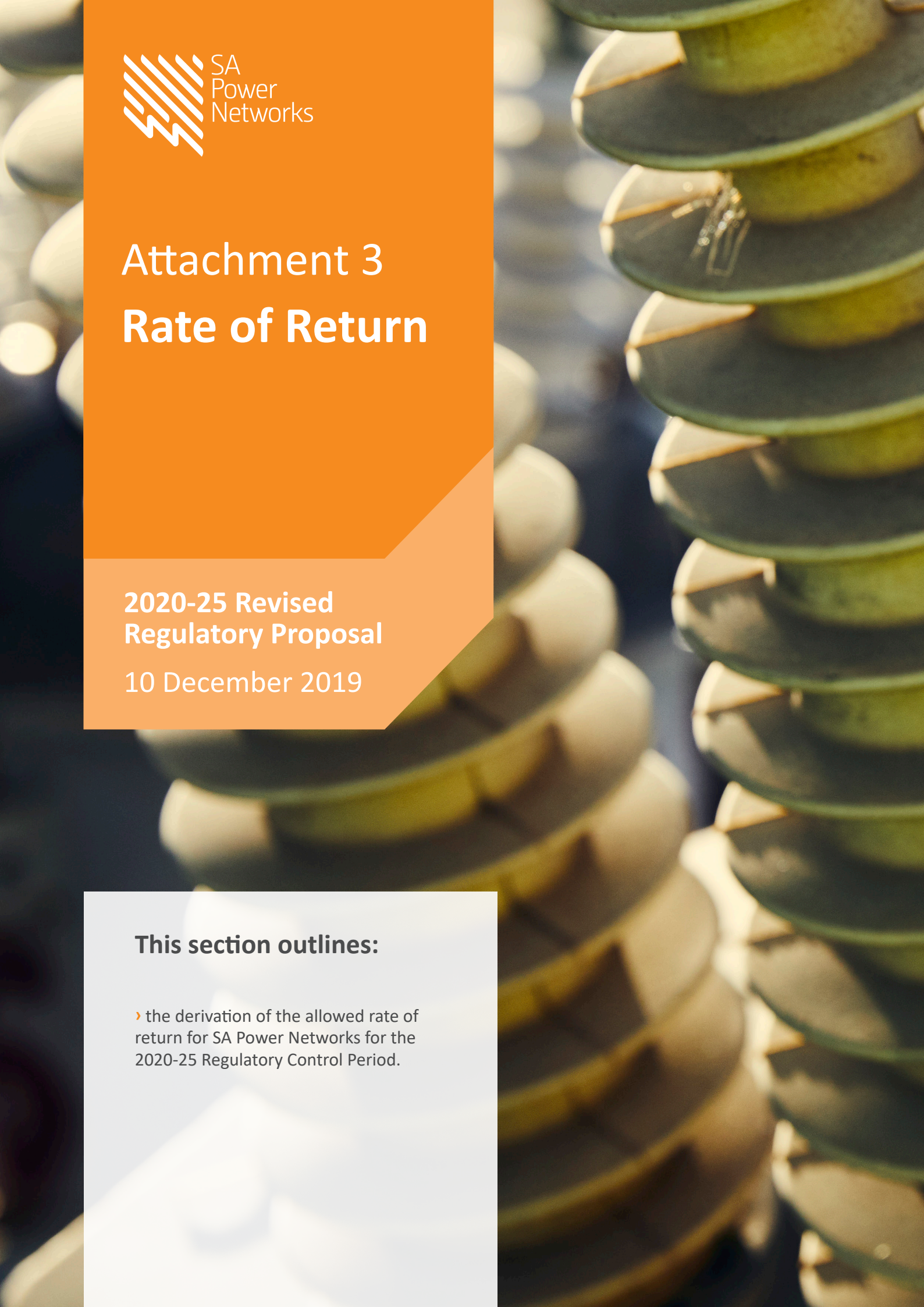


SA Power Networks

Attachment 3

Rate of Return

2020-25 Revised Regulatory Proposal

10 December 2019

This section outlines:

› the derivation of the allowed rate of return for SA Power Networks for the 2020-25 Regulatory Control Period.

Company information

SA Power Networks is the registered Distribution Network Service Provider for South Australia.
For information about SA Power Networks visit sapowernetworks.com.au

Contact

For enquiries about this Revenue Proposal please contact:
Richard Sibly
Head of Regulation
SA Power Networks
GPO Box 77 Adelaide SA 5001
sapn2020proposal@sapowernetworks.com.au

Disclaimer

This document forms part of SA Power Networks' Regulatory Proposal to the Australian Energy Regulator for the 1 July 2020 to 30 June 2025 regulatory control period. The Proposal and its attachments were prepared solely for the current regulatory process and are current as at the time of lodgement.

This document contains certain predictions, estimates and statements that reflect various assumptions concerning, amongst other things, economic growth and load growth forecasts. The Proposal includes documents and data that are part of SA Power Networks' normal business processes and are therefore subject to ongoing change and development.

Whilst care was taken in the preparation of the information in this Regulatory Proposal, and it is provided in good faith, SA Power Networks, its officers and shareholders accept no responsibility or liability for any loss or damage that may be incurred by any person acting in reliance on this information or assumptions drawn from it for a different purpose or in a different context.

Copyright

Note

This attachment forms part of our Proposal for the 2020-25 Regulatory Control Period. It should be read in conjunction with the other parts of the Proposal.

Our Proposal comprises the overview and attachments listed below, and the supporting documents that are listed in Attachment 18:

Document	**Description**
	Regulatory Proposal overview
Attachment 1	Annual revenue requirement and control mechanism
Attachment 2	Regulatory Asset Base
Attachment 3	***Rate of Return***
Attachment 4	Regulatory Depreciation
Attachment 5	Capital expenditure
Attachment 6	Operating expenditure
Attachment 7	Corporate income tax
Attachment 8	Efficiency Benefit Sharing Scheme
Attachment 9	Capital Expenditure Sharing Scheme
Attachment 10	Service Target Performance Incentive Scheme
Attachment 11	Demand management incentives and allowance
Attachment 12	Classification of services
Attachment 13	Pass through events
Attachment 14	Alternative Control Services
Attachment 15	Negotiated services framework and criteria
Attachment 16	Connection Policy
Attachment 17	Tariff Structure Statement Part A
Attachment 17	Tariff Structure Statement Part B - Explanatory Statement
Attachment 18	List of Proposal documentation

Contents

List of tables

List of figures

3 Rate of Return

This Attachment outlines the derivation of the allowed rate of return for SA Power Networks for the 2020–25 regulatory control period (**RCP**) as set out in our regulatory proposal for the 2020-25 RCP (**Original Proposal**), the AER's draft decision on our Original Proposal (**Draft Decision**) and our response to the Draft Decision (**Revised Proposal**).

3.1 Overview

Original Proposal	AER Draft Decision	Revised Proposal
Weighted average cost of capital (WACC)		
Placeholder nominal vanilla WACC of 5.43%, calculated in accordance with the 2018 Rate of Return Binding Instrument (**RORI**) [1] and November 2018 market rates.	Accept – Application of the AER's RORI with placeholder nominal vanilla WACC updated to 4.95% (Year 1) based on July 2019 market rates.	Accept - Application of the AER's RORI with placeholder nominal vanilla WACC updated to 4.79% (Year 1) based on August 2019 market rates.
Actual WACC will be estimated in accordance with proposed (confidential) risk free rate and debt averaging periods.	Accept - Proposed risk free rate and debt averaging periods accepted by AER.	No change.
Equity and debt raising costs		
Equity raising costs: $0	Equity raising costs: $0	Equity raising costs: $0
Debt raising costs: 15.3 basis points per annum (**bppa**).	Did not accept: Substituted debt raising costs of 5.59 bppa.	Do not accept: Propose revised debt raising costs of 8.50 bppa.

3.2 Original Proposal

SA Power Networks' Original Proposal applied the AER's RORI published in December 2018.[2] The RORI replaced the AER's Rate of Return Guideline that was published in 2013 (**2013 Guideline**).

3.2.1 Return on Equity

Under the RORI the allowed return on equity must be calculated as an estimated risk free rate plus a market risk premium (**MRP**) of 6.1% multiplied by an equity beta of 0.6.[3] This equates to an equity risk premium of 366 basis points over the estimated risk free rate.

The risk free rate is to be estimated based on an average of the yield on 10 year Commonwealth Government Securities (**CGS**) over an averaging period of between 20 and 60 business days. Regulated Network Service Providers (**NSP**s) are free to choose the averaging period subject to the requirements set out in the RORI.[4]

SA Power Networks has applied the approach to setting the risk free rate set out in the RORI, which is to select an averaging period agreed with the AER that will remain confidential until the period has passed.

3.2.2 Return on Debt

The RORI continues to apply key elements of the approach adopted in the 2013 Guideline for estimating the return on debt.

[1] Australian Energy Regulatory (2018) *Rate of Return Instrument (Version 1.02)* (**RORI**)
[2] Ibid.
[3] *RORI clause 4.*
[4] *RORI clauses 5-8.*

In our Original Proposal, we adopted the return on debt approach in accordance with the RORI. In accordance with the RORI, we proposed a confidential averaging period for the setting of the return on debt for each year of the 2020-25 RCP.

3.2.3 Imputation credit value (gamma)

The value of imputation credits (or **gamma**) is an important input into the calculation of the corporate income tax allowance. In the Original Proposal, we applied the gamma value of 0.585 in accordance with the RORI.[5]

3.2.4 Rate of return

The proposed allowed rate of return for SA Power Networks for the 2020–25 RCP that we proposed in our Original Proposal is shown in Table 3-1.

Table 3-1: Rate of return assumptions (Original Proposal)

Rate of return assumptions	Proposed
Nominal Risk Free Rate	2.44%
Nominal Pre-tax Cost of Debt	4.98%
Market Risk Premium	6.1%
Equity Beta	0.6
Post-tax Nominal Return on Equity	6.10%
Nominal Vanilla WACC	5.43%
Gamma	0.585
Forecast of expected inflation	2.47%

The nominal risk free rate was based on an average of the 20 business days ended 31 December 2018. The pre-tax cost of debt is based on the actual rate for the 2018/19 regulatory year, rolled forward with current rates. We have updated these rates to reflect our latest forecasts in this Revised Proposal as set out in section 3.5 below.

3.2.5 Forecast Inflation

Clause 6.4.2(b) of the National Electricity Rules (**NER**) requires the post-tax revenue model (**PTRM**) to include a method that the AER determines is likely to result in a best estimate of inflation. In the Original Proposal we adopted the AER's methodology for forecasting expected inflation to estimate expected inflation at 2.47 per cent. That figure was a placeholder which we have updated for the purposes of our Revised Proposal as set out in section 3.5.1.1 below. We acknowledge that the AER will further update that figure in its final decision for the 2020-25 RCP based on the latest available information at the time.

3.2.6 Equity and Debt Raising costs

The compensation for the required rate of return on debt and equity, does not cover the transaction costs associated with raising debt and equity. In accordance with AER's PTRM methodology, we are proposing debt raising costs in the operating expenditure (**opex**) forecast because these are regular and ongoing costs which are likely to be incurred each time service providers refinance their debt. On the other hand, equity raising costs are included in the capital expenditure (**capex**) forecast because these costs are only incurred once and would be associated with funding the particular capital investments.

[5] *RORI clause 27.*

3.2.6.1 Equity Raising costs

Equity raising costs are transaction costs incurred when NSPs raise new equity in order to fund capital investment. Equity raising costs are the costs of raising equity that would be incurred by a prudent service provider acting efficiently. Accordingly, the AER provides a benchmark allowance to recover an efficient amount of equity raising costs, when a NSP's capex forecast requires an external equity injection to maintain the benchmark gearing of 60 per cent.

Our Original Proposal adopted the AER's benchmark approach for estimating equity raising costs. Calculations contained in the completed PTRM submitted with our Original Proposal indicated that an external equity injection was not required to maintain the benchmark capital structure over the 2020–25 RCP. The PTRM accordingly calculated an equity raising cost allowance of zero for the 2020–25 RCP.

3.2.6.2 Debt Raising costs

Debt raising costs are transaction costs incurred each time debt is raised or refinanced. These costs may include arrangement fees, legal fees, company credit rating fees and other transaction costs. Debt raising costs are an unavoidable aspect of raising debt that would be incurred by a prudent service provider and data exists to enable us to estimate these costs.

Our actual debt raising costs are reported as finance charges rather than opex. Therefore, a separate debt raising allowance must be included in our opex to align with the regulatory treatment.

We engaged Competition Economists Group (**CEG**) for the purposes of the Original Proposal to provide an expert opinion on the total debt raising transaction costs that a benchmark efficient service provider would be expected to incur in the course of the 2020–25 RCP.

Our proposal was for debt raising costs of 15.3 bppa, based on a comprehensive sample of market data as documented in a report by CEG which was Supporting document 3.1 to our Original Proposal. The CEG analysis includes explanations of why apparently high outliers in the sample have arisen. The AER has previously excluded these outliers, but the CEG analysis demonstrates that excluding these outliers tends to understate the true issuance costs.

3.3 AER's Draft Decision

The AER applied the RORI in its Draft Decision, and estimated a placeholder allowed rate of return of 4.95% (nominal vanilla) which is to be updated for rates applying in the averaging periods.[6]

The AER accepted SA Power Networks' proposed risk free rate and debt averaging periods. The rates in these averaging periods will be used to update the risk free rate and return on debt in the final decision for the 2020-25 RCP.[7]

The AER considered SA Power Networks' Original Proposal in respect of debt raising costs but decided to maintain the current approach for estimating debt raising costs. A revised debt raising cost amount of 5.59 bppa was allowed based on estimates in a report by consulting firm Chairmont (**Chairmont Report**).[8] The AER acknowledged that the PTRM's timing benefits have declined with a falling WACC, but suggested that they still fully compensate for indirect debt raising costs.

Equity Raising costs were determined to be zero, consistent with the calculation in the Draft Decision PTRM.

[6] AER, *Draft Decision for SA Power Networks Distribution Determination 2020-2025*, Attachment 3: Rate of return (**Attachment 3**), page 5.

[7] Ibid, page 6.

[8] Ibid, page 10.

3.4 SA Power Networks' response to AER's Draft Decision

SA Power Networks accepts the Draft Decision to apply the RORI and accepts the AER's proposed averaging periods. However, SA Power Networks does not consider that the AER's estimate of the rate of return results in a rate of return consistent with the RORI because of the error in the AER's forecast of expected inflation even if actual inflation matches the AER's forecast over the RCP.

SA Power Networks has written to the AER requesting a review of the methodology for forecasting the expected inflation rate as the current methodology to forecasting future inflation is not producing reasonable forecasts of future inflation over the forthcoming RCP.

SA Power Networks does not accept the AER's decision on debt raising costs. We consider that the reduction in debt raising costs to 5.59 bppa is not supportable by the evidence presented in the Chairmont Report.

SA Power Networks is concerned that the return on equity that results from the application of the RORI in the current market conditions is considerably lower than the returns required by equity holders. In the absence of addressing the error in the AER's forecast of expected inflation, the gap is even greater.

The impact of this in the 2020-25 RCP is that it reduces the incentive to invest in maintaining and upgrading essential community infrastructure. This is reflected in our capital expenditure proposal which is to spend in line with the 2015-20 RCP.

3.5 Revised Proposal

Our revised allowed rate of return for SA Power Networks for the 2020–25 RCP for the purposes of our Revised Proposal is shown in Table 3-2.

Table 3-2: Rate of return assumptions (Revised Proposal)

Rate of return assumptions	Revised Proposal
Nominal Risk Free Rate	0.96%
Nominal Pre-tax Cost of Debt	4.91%
Market Risk Premium	6.1%
Equity Beta	0.6
Post-tax Nominal Return on Equity	4.62%
Nominal Vanilla WACC	4.79%
Gamma	0.585
Forecast of expected inflation (AER methodology)	2.36%

These rates are applicable for the 2020/21 regulatory year and will be updated annually over the 2020-25 RCP with the annual cost of debt update.

The nominal risk free rate is based on average rates in August 2019. The pre-tax cost of debt is based on the actual rate for the 2018/19 regulatory year, rolled forward with current rates. These placeholder rates will be updated in the AER's final decision for the 2020-25 RCP with the average rates in the nominated averaging periods.

3.5.1 Revised Inflation Submission

3.5.1.1 Overview

SA Power Networks does not consider the AER's method for forecasting expected inflation produces a reasonable estimate of expected inflation and, as a result, this results in a return on equity that is not consistent with the RORI and does not provide us with an opportunity to recover the efficient cost of equity.

SA Power Networks notes that a forecast of future inflation outcomes is required to calculate the deduction from the annual revenue requirement according to clauses 6.4.3(b)(1)(ii) and S6.2.3(c)(4) of the NER. The purpose of this calculation is to reduce the revenue required for the allowed return on equity by the extent of inflation indexation of the Regulatory Asset Base (**RAB**), which, under the regulatory framework, is assumed to accrue to equity holders.

The method for forecasting expected inflation currently adopted by the AER, is to take RBA forecasts for the forthcoming two years, and to assume that actual inflation will be 2.5% every year for the following 8 years, and to compute the geometric mean of those 10 figures. That approach presently produces a figure of 2.36%. This is a placeholder which will be updated in the AER's final decision for the 2020-25 RCP based on the latest available information at the time.

SA Power Networks considers that the AER's approach to forecasting future inflation is not producing reasonable forecasts of future inflation over the forthcoming RCP. In this regard SA Power Networks considers that there is strong evidence indicating that there is little or no chance of inflation averaging 2.36% over the 2020-25 RCP. SA Power Networks notes that, to the extent that actual inflation turns out to be less than 2.36%, SA Power Networks will not have an opportunity to recover its efficient costs and equity investors will be under-compensated relative to the AER's allowed return on equity.

By way of example, the AER's allowed return on equity for SA Power Networks is currently 4.62%. Other things being equal, if actual inflation turns out to be 0.5% lower than the AER's 2.36% estimate, the actual regulatory return available to equity holders will be 3.37%.[9] This is comparable to the current yield on investment grade debt, so is quite clearly an implausibly low return on leveraged equity.

Moreover, even if actual inflation turns out to conform exactly with the AER forecasts in every year of the five-year RCP, the average over the course of that period will be only 2.25%.[10] That is, the AER's own forecast of inflation for each year of the forthcoming RCP is for an average of 2.25%, yet the deduction to allowed returns in relation to expected inflation is 2.36%. Thus, the AER's approach to inflation builds in under-compensation even if actual inflation turns out to conform precisely with the AER's forecasts.

SA Power Networks looks forward to the AER addressing the impact of this error prior to its final decision in April 2020.

We have provided further information to support the significance and urgency of these issues in the following sections.

[9] 4.63% - 0.5% / 0.4.

[10] Computed as the geometric mean of 1.75%, 2.00%, and three estimates of 2.5%.

3.5.1.2 Operation and implications of the AER's approach to allowed returns and inflation

SA Power Networks notes that the interplay between the spreadsheet models developed by the AER is such that:

1. The AER first determines the total allowed return on equity. That figure depends on the prevailing yield of 10-year government bonds and is currently 4.62% for SA Power Networks.

2. The AER's spreadsheet models then reduce the allowed return in relation to the AER's estimate of the return that equity holders will receive in the form of inflation indexation of the RAB. The models work by providing that the interest on debt finance must be paid in cash each year, such that the entire benefit of inflation indexation of the RAB flows to equity holders and becomes part of the return to equity. This benefit is then deducted from the allowed return on equity, such that the remainder is available as a cash payment to equity holders. Since equity represents 40% of the benchmark efficient capital base and the AER's current inflation forecast is 2.36%, the deduction to be made from the total allowed return on equity is 2.36 ÷ 40% = 5.9%.

3. The outcome of the AER's current approach is that there is no cash available to pay dividends to equity holders as the deduction results in a negative amount (4.62% - 5.9% = -1.3%). The AER's spreadsheet models currently provide that equity holders must *pay in* 1.3% of the equity capital base each year – because they are due to receive a total return of only 4.62% pa and are expected (according to the AER's inflation forecast) to benefit to the tune of 5.9% pa from RAB indexation.

4. In summary, under the AER's current approach, not only is there no cash available to pay any dividends at all to equity holders; rather equity holders are required to effectively *pay* to the extent that the AER's estimate of the benefits of RAB indexation exceed the AER's estimate of the required return on equity. This manifests itself in SA Power Networks being allowed a negative net profit after tax under the AER's current approach.

SA Power Networks highlights two important problems with this situation under the AER's current approach:

1. **Under-compensation**: There is no reasonable prospect that average inflation over the RCP will achieve the AER's forecast of average inflation and therefore equity holders will not benefit by 5.9% pa from RAB indexation. Instead their returns will be reduced on the assumption that they receive a 5.9% benefit, but the actual benefit available is highly likely to be materially lower (as explained further below). Equity holders will not have an opportunity to recover the efficient cost of equity (as determined by the RORI); and

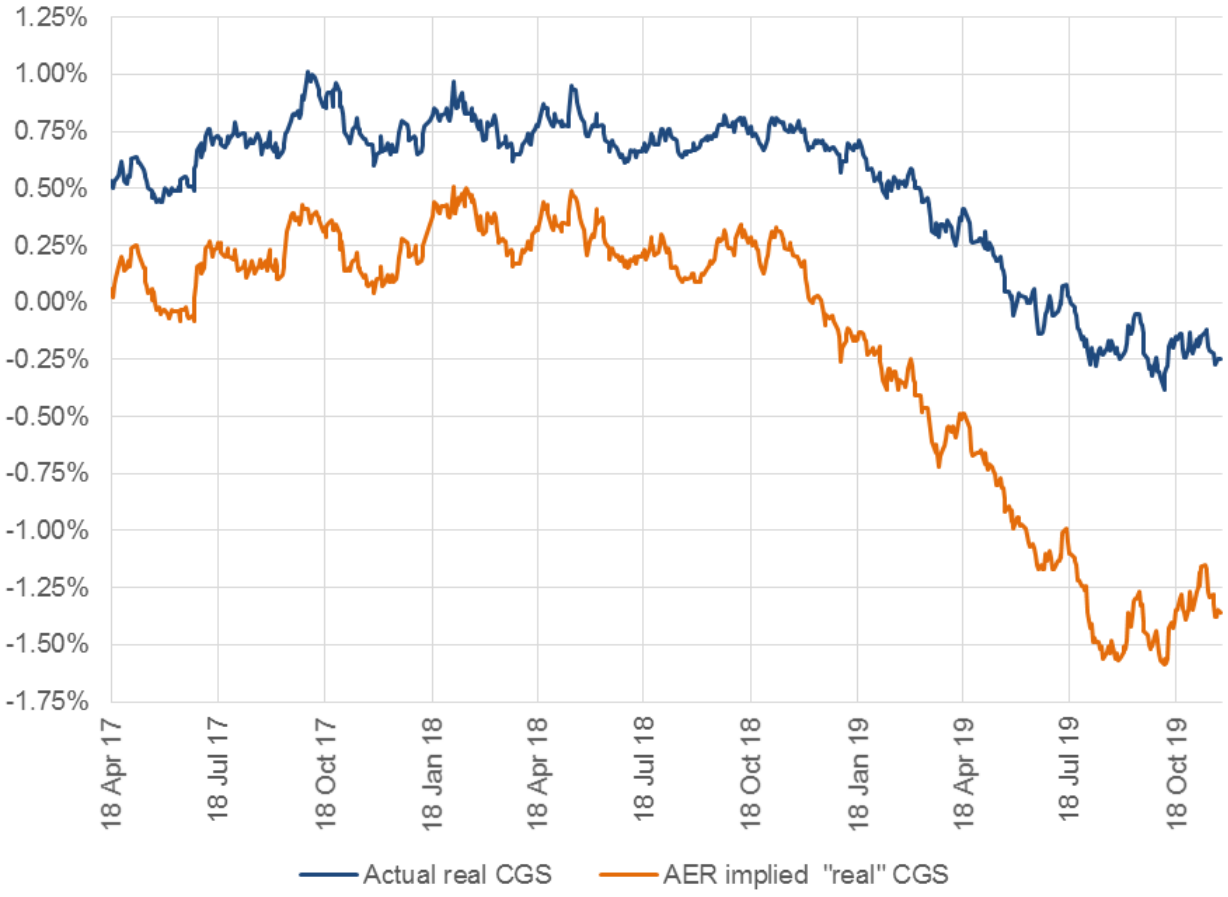
2. **Unsustainability**: Even if the AER's figures are all correct, a regulatory regime that forces the regulated business into a loss-making position, and which requires an annual equity contribution to offset assumed RAB growth, is clearly not sustainable.

These problems of under-compensation and unsustainability are caused by the relationship between the AER's estimates of the total allowed return on equity and expected inflation. The AER's approach always estimates expected inflation to be approximately 2.5% in all market conditions. By contrast, the estimate of the allowed return on equity is made by adding a constant risk premium to the prevailing nominal government bond yield, which at the current level of 0.96%, reflects expected inflation significantly and materially lower than 2.5%.

3.5.1.3 The AER's target of a real return

SA Power Networks notes that the AER has stated that its approach is to target a real allowed return. Even if that objective is appropriate, it remains the fact that an appropriate estimate of expected inflation is required. The AER's target real return is computed by deducting the AER's estimate of expected inflation from its allowed nominal return. To the extent that the AER over-estimates expected inflation, its target real return will be understated. This is made clear by a comparison of the actual 10-year real government bond yield and the 10-year real yield that is implicit from the AER's current approach to forecasting inflation, set out in the figure below. The AER's real target (computed by reducing the AER's nominal allowance by its estimate of expected inflation) is materially lower than the actual real yield available in financial markets – and the differential has increased materially since 2017.

Figure 3-1: Actual and AER-implied real CGS yields



Source: Queensland Treasury Corporation

3.5.1.4 SA Power Networks' request for a review of the AER's approach to forecasting inflation

In the current financial market conditions, the AER's approach to the allowed return on equity and forecasted inflation produces outcomes whereby the benchmark efficient firm is considered to be one that incurs an annual loss (**NPAT**) and requires an equity injection each year, and where equity holders will only receive the record low return currently allowed by the AER if inflation turns out to average 2.36% over the next RCP.

In a letter to the Acting Chair of the AER dated 20 September 2019, SA Power Networks concluded that:

> *Current market conditions are unprecedented. Interest rates and bond yields are at record lows. There is now no reasonable basis to say that inflation expectations reflect either RBA short term forecasts or the mid-point of the RBA's target band.*

This led SA Power Networks to request the AER to conduct a formal review into its approach to inflation forecasting and the inter-relationship with the AER's approach to the allowed return on equity:

> *SA Power Networks requests that a review of the inflation methodology and the PTRM (applying the distribution consultation procedures) be commenced urgently with a view to it being completed in time to be applied in SA Power Networks distribution determination for the 2020-25 period. The review should consider all options available for estimating expected inflation given the extraordinary conditions faced by all stakeholders.*

3.5.1.5 Evidence about the current market conditions

SA Power Networks notes that, even since its request in September 2019, there is now more evidence that no reasonable person would consider that inflation is likely to average 2.36% over the forthcoming RCP.

For example, in November 2019 the RBA commented that:

> *The central scenario remains for inflation to pick up, but to do so only gradually. In both headline and underlying terms**, inflation is expected to be close to 2 per cent in 2020 and 2021.***
>
> *Given global developments and the evidence of the spare capacity in the Australian economy, **it is reasonable to expect that an extended period of low interest rates will be required** in Australia to reach full employment and achieve the inflation target.*[11]

The RBA view was noted by the financial press, for example:

> *The Reserve Bank has abandoned is expectation for any pick-up in wage growth in its forecast period and says **inflation will now not reach the bottom of its targeted 2-3 per cent range until 2022 at the earliest**.*[12]

[11] *Statement by Philip Lowe, Governor: Monetary Policy Decision, 5 November 2019, emphasis added.*
[12] *The Australian, 7 November 2019.*

In addition, it is now the case that actual inflation has now been below 2.5% for 21 consecutive quarters, which is unprecedented since the RBA began inflation targeting in the mid-1990s, as illustrated in the figure below.[13]

Figure 3-2: Inflation and the mid-point of RBA Target Band

Moreover, the forecasts of future inflation published by the RBA (including market-based and survey measures) are all at, or very close to, their historical lows. These forecasts have all fallen materially since the AER's last inflation review, as illustrated in the table below.[14] For example, the current consumer forecast is lower than all but 6% of consumer forecasts on record, whereas the consumer forecast was higher than 73% of consumer forecasts when the AER last reviewed its approach to forecasting inflation.

Table 3-3: Inflation Expectations compared to Historic Lows

Method	Current estimate percentile rank	Dec 2017 (AER review) percentile rank
Consumer expectations	6%	73%
Business expectations	11%	21%
Union officials (1-year)	4%	7%
Union officials (2-years)	1%	6%
Market economists (1-year)	1%	15%
Market economists (2-years)	0%	8%
Breakeven (10-year)	0%	8%

This recent evidence is in addition to the evidence set out in SA Power Networks' September request for the AER to conduct a review of its approach to inflation. [redacted]

[redacted]

[redacted]

[13] *https://www.abs.gov.au/ausstats/meisubs.nsf/log?openagent&640101.xls&6401.0&Time%20Series%20Spreadsheet&601AC6E077B33C27CA2584A20012CAC5&0&Sep%202019&30.10.2019&Latest.*

[14] *https://www.rba.gov.au/statistics/tables/xls/g03hist.xls.*

[redacted]

In a recent research note, AMP Capital has noted that the RBA has consistently forecast inflation returning quickly towards the mid-point of its target band, even as actual inflation has consistently moved in the opposite direction. This is illustrated in the figure below,[16] which shows that, in forecast after forecast after forecast, the RBA has badly mis-estimated actual inflation.

Figure 3-3: RBA Inflation forecasts risk losing credibility

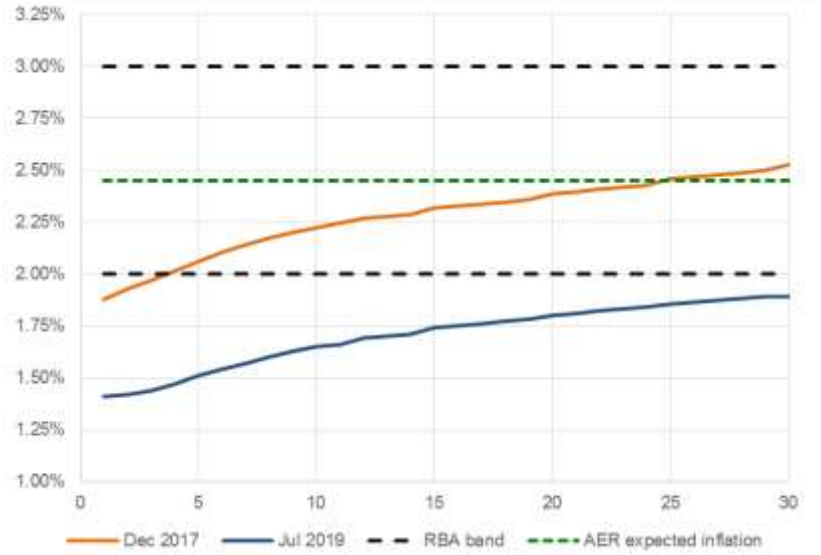
The figure above shows that, in 2017 when the AER's inflation review was conducted, the RBA was forecasting inflation to return to 2.5% within two years. Two years later, actual inflation has turned out to be only 1.5%. Indeed, since 2014, the RBA has uniformly over-estimated future inflation, in most cases by a material amount.

The figure below shows the inflation swap curve at the time of the AER's 2017 Inflation Review contrasted against the current curve. At the time of the 2017 review, the swap curve was within the target band by Year 3 and had reached the 2.5% mid-point by Year 25. By contrast, the current inflation swap curve does not reach even the minimum point of the target band any time within the next 30 years.

[15] *ANZ Research, Inflation Expectations: Anchoring at the wrong point, August 2019.*

[16] *Oliver, S., April 2019, "Inflation undershoots in Australia," AMP Capital, https://www.ampcapital.com/au/en/insights-hub/articles/2019/april/inflation-undershoots-in-australia-why-its-a-concern.*

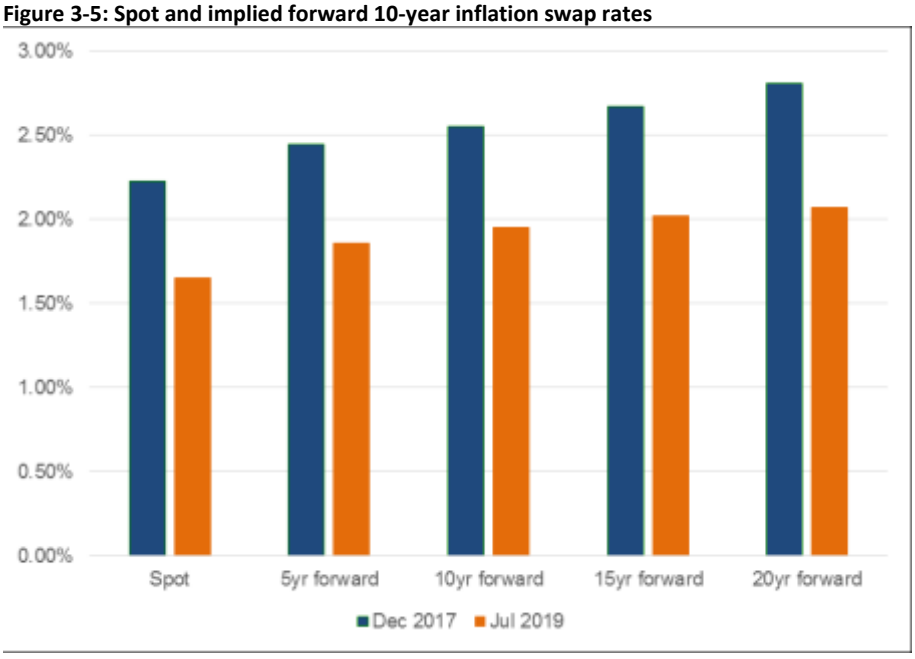
Figure 3-4: Inflation swap curve, RBA target band and AER expected inflation



Source: Queensland Treasury Corporation

Similarly, the figure below shows that spot and forward 10-year inflation swap rates are also markedly lower now than they were in 2017, only just reaching the lower end of the target band over the next 20 years.

Figure 3-5: Spot and implied forward 10-year inflation swap rates



Source: Queensland Treasury Corporation

For clarity, SA Power Networks is not proposing that the AER should set inflation expectations based solely on the inflation swap curve. Rather, these figures are offered as evidence that financial market conditions have changed materially even since the AER's 2017 Inflation Review. The current market evidence indicates that it is untenable to assume that inflation will immediately return to 2.5% after two years. Such an assumption is simply inconsistent with the weight of current evidence. It is for this reason that SA Power Networks proposes that the AER should conduct a review into its approach to forecasting inflation – in light of the new evidence that has emerged since the AER last considered the issue.

3.5.1.6 Potential bias in market-based estimates

During its 2017 Inflation Review, the AER raised the prospect that market-based estimates of expected inflation (such as breakeven inflation and inflation swaps) may be somewhat biased by the effects of potential liquidity and risk premiums. The AER did not seek to quantify this potential bias, or to adjust for it, or to weigh it against the bias in its own '2.5% after two years' approach.

In the current financial market conditions, the market-based forecast of inflation over a 10-year horizon is approximately 1.65% for both the breakeven approach and the inflation swaps approach. By contrast, the AER approach produces a figure of 2.36%, which is 43% above the prevailing market-based estimates. In all of the analysis of expected inflation, there has never been a suggestion that the market-based estimates might be biased to the tune of anything like 43%.

The comparison is even more extreme for inflation forecasts for individual years. The inflation swap curve set out above shows that the estimates for years 3, 4 and 5 are all at or below 1.5%. By contrast, the AER forecast for each of these years is 2.5%, which is 67% higher than the market-based forecast.

SA Power Networks submits that in a situation in which the AER approach produces forecasts that are 67% higher than the inflation implied by traded market prices, the appropriate regulatory response would be to review the approach that is producing estimates so materially inconsistent with market data.

3.5.1.7 The AER's response to SA Power Networks' request

In a letter dated 7 November 2019, the AER Chair explained the reasons for rejecting SA Power Networks' request for a review of the AER's approach to forecasting inflation. That letter cited the Consensus Economics (**CE**) survey forecast as the primary reason for the AER determining that no review of its approach to inflation was currently warranted. SA Power Networks does not consider that the CE survey should be treated as being singularly determinative:

- There are several methods that are used to forecast future inflation outcomes. The weight of evidence from the range of approaches is that inflation will *not* return to 2.5% within the next two years. For example, market-based approaches such as breakeven inflation and inflation swaps indicate that inflation will remain low for the foreseeable future. SA Power Networks considers that there is no basis for placing full weight on the one forecast that 'fits' the AER's approach, while affording no weight at all to other evidence – including comments from the RBA itself about the difficulty of increasing inflation.

- The letter refers to biases in relation to some market-based approaches. But what is important is the materiality of those biases, any adjustments required to correct for those biases and a proper consideration of the biases in the current methodology, particularly in a low-inflation and low-growth environment. Even if the AER is not minded to adopt a market-based inflation forecast, the fact that those forecasts are now at historical lows, and the fact that they are indicating very low inflation well beyond the forthcoming RCP, is reason to at least discuss the possibility that the AER's 'straight back to 2.5% after two years' approach may no longer be appropriate in the current market conditions.

- The CE survey consistently indicates that inflation will return to close to 2.5% after two years (the AER noted that in its 2017 Inflation Review). This 'straight back to 2.5% after two years' forecast has been consistently wrong for some time now and there is no reason to expect it to now be correct.

- The AER does not use the CE survey when setting inflation expectations, so we do not understand why the AER has relied on that survey to support its current approach. That is, if the appropriate

> test for the reasonableness of an inflation forecast is its proximity to the CE forecast, why not just adopt the CE forecast?

In any event, the most recent CE long-term inflation forecasts are uniformly below 2.5%. The forecasts are 2.0% for 2021, 2.3% for 2022, and 2.4% thereafter through to 2029. There is no forecast by CE of any return to 2.5% at any point within the next 10 years.[17]

3.5.1.8 Other regulatory views about inflation

In 2018, the Economic Regulation Authority of Western Australia (**ERA**) undertook a review of the gas rate of return guidelines which apply in Western Australia and set out the ERA's methods to estimate the allowed rate of return, value of imputation credits, and return on equity and debt.

In its explanatory statement for the final rate of return guidelines (**2018 Final Gas Rate of Return Guidelines Explanatory Statement**), the ERA explained the reasons for its rejection of the AER's approach to inflation in the current financial market conditions. The ERA rejected the approach of assuming that inflation will return immediately and permanently to 2.5% after two years:

> *…given the weight placed on the mid-point of the RBA's target inflation, the inflation forecast remains relatively constant over time and will not reflect changing inflation expectations. The mid-point of the RBA's inflation band is therefore not as dynamic as a market based measure.*
>
> *There is evidence that the RBA inflation forecast and target band method has not responded to the changing inflation environment and leads to an overestimate of expected inflation.*[18]

As set out above, the RBA has more recently conceded that it considers it to be unlikely that inflation would return to 2.5% after two years in the current financial market conditions.

The ERA went on to note the serious implications of setting allowed returns in a way that embeds an implied negative real risk-free rate:

> *Given the lag in the RBA inflation forecast method, it can result in a negative real risk free rate when the Fisher equation is used. An expected negative real risk free rate is likely to have adverse regulatory implications, since investors would be unwilling to lend funds with an expected negative real rate of return, when withholding investment offers a zero per cent rate of return.*
>
> *Negative expected real rates of return may occur when the RBA overestimates the expected inflation rate. Applying the nominal risk free rate observed from the market, in conjunction with the inflation forecast from the RBA, to the Fisher equation will return a negative real risk free rate under these circumstances.* [19]

This analysis led the ERA to adopt a 'breakeven' estimate of inflation, derived from the yields on real and nominal government bonds. The ERA concluded that:

> *In this approach, estimates of both the nominal and real risk free rates of return are directly observed from the financial markets, so reflect the market expectation for inflation.* [20]

[17] *Consensus Economics, October 2019, Asia Pacific Consensus Forecasts, p. 3.*
[18] *ERA, 2018 Rate of Return Guidelines Explanatory Statement, paragraphs 1580-1581.*
[19] *ERA, 2018 Rate of Return Guidelines Explanatory Statement, paragraphs 1582-1583.*
[20] *ERA, 2018 Rate of Return Guidelines Explanatory Statement, paragraph 1591.*

The Independent Panel endorsed that approach:

> *The Independent Panel considered that the ERA's Treasury bond implied inflation approach was well-explained, based on sound reasoning and, given its use of appropriate market information, likely to be the best means of forecasting inflation.* [21]

3.5.1.9 Conclusion

SA Power Networks considers that the AER's approach to forecasting future inflation is not producing reasonable forecasts of future inflation over the forthcoming RCP. In this regard SA Power Networks considers that there is strong evidence indicating that there is little or no chance of inflation averaging 2.36% over the 2020-25 RCP and no evidence at all that inflation will return to 2.5% immediately after the second year of the forthcoming RCP. SA Power Networks notes that, to the extent that actual inflation turns out to be less than 2.36%, equity investors will be under-compensated relative to the AER's allowed return on equity. SA Power Networks submits this is the most likely outcome under the AER's approach to forecasting future inflation (ie the under-compensation of equity investors over the 2020-25 RCP) and there currently exists no mechanism to account for this under-compensation when actual inflation over the 2020-25 RCP turns out to be less than 2.5.% (as suggested in the evidence outlined above). For this reason, SA Power Networks repeats its request that the AER undertake a full review of its approach to inflation.

SA Power Networks would welcome the opportunity to be involved in the consultation process for this review, as would other DNSPs and stakeholders. It is obviously important to all stakeholders that the method for forecasting future inflation results in a forecast that is a close as reasonably possible to the actual inflation outcome. It is also important that SA Power Networks is not prejudiced by the adoption of a forecast for inflation in its revenue determination which is subsequently shown to be too high once a review is completed.

If a review is commenced before the making of our final determination in April of 2020, but is not complete at the time our final determination is made, SA Power Networks requests that the AER's final decision incorporates a mechanism for giving effect to the outcome of that review during the 2020-25 RCP (be it through a pass-through mechanism or some alternate mechanism developed through consultation). In that regard we request that, in addition to the consultation process flagged above, we be consulted by the AER about, and be given the opportunity to make submissions in relation to, what that mechanism should be.

The involvement of SA Power Networks and other DNSPs and stakeholders in this review, will assist in producing an outcome that is fully informed from all perspectives and strikes the right balance between ensuring equity investors are neither under-compensated nor over-compensated, thereby supporting the continued sustainability of the network businesses. Such an outcome would, of course, be in the long-term interests of consumers of electricity.

3.5.2 Equity Raising costs

In this Revised Proposal we have applied the AER's benchmark approach for estimating equity raising costs. Calculations contained in the completed PTRM submitted with this Revised Proposal indicate that an external equity injection is not required to maintain the benchmark capital structure over the 2020–25 RCP. However, the PTRM also assumes that the AER's forecast of average expected inflation will be achieved over the RCP. Consistent with the analysis presented earlier, the error in the AER's forecast (when the actual inflation exactly matches the AER's forecast of expected inflation in each year of the RCP) results in a shortfall in equity in each year of the RCP. Therefore, an equity injection will be required. We have adopted the PTRM calculation for equity raising costs for the 2020–25 RCP because we consider this issue is better addressed in the inflation forecast. Therefore, no equity raising costs are included, which is consistent with our Original Proposal and the AER's Draft Decision.

[21] *ERA, 2018 Rate of Return Guidelines Explanatory Statement, paragraph 1585.*

3.5.3 Debt Raising costs

We consider that the reduction in debt raising costs to 5.59 bppa is not supportable by the evidence presented in the Chairmont Report. That Report contains serious errors and shortcomings which means it is not to a standard which is transparent and capable of acceptance by stakeholders.

The debt raising cost allowance was previously updated in 2013 using estimates from PricewaterhouseCoopers (**PwC**). Whilst there are points of contention in the PwC approach, it is at least based on public data and transparent analysis of that data.

We engaged CEG again for the purposes of our Revised Proposal to provide an expert opinion on the AER Draft Decision for debt raising costs. CEG's report is provided as Supporting Document 3.1 - CEG - The cost of arranging debt issues (**CEG Report**). For reasons detailed in the CEG Report, we are concerned about the methodology of the Chairmont Report and how that Report has been used to depart from the previous rate. The Draft Decision was based on an estimate in the Chairmont Report based on non-transparent "informal discussions with several bond market participants". We consider that this falls well short of an acceptable standard of analysis for the AER to rely on.

The CEG Report details the concerns, which include:

- Who was surveyed and how were they chosen?
- How was the survey conducted?
- What questions were asked, in what circumstances?
- Was there any written communication between Chairmont and the 'several' bond market participants, with which Chairmont had 'discussions'?
- What was the distribution of survey results?
- Which statistics did Chairmont use to derive the final estimate?

As detailed in the CEG Report, there are many concerns with this approach, which is inconsistent with the AER's focus on transparency, predictability and replicability which are set out in the AER's Rate of Return Instrument. Stakeholders have no means of assessing the Chairmont Report's estimates.

The Chairmont Report also engaged with publicly available data, which CEG had relied upon in their report which accompanied our Original Proposal. Chairmont's attempt to use this analysis to support an estimate of 30 basis point (**bp**) for upfront arrangement fees, was consistent with their "informal discussions with several bond market participants".

As described in the CEG Report, Chairmont made critical errors in visual data interpretation, in interpreting this data using a line chart with two separate series plotted against the left and right hand axes. Chairmont's conclusions were distorted by the chosen axis scales on charts, where choosing differing axis scales would lead to different conclusions.

CEG contends that the appropriate visual presentation of the data would be a scatter plot (not a line chart). The appropriate statistical analysis would be to run a regression model of arrangement fees against bond maturities. This regression analysis predicts a 10-year upfront arrangement fee of 40.7 bp, which is similar to the simple average fee of 41.4 bp. The CEG Report demonstrates that there is no basis for Chairmont's analysis which estimates 30 bp for upfront arrangement fees.

As discussed in the Draft Decision, the AER has issued a request for debt information from privately owned energy network businesses. We support this initiative to obtain better information, which can be used to inform changes to the current benchmark approach to estimating debt raising costs. SA Power Networks has provided the requested information in a confidential response to the AER. This response shows that our actual debt raising costs exceed the rate of 5.59 bppa allowed in the Draft Decision.

Until an alternative transparent benchmark methodology is available, perhaps based on information from responses to the AER's request for debt information, it is not appropriate to apply a methodology that is not transparent.

Our Revised Proposal is for the benchmark PwC methodology for arrangement fees to be maintained until an alternative (transparent) methodology is determined. It is premature to depart from the previously applied benchmark measure using estimates from PwC. Unlike the Chairmont approach, the PwC approach was based on public data and transparent analysis of that data. CEG has updated the PwC approach and determined an arrangement fee of 6.75 bppa. When this arrangement fee of 6.75 bppa is replaced in table 3.5 of the Draft Decision then the total for direct debt raising costs rises to 8.50 bppa.

Table 3-4: Total debt raising transaction costs

	Chairmont's estimates for SA Power Networks	Revised Proposal
Arrangement fee	**3.97**	**6.75**
Other direct debt raising costs		
Legal Counsel- Master program	0.05	0.05
Legal counsel- issuer's	0.16	0.16
Credit rating agency- initial credit rating	0.04	0.04
Credit rating agency- annual surveillance	0.05	0.05
Credit rating agency- up front bond issue	0.99	0.99
Registrar- up front	0.01	0.01
Registrar- annual	0.26	0.26
Investment bank's out-of-pocket expenses	0.19	0.19
Total other direct debt raising cost	**1.75**	**1.75**
Total basis points per annum	**5.72**	**8.50**

3.5.3.1 Liquidity Management Costs

The Chairmont Report recommended annualizing upfront fees over 9 years, not 10 years. Chairmont recommended this on the basis that there was no compensation for liquidity management costs. This recommendation would raise the estimated debt raising costs by around 8%. The AER Draft Decision did not address this recommendation directly.

Separately in the Draft Decision, the AER contends that the PTRM timing benefits still fully compensate for indirect debt raising costs, including liquidity costs.

We submit that the AER should review liquidity management costs in liaison with the debt information provided by businesses.

3.5.3.2 Issue Price Adjustment and Outliers

The Chairmont Report concluded that no adjustment to the arrangement fee was required for Issue Price Adjustment (**IPA**). The CEG Report provides responses to the seven fundamental difficulties listed by Chairmont, demonstrating that these issues are not material. The CEG Report further outlines how the arrangement fee and issue price are interrelated. The Chairmont Report also demonstrates how the link between the so called 'high outliers' for arrangement fees are associated with negative placement profits.

This is an important issue which we submit that the AER should review in liaison with the debt information provided by businesses.

Our Revised Proposal for direct debt raising costs, calculated at a rate of 8.50 bppa, is summarized in the table below.

Table 3-5: Forecast Debt Raising Costs

Nominal $ Million

	2020/21	2021/22	2022/23	2023/24	2024/25	2020-25
Debt Raising Costs – SCS	2.3	2.3	2.4	2.5	2.5	12.1

Shortened Forms

2018 Instrument	*Updated Rate of Return Guideline in 2018*
bp	*basis point*
bppa	*basis points per annum, basis points per annum*
capex	*Capital expenditure*
CE	*Consensus Economics*
CEG	*Competition Economists Group*
CGB	*Commonwealth Government Bonds*
ERA	*Economic Regulation Authority of Western Australia*
gamma	*Value of imputation credits*
IPA	*Issue Price Adjustment*
MRP	*Market Risk Premium*
NER	*National Electricity Rules*
NPAT	*Net Profit After Tax*
NSP	*Network Service Provider*
opex	*Operating Expenditure*
PTRM	*Post Tax Revenue Model*
PwC	*PricewaterhouseCoopers*
RAB	*Regulatory Asset Base*
RCP	*Regulatory Control Period*
return on equity	*Return to be provided to investors*
SCS	*Standard Control Services*