

Essential Services Commission of South Australia  
GPO Box 2605  
Adelaide SA 5001



By email to [escosa@escosa.sa.gov.au](mailto:escosa@escosa.sa.gov.au)

25 March 2016

Dear Commissioners,

**Re: SAW Regulatory Determination 2016 – Draft Determination**

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Thank you for the opportunity to comment on the Draft Determination for SA Water. As the peak body for the community services sector in South Australia, SACOSS has a long-standing interest in the delivery of essential services. Our research shows that the cost of basic necessities like water impacts greatly and disproportionately on vulnerable and disadvantaged people. Our advocacy is informed by our members; organisations and individuals who witness these impacts in our community.

Following a review of the Draft Determination and discussions with the Commission and SA Water, SACOSS determined to provide detailed commentary on the following issues:

1. Orroroo Project
2. The potential to realise a 5.5% reduction in total opex
3. The post project review process
4. A high level review of the capex budget
5. Cost of debt and the weighted average cost of capital more generally.

For 1-4, we sought the assistance of Beca Party Ltd. as detailed in attachment 1 to this letter. For 5, we sought the assistance of the South Australian Centre for Economic Studies (SACES) as detailed in attachment 5 to this letter.

By way of summary, in relation to 1-4, SACOSS had requested information from both ESCOSA and SAW to consider the robustness of project selection, attention given to alternative options and decisions around fixed opex costs. Due to the commercially sensitive and confidential nature of the information, SACOSS was unable to obtain the information. This highlights an issue facing consumer representatives when participating in regulatory determination processes. SACOSS believes that the model of consumer participation utilised for the Scottish Water determination process is able to address some of these information asymmetry issues. SACOSS therefore recommends that ESCOSA and SAW closely review this model to determine which elements would be useful in a South Australian context.

SACOSS notes the comment by Beca that:

*We note that the ECOSA Draft Determination (P97) states “while the capital cost benchmarking exercise showed good agreement between SA Water’s cost estimates and the benchmark costs in some areas, there was considerable variance in others. This suggests that SA Water’s estimating processes are still maturing and there is scope to deliver more efficient outcomes in RD16.”*

*This statement suggests that there is a risk that final project costs may exceed the budget estimates provided in RBP16 although we emphasise that in the absence of documentation to review we cannot say this with any certainty. [pp.3-4]*

SACOSS seeks assurance from ESCOSA that sufficient review is undertaken to ensure that final project costs do not exceed budget estimates.

In relation to cost of debt, we support the recommendations made by SACES particularly in relation to the following:

1. 7 year trailing average approach, rather than 10 year.
2. Transition to a trailing average approach, rather than immediate move to.
3. Any calculation of rates draws on not just the RBA's 'BBB' series, which includes bonds with ratings between BBB- and BBB+ but also the A- series.
4. Equity beta at 0.5 or 0.6.
5. That ESCOSA consider the overall impact of the decisions made as well as each WACC building block in isolation.

We thank you in advance for your consideration of our comments. If you have any questions relating to the above, please contact SACOSS Senior Policy Officer, Jo De Silva on 8305 4211 or via [jo@sacoss.org.au](mailto:jo@sacoss.org.au).

Yours sincerely,

A handwritten signature in black ink, appearing to read 'Ross Womersley', with a large, sweeping flourish underneath.

Ross Womersley  
Executive Director

## Review of ESCOSA Draft Determination

### Background

SAWater's Regulatory Business Proposal (RBP16) was submitted to the Essential Services Commission of SA (ESCOSA) in September 2015 with interested parties invited to make Submissions.

The South Australian Council of Social Services (SACOSS) reviewed RBP16 and provided a formal submission to ESCOSA in October 2015. Following receipt of this (and other) submissions, ESCOSA issued a draft Regulatory Determination in February 2016. Further submissions were then invited over a six week period closing on March 24<sup>th</sup>.

SACOSS then sought assistance from Beca Pty Ltd to prepare their final response particularly in respect of four specific areas viz;

1. The inclusion or otherwise of the Orroroo township water supply upgrade project in the total capital works budget
2. The potential to realise a 5.5% reduction in total opex. (Note a detailed review of SAsWater's opex costings is a substantial task. In view of SAsWater's response that 50% of their opex costs are fixed, we proposed to undertake a high level review of the sub-components that make up the opex costs with a view to identifying areas that have the potential for reduction)
3. The post project review (PPR) process to assess actual costs of completed projects and how overruns and under-runs are recognised.
4. A high level review of the capex budget within the context of the fact that ESCOSA advised they had reviewed 18 of the 130 projects listed. This was to understand whether or not this represents a realistic proportion of the total capital works budget, and if not what other projects should be reviewed in terms of their prudence and efficiency

The SACOSS submission is driven by their concern over the impact of high water prices on households (particularly vulnerable households), and the business sector. To this end SACOSS are keen to see a robust and complete review of RBP16 in order to ensure that all potential savings in capital expenditure (capex) and operating expenditure (opex) are realised and that any realised benefit is reflected in the proposed water charges for the regulatory period being considered.

### This Review

Beca reviewed the ESCOSA Draft Determination: Statement of Reasons and the SACOSS submission to ESCOSA (October 2015). Based on previous reviews we have undertaken in Victoria and Queensland, and in order to provide a structured response to the areas of interest listed above, we requested access to the following information:

- List of all capital projects with their estimated capital cost and predicted year of implementation
- List of all capital projects reviewed by ESCOSA and Cardno Atkins
- A selection of feasibility studies including those done for the top three projects by value and any two others covering smaller capital value projects
- All information relating to the Orroroo project including any feasibility studies if done
- Full details of Opex calculations

This request for information was based on the following reasoning:

- Feasibility studies (or Business Cases) demonstrate the robustness or otherwise of project selection. Any review within the context of "prudence and efficiency" would look at such studies as part of their assessment (for example they may indicate opportunities to bundle

or combine projects where there is synergy and hence savings). Previous reviews of water plans and capital expenditure plans in both Victoria and Queensland have included access to feasibility studies. In other review work that we have undertaken a key test of the 'prudency' criteria has been to assess the project justification in order to establish that it is robustly and clearly documented and that it aligns with objectives of the business. Typical criteria could include for example, growth, regulatory changes, asset condition, and would also include an assessment of the 'do nothing' scenario.

- The request to see which projects were actually independently reviewed by Cardno Atkins is to confirm (or otherwise) that the bulk of the proposed capital expenditure has been reviewed and not just a selection of projects that have been cherry picked (given that only 18 out of 130 were done).
- Another important aspect of our review, which we have also undertaken for reviews with other water authorities, would be to look at how the Feasibility Study or Business Case considers alternative options. It is important to note that we do not attempt to assess the validity of options, but rather form a view as to whether the Feasibility Study has undertaken a process that leads to consideration of a range of options.
- In terms of Opex costs, as SA Water have noted that they have no control over 50% of these costs being fixed, we requested a full break down including for example
  - Labour
  - Electricity including a forward prediction of price increases
  - Chemicals
  - Customer service and billing costs
  - Any costs associated with water saving measures
  - Office costs
  - IT expenditure
  - Other costs eg defined benefits superannuation scheme (if applicable), vehicle leases, meter procurement, environmental contribution
  - Water supply maintenance program (preventative and reactive)
  - Sewerage maintenance program (preventative and reactive)
  - Bulk water charges if applicable

## Our Assessment

SA Water declined to provide the bulk of the information requested stating that the information was commercially sensitive and confidential. Being unable to access the requested information has limited our ability to make informed commentary on the areas of concern and the following comments are therefore made in the context of this statement.

1. The inclusion or otherwise of the Orroroo township water supply upgrade project  
Page 94 of the ESCOSA Draft Determination: Statement of Reasons notes that "the proposed works are not considered prudent in the RD16 period and the Commission has reduced the capital expenditure allowance by \$12.6 million". With no additional information provided to us we are unable to say whether or not SA Water have accepted this determination. We also consider that if we were able to view the Feasibility Study that we would be able to provide some informed comment on the prudency criteria.

### 2. 5.5% reduction in total opex costs

The Commission's Draft Determination proposes annual efficiency targets of one percent for each of the first two years and 1.75 per cent for each of the two subsequent years. SA Water's response to this was that as half of their opex is fixed they would need to reduce the remaining half by 11% which they consider to be unreasonable. In order to test the validity of this response we requested a full breakdown of opex costs including both fixed and variable. Without this information we are unable to agree or disagree with SA Water's position, or in fact comment on the potential or otherwise for further savings.

One approach to the review of operating expenditure is to take a base year (the latest full financial year of actual data), remove one-off or non-recurrent items from this year as well as items not considered prudent and efficient, increase the base by the proportionate growth in customer numbers, and then reduce it by a productivity or efficiency target. This then forms the new base year against which the proposed expenditure can be compared. A detailed review of individual components can then be made in order to assess whether or not the proposed expenditure meets or beats the theoretical baseline. This was the process used to review the last Water Plans submitted by the four major Victorian water authorities in 2013.

The absence of any data to review prevents us from making further comment.

### 3. The post project review process

A robust post project review process is an essential part of any capital delivery program. Lessons learnt, both good and bad, are captured and then become available to the wider business to use to improve the delivery of future projects. These reviews include a financial assessment comparing final project costs with the previously developed estimate. Over the course of a program of works it is likely that there will be both over-runs and under-runs with both situations reflecting the accuracy of the estimate. Without knowing the history of SA Water's ability to deliver their capital program to the allowances provided in previous RBP's, we are not able to comment on whether or not over-runs are more likely to occur than under-runs. Either way this is a function of SA Water's ability to accurately estimate project costs and this is explored in more detail in the next section.

### 4. Capital expenditure review

Section 9 of the Draft Determination (pp 90 - 95) details those projects assessed for prudence and efficiency within the context of SA Water's proposed capital investment. A review of proposed capital expenditure can be undertaken in a number of ways including all projects where the number is limited, a sample ensuring coverage of all areas of planned investment (as was done for SA Water), or the top 10 by capital value. A rule of thumb is to seek to assess around 50% of the proposed investment by dollar value. We note that the review undertaken by, and on behalf of, ESCOSA represents some 45% of SA Water's proposed investment which is considered appropriate.

We do note however, that the order of accuracy of the cost estimates is not provided. As we do not have access to either the Cardno Atkins report or any feasibility studies we cannot comment on the accuracy of the cost estimates or how they have been prepared including:

- The basis of the estimate
- Estimating methods, techniques and procedures
- Whether the estimate has been the subject of an independent (or peer) review
- The application (or otherwise) of RANE or other risk adjusted normalisation techniques

Accuracy is a function of the investigative work completed at the time the estimate is prepared and can range from +/- 50% at concept phase, through to +/-30% at feasibility, and +/- 10% once design has been completed. Access to feasibility studies or business cases for the capital works proposed in RBP16 would have provided SACOSS with additional confidence that the project costings were robust and that sufficient allowance had been made to cover risk.

We note that the ECOSA Draft Determination (P97) states "while the capital cost benchmarking exercise showed good agreement between SA Water's cost estimates and the benchmark costs in some areas, there was considerable variance in others. This suggests that SA Water's estimating processes are still maturing and there is scope to deliver more efficient outcomes in RD16."

This statement suggests that there is a risk that final project costs may exceed the budget estimates provided in RBP16 although we emphasise that in the absence of documentation to review we cannot say this with any certainty.

### **Conclusions**

Whilst we have been able to make some high level comment, generally we have Insufficient information to enable us to provide an informed view. In particular access to feasibility studies and business cases would have assisted us to provide more meaningful comment. We note that previous reviews such as those done for the Essential Services Commission in Victoria, have been conducted in a collaborative framework and the review input has, generally, been favourably received. It is our experience that having access to the authors of the feasibility study in order to ask queries invariably provides a better outcome.

## Memorandum

To Ms Jo DeSilva  
SA Council of Social Services

Cc

From Steve Whetton  
Deputy Director, SA Centre for Economic Studies

Subject Review of ESCOSA draft determination on SA Water

Date 25 March 2016

*Faculty of the Professions*

**Steve Whetton**  
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### Background

The Essential Services Commission of South Australia (ESCOSA) is currently in the process of making a determination on the allowable revenue for the SA Water Corporation over the period 2016/17 to 2019/20, which includes identifying appropriate levels of operating and capital expenditures, as well as determining the rate of return to allow on SA Water's regulated asset base.

ESCOSA issued their draft determination on 10 February 2016 and you have asked SACES to comment on the approach taken by ESCOSA on the cost of debt (and the weighted average cost of capital more generally).

There are six key choices have made with respect of the cost of debt of ESCOSA's determination:

- 10-year trailing average approach, with no weightings applied
- Immediate application of 10-year trailing average approach, from 1 July 2016
- Current bond rate is the best estimate for future bond rates
- The benchmark-efficient entity has a Standard & Poors credit rating of BBB
- Debt-raising costs to be added to cost of debt (12.5 basis points); and
- With respect to the cost of equity adopted an equity  $\beta$  of 0.7

We would note that many of the theoretical considerations of aspects of the weighted average cost of capital are subject to debate in the relevant literature with conflicting interpretations placed on the available evidence. As such there are a range approaches that are arguably consistent with the existing evidence.

In making its determination ESCOSA has followed standard Australian regulatory practice and based it on an of what the funding costs and behaviours of a 'benchmark efficient entity' in the sector would be, rather than examining SA Water's specific cost structures. Our assessment of the draft determination will be made on the same basis.

## Assessment of Draft Determination

Taking each of the choices made by ESCOSA in turn our assessment of the approach to the WACC taken in the draft determination is as follows.

### ***10-year trailing average approach, with no weightings applied***

We agree with ESCOSA that a shift from an 'on the day' to a trailing average approach to calculating the cost of debt more appropriately captures the costs that would be faced by a benchmark efficient entity and should therefore be adopted (albeit with a transition arrangement).

We remain unconvinced that the benefit for a benchmark efficient entity in the water utility sector of having certainty of rates over a 10 year rather than a 7 year timeframe would deliver benefits that outweigh the past ten year average of 37 basis points of additional yield for a 10 year rather than a 7 year bond, absent a desire to match bond tenor of actual debt to that used by the regulator in their determination. As such we continue to recommend a 7 year tenor as the appropriate benchmark bond yield.

### ***Immediate application of 10-year trailing average approach, from 1 July 2016***

We continue to believe that the advice of Professor Lally to the AER that the adoption of the QTC's recommended transition to 10-year trailing average approach is approach most likely to minimise the prospect of windfall gains or losses when shifting from an 'on-the-day' approach to a trailing average approach.

ESCOSA claims on page 102 of the regulatory determination that an internal analysis they have undertaken has determined that the historical cost of debt allowance for SA Water was not materially different than it would have been had it made an immediate transition to a 10-year trailing average approach in mid-2006. As such ESCOSA believes that it is appropriate to implement a trailing average immediately

ESCOSA do not define materiality in this context. However, given the Regulated Asset Base of SA Water is to be \$12.1 billion in 2016/17 even small differences in interest rates can produce numerically large changes in allowable revenue. For example, a cost of debt that is 10 basis points higher will, given assumed debt share of 60 per cent, increase the allowable return by \$7.3 million in 2016/17.

### ***Current bond rate is the best estimate for future bond rates***

We agree with ESCOSA that the prices observed in debt market are too influenced by term risks and liquidity preferences to provide a reliable guide as to market expectations of future interest rates.

### ***The benchmark-efficient entity has a Standard & Poors credit rating of BBB***

We do not see any evidence that the credit rating of a benchmark efficient entity should be BBB, particularly given the stability of revenue afforded by current regulatory settings. The median credit rating of Australian gas and electricity utilities for the period from 2002 to 2012 was BBB+,<sup>1</sup> and it is hard to see any evidence that water utilities face higher risks. As such we recommend that any calculation of rates draws on not just the RBA's 'BBB' series, which includes bonds with ratings between BBB- and BBB+ but also the A- series (with respective weights of 0.75 and 0.25) as this will effectively produce a yield representative of BBB+ rated debt.

Whilst we believe international comparisons should be used with extreme caution given the substantial differences in regulatory settings, we believe that the international evidence collected by IPART suggests that debt issued by water utilities is regarded by the market

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<sup>1</sup> Australian Energy Regulator (2013c), 'Better Regulation, Explanatory Statement, Rate of Return Guideline (Appendices)'



as of relatively low risk. Credit ratings were identified for six US water utilities, two of which were rated A+ and three, A, and one A- for one UK utilities which had a rating of BBB-.<sup>2</sup>

***Debt-raising costs to be added to cost of debt (12.5 basis points); and***

We agree that it is appropriate to make an allowance for debt raising cost in calculating the cost of debt, and this level accords with other recent regulatory decisions.

***With respect to the cost of equity, adopted an equity  $\beta$  of 0.7***

ESCOSA has proposed the use of an equity  $\beta$  of 0.7, matching the  $\beta$  adopted by the AER for electricity utilities in its most recent determinations.

The expert advice commissioned by the AER as part of their most recent price determinations<sup>3</sup> (Henry 2014) tested a wide range of analysis periods, data frequencies and variations between analysis at the individual firm level and for weighted portfolios of firms to identify values for the Equity Beta of listed electricity and gas distribution firms. He also tested a range of hypotheses relating to the stability of the underlying data including calculating Dimson's  $\beta$ s to adjust for the potential impact of thin trading, and testing whether data from the GFC period should be excluded from the analysis.

Henry's three preferred models all used the longest available sample, and weekly data, and included a firm level analysis, an analysis using a fixed portfolio with equal weighting, and an analysis using a fixed portfolio with a value weighting. Henry concluded that the evidence points to  $\beta$  lying between 0.3 and 0.8 (p. 63) for regulated utility distribution firms, with the average value from this set of most reliable results being **0.4463** (or 0.480 if the average is calculated only from the means).

There is evidence that equity  $\beta$ s calculated using a SL-CAPM framework could have a systematic tendency to understate the degree of variance in returns of those firms with a  $\beta$  below 1; and the estimated  $\beta$ s of similar international firms (this evidence comes from estimates of  $\beta$  using the Black CAPM framework). However, there is other evidence that would suggest that the analysis of Henry may have overstate the current risk of Australian electricity firms. In particular, the time period over which Henry's results are calculated relate to the previous regulatory approach in which most electricity distribution utilities bore some of the volume risk. However, as SA Water is being regulated on the basis of maximum allowable revenue it is not subject to that risk, and therefore it would be reasonable to expect the value of beta to be in the lower range modelled by Henry.

International evidence also points to a lower level of  $\beta$  being potentially appropriate. International comparisons should be used with caution as differences in the regulatory framework between countries can create systematic differences in risk, however that does not rule it out as a source of evidence. IPART identified equity betas for nine listed water utilities based in the USE and based in the UK. The average  $\beta$  of this sample was 0.61 (median 0.67) with individual  $\beta$ s ranging from 0.28 to 0.89.<sup>2</sup>

These countervailing factors suggest to us that it would be more appropriate to select a value for  $\beta$  only slightly above the Henry's empirical estimates, either 0.5 or 0.6.

***General comment***

One final point we would make is that in making a determination on the building blocks that feed into the overall weighted average cost of capital it is important to consider the overall impact of the decisions made as well as each building block in isolation. In each case the approach adopted by ESCOSA is broadly consistent with the relevant evidence and theory

<sup>2</sup> IPART (2016) Review of prices for Sydney Water Corporation From 1 July 2016 to 30 June 2020, Water — Draft Report, March 2016, p. 249.

<sup>3</sup> Henry, O.T. (2014), 'Estimating  $\beta$ : An update, April 2014', report prepared for the AER.

(although, as noted above, there are several cases where we believe that an alternative decision would better fit the evidence), however in five of the six cases<sup>4</sup> ESCOSA's decision has been relatively more favourable to the regulated utility given the range of plausible parameters (see, for example, the set of past regulatory decisions on water utilities collated by IPART reported in the table below where five of the nine determinations adopted a lower  $\beta$  than proposed by ESCOSA and five of the ten adopted a lower risk credit rating than that proposed by ESCOSA, with only one determination having *both*  $\beta$  and the credit rating as high as that proposed by ESCOSA).

Regulator	Utility	Decision date	Gearing	Equity Beta	Credit rating
ACCC	State Water Corporation	June 2014	60%	0.7	BBB+
ESC	Greater metropolitan water businesses	June 2013	60%	0.65	BBB- to BBB+
	Regional urban water businesses	June 2013	60%	0.65	BBB- to BBB+
	Rural water businesses	June 2013	60%	0.65 for 1 business and 0.7 for 2 businesses	BBB- to BBB+ for 1 business and BBB+ for 2 businesses
QCA	Seqwater irrigation	April 2013	60%	0.55	BBB+
Industry panel	Actew	April 2015	60%	0.7	BBB
ERA	Water corporation, Water boards	March 2013	60%	0.65	A for Water corp., BBB- BBB+ for Water boards

Source: IPART (2016), p. 250

<sup>4</sup> The exception being the approach to estimation of future bond rates where SA Water's preferred approach of