

Model results for AER access determination: South Australia Public Lighting 2010-2015

Report to the Australian Energy Regulator

Vhari McWha, Kieran Murray, Dean Nutsford, Tony van
Zijl
September 2019



Contents

| | |
|-------------------------------|---|
| Introduction..... | 1 |
| Adjustments to the model..... | 1 |
| Results..... | 1 |

Appendices

| | |
|--|---|
| Appendix A: Modelling instructions for Sapere..... | 3 |
|--|---|

Tables

| | |
|--|---|
| Table 1 RAB values (\$ million, nominal terms, year ended June)..... | 1 |
| Table 2 Discount rate for present value adjustment (percent)..... | 2 |
| Table 3 Discount rate for September 2019 quarter present value adjustment (percent)..... | 2 |

Introduction

1. We have prepared this report following instructions from the Australian Energy Regulator (AER). The AER is required to arbitrate in an access dispute between public lighting customers (PLC) and SA Power Networks (SAPN). This report follows submissions from the parties on the Draft Determination published by the AER on 11 February 2019.

Adjustments to the model

2. The AER instructed us to adjust the model used for the Draft Determination for three matters.¹
3. Incenta identified two computational errors (Incenta 2019, pages 7, 21):
 - The weighted average remaining life of capital expenditure was overstated; and
 - Depreciation on pre 2005/06 capex overstated from 2005/06 onwards.
4. The parties agreed that the discount rate used to determine the present value of the over-recovery should be adjusted for outturn inflation (SAPN 13 March 2019, para 115; Incenta March 2019, section 5.2; and HoustonKemp 15 April 2019, page 5).
5. In addition, the AER instructed us to calculate the present value of the over-recovery as at 30 September 2019, and to calculate the present value of the over-recovery using the nominal pre-tax return on debt for the purposes of comparison.

Results

6. The present value of the over-recovery at 30 September 2019 is **\$13,008,154.01**.
7. The opening value of the RAB at 1 July 2010 is \$34.79 million. Table 1 sets out the RAB values for the dispute period.

Table 1 RAB values (\$ million, nominal terms, year ended June)

| | 2011 | 2012 | 2013 | 2014 | 2015 |
|-------------|-------|-------|-------|-------|-------|
| Opening RAB | 34.79 | 35.51 | 36.53 | 37.48 | 37.78 |
| Closing RAB | 35.51 | 36.53 | 37.48 | 37.78 | 38.76 |

8. The opening TAB at 1 July 2010 is unchanged at \$15.96 million.
9. Table 2 sets out the discount rate calculation adjusting the nominal vanilla WACC for actual inflation. These are the same results as obtained by Incenta (March 2019, Figure 5.1) with the exception that the 2019 figure reflects the actual inflation result, which was released after Incenta prepared its paper.

¹ The AER's instructions are reproduced in the Appendix.

10. In September 2012, the Australian Bureau of Statistics (ABS) re-based its CPI series. The reference period is the 2011/12 financial year (i.e. the index number for June 2012 is 100.0). This series is used to measure actual inflation for the discount rate calculations. The previous CPI series used a 1989/90 reference period and is used in the model to establish the opening RAB value for 2010/11. This is consistent with the inflation measure that was available at the relevant time. The re-referencing resulted in small changes in the period-to-period percentage changes. These changes were not classified as a revision by the ABS.²

Table 2 Discount rate for present value adjustment (percent)

| | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 |
|----------------------------------|-------|------|------|-------|------|------|------|------|------|
| Nominal WACC, forecast inflation | 9.76 | 9.76 | 9.76 | 9.76 | 9.76 | 6.17 | 6.19 | 6.18 | 6.13 |
| Forecast inflation | 2.52 | 2.52 | 2.52 | 2.52 | 2.52 | 2.50 | 2.50 | 2.50 | 2.50 |
| Real WACC | 7.06 | 7.06 | 7.06 | 7.06 | 7.06 | 3.58 | 3.60 | 3.59 | 3.54 |
| Actual inflation | 3.26 | 1.63 | 2.50 | 2.93 | 1.33 | 1.31 | 2.13 | 1.90 | 1.33 |
| Nominal WACC, actual inflation | 10.55 | 8.81 | 9.74 | 10.20 | 8.49 | 4.94 | 5.80 | 5.55 | 4.92 |

Note: Actual inflation figures are for the year to March.

11. Table 3 sets out the discount rate calculation for the adjustment from 30 June 2019 to 30 September 2019.

Table 3 Discount rate for September 2019 quarter present value adjustment (percent)

| | Percent |
|---|---------|
| Nominal WACC, forecast inflation, 2020 | 6.09 |
| Forecast inflation, 2020 | 2.50 |
| Real WACC, 2020 | 3.50 |
| Actual inflation, June 2019 quarter | 0.61 |
| Nominal WACC, Sept 2019 quarter, actual inflation | 1.48 |

12. If the nominal pre-tax return on debt were used to calculate the present value of the over-recovery, the value of the over-recovery at 30 September 2019 would be \$12,795,826.47.

² <https://www.abs.gov.au/AUSSTATS/abs@.nsf/Previousproducts/6401.0Main%20Features1Sep%202012>

Appendix A: Modelling instructions for Sapere

On 11 February 2019 the AER published a draft determination including spreadsheets and report by Sapere.

The purpose of these instructions is to seek further expert advice from you addressing the matters raised below by SAPN and PLC and their respective consultants.

Attachment A sets out the AER Board's determination which is to be the foundation of the modelling (and completed by Sapere for the draft determination).

Identification of modelling errors

- The parties to the dispute claim that they have identified errors in Sapere's model. A list of errors identified by the parties and references is below.
- We would welcome a short paper from Sapere responding to the identified errors.

Submission: 13 March SAPN

1. Incenta claim it has identified two computational errors (Incenta 2019, p.7, 21):
 - Weighted average remaining life of capital expenditure being overstated; and
 - Depreciation on pre 2005/06 capex overstated from 2005/06 onwards.
2. If Sapere agrees these are computational errors please adjust the models accordingly, if Sapere disagree please explain the rationale?

SAPN and PLC agreement on adjustment to WACC

1. Make the following adjustment proposed and agreed to by both parties (SAPN 13 March 2019 para 115, Incenta 13 March 2019 section 5.2 and, HoustonKemp 15 April 2019 page 5).
 - In determining the discount rate to be used in escalating the value of past overpayment to a present day value, the applicable regulatory WACC should be adjusted for outturn inflation.

Instructions for presentation of the final model

- We request that Sapere's final model for the purposes of the AER Final Determination be as simple as possible by removing all non-operational spreadsheets. Please also remove model optionality.

Attachment A

The AER Board has determined:

To establish the opening RAB at 1 July 2010 take as the starting point the SKM valuation as at 30 June 1998,³ and roll forward this value using the AER's asset roll-forward model for electricity distribution network service providers (RFM).

The following assumptions are made:

- For the period 1 July 1998 to 30 June 2005, the assets had an average total economic life of 20 years. The assets had an average age of 9 years at the time of the SKM valuation, and therefore had an average remaining useful life of 11 years at 1 July 1998
- From 1 July 2005 the average total economic life of the assets was increased to 28 years. The remaining undepreciated value is depreciated accordingly from that date.

The RAB values for the balance of the dispute period (i.e. from 1 July 2011 to 30 June 2015) are calculated using the PTRM based on the asset life assumptions set out above.

The discount rate applicable to the over-recovered revenue for the dispute period is the regulatory weighted average cost of capital (WACC) applicable to SAPN from the commencement of the dispute period until the date upon which repayment is made.

Corporate overheads are not to be reallocated in consequence of our decision on RAB and TAB.

Elevation charges are not included in the public lighting cost base.

³ SKM, ETSA Utilities Asset Valuation, September 1999.

About Us

Sapere Research Group is one of the largest expert consulting firms in Australasia, and a leader in the provision of independent economic, forensic accounting and public policy services. We provide independent expert testimony, strategic advisory services, data analytics and other advice to Australasia's private sector corporate clients, major law firms, government agencies, and regulatory bodies.

'Sapere' comes from Latin (to be wise) and the phrase 'sapere aude' (dare to be wise). The phrase is associated with German philosopher Immanuel Kant, who promoted the use of reason as a tool of thought; an approach that underpins all Sapere's practice groups.

We build and maintain effective relationships as demonstrated by the volume of repeat work. Many of our experts have held leadership and senior management positions and are experienced in navigating complex relationships in government, industry, and academic settings.

We adopt a collaborative approach to our work and routinely partner with specialist firms in other fields, such as social research, IT design and architecture, and survey design. This enables us to deliver a comprehensive product and to ensure value for money.

For more information, please contact:

Kieran Murray

Phone: +61 2 9234 0200

Mobile: +64 21 245 1061

Email: kmurray@thinkSapere.com

Wellington

Level 9
1 Willeston Street
PO Box 587
Wellington 6140

P +64 4 915 7590
F +64 4 915 7596

Auckland

Level 8
203 Queen Street
PO Box 2475
Shortland Street
Auckland 1140

P +64 9 909 5810
F +64 9 909 5828

Sydney

Level 18
135 King Street
Sydney
NSW 2000

P +61 2 9234 0200
F +61 2 9234 0201

Melbourne

Level 2
161 Collins Street
GPO Box 3179
Melbourne 3001

P +61 3 9005 1454
F +61 2 9234 0201 (Syd)

Canberra

PO Box 252
Canberra City
ACT 2601

P +61 2 6100 6363
F +61 2 9234 0201 (Syd)

www.thinkSapere.com

independence, integrity and objectivity