FINAL DECISION
Essential Energy distribution determination
2015−16 to 2018−19

Attachment 19 – Analysis of financial viability

April 2015

AUSTRALIAN ENERGY REGULATOR

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Note

This attachment forms part of the AER's final decision on Essential Energy's revenue proposal 2015–19. It should be read with other parts of the final decision.

The final decision includes the following documents:

Overview

Attachment 1 - Annual revenue requirement

Attachment 2 - Regulatory asset base

Attachment 3 - Rate of return

Attachment 4 - Value of imputation credits

Attachment 5 - Regulatory depreciation

Attachment 6 - Capital expenditure

Attachment 7 - Operating expenditure

Attachment 8 - Corporate income tax

Attachment 9 - Efficiency benefit sharing scheme

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Contents

Shortened forms

Shortened form	Extended form
AEMC	Australian Energy Market Commission
AEMO	Australian Energy Market Operator
AER	Australian Energy Regulator
augex	augmentation expenditure
capex	capital expenditure
CCP	Consumer Challenge Panel
CESS	capital expenditure sharing scheme
CPI	consumer price index
DRP	debt risk premium
DMIA	demand management innovation allowance
DMIS	demand management incentive scheme
distributor	distribution network service provider
DUoS	distribution use of system
EBSS	efficiency benefit sharing scheme
ERP	equity risk premium
Expenditure Assessment Guideline	expenditure forecast assessment Guideline for electricity distribution
F&A	framework and approach
MRP	market risk premium
NEL	national electricity law
NEM	national electricity market
NEO	national electricity objective
NER	national electricity rules
NSP	network service provider
opex	operating expenditure
PPI	partial performance indicators
PTRM	post-tax revenue model
RAB	regulatory asset base
RBA	Reserve Bank of Australia
repex	replacement expenditure
RFM	roll forward model

Shortened form	Extended form
RIN	regulatory information notice
RPP	revenue and pricing principles
SAIDI	system average interruption duration index
SAIFI	system average interruption frequency index
SLCAPM	Sharpe-Lintner capital asset pricing model
STPIS	service target performance incentive scheme
WACC	weighted average cost of capital

19 Analysis of financial viability

This attachment sets out further detail of our analysis of financial viability. In particular, it details the cash flow analysis we undertook and RSM Bird Cameron's review. This attachment details our analysis and conclusions, including discussion of the key assumptions.

Based on our analysis, and RSM Bird Cameron's review and commentary, we are not persuaded that Essential Energy faces financial risks that are likely to threaten its ongoing financial viability.

19.1 Background

In its revised proposal, Essential Energy indicated that its financial viability would be threatened as a result of our draft decision. In support of this, Essential Energy submitted a range of material including:

- a report from David Newbury submitting that sizeable opex reductions in a short period of time would negatively impact the ongoing financeability of Essential Energy and its viability[1]
- a confidential credit profile report by Standard and Poors (S&P)[2]
- A report by UBS including confidential content relevant to financeability[3]

Neither the NEL nor the NER include an explicit obligation requiring us to consider the impact of our determination on the viability of the service provider in its actual circumstances. Our task is to determine the revenue that a service provider can recover from its customers with reference to what is the efficient or prudent level of expenditure. The service provider's actual ownership circumstances and the financial structure of its shareholders are not factors that we are required to consider in fulfilling our task under the NEL or the NER.

We are satisfied that a revenue allowance that meets the requirements of the rules will provide for the service provider, acting as a prudent operator with efficient costs, using a realistic expectation of demand and cost inputs, with the revenue it would require to operate viably. However, to the extent that a service provider departs from such expenditure levels, it may be at greater financial risk. Since Essential Energy raised this issue as a concern, we have considered it and the material put forward in support of its concerns. Essential Energy has not been clear about what it means by the term financial viability. In our analysis, we have considered whether Essential Energy would be at material risk of insolvency. We undertook this analysis using our PTRM to model Essential Energy's cash flows under a number of different scenarios. We then engaged

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1 David Newbery, *Cambridge Economic Policy Associates: Expert Report*, January 2015.

2 S&P, *Confidential credit assessment: Essential Energy—Stand-alone credit profile*, January 2015.

3 UBS, *Financeability— Debt issue and capital structure (Confidential version)*, January 2015.

RSM Bird Cameron to review and provide comment on our analysis. We chose and generated these scenarios for the reasons set out in Table 19-1. We are satisfied that Essential Energy would not be at material risk of insolvency because:

- Essential Energy is subject to a stable regulatory environment that is favourable for capital raising. [4]
- we are not persuaded that the assumptions Essential Energy provided to S&P were reasonable. The conclusions in the stand-alone credit profile prepared by S&P derive from the assumptions provided by Essential Energy.
- we are satisfied that our PTRM cash flow analysis and RSM Bird Cameron's review of our analysis supports this conclusion.

RSM Bird Cameron considered that Essential Energy was not at material risk of insolvency subject to the assumptions provided and based on the scenarios it reviewed. However, under the assumptions and scope we provided to RSM Bird it observed that Essential would have to raise substantial external equity to fund its proposed capex program. RSM Bird Cameron identified that, within the assumptions and scope we specified, a business in Essential Energy's position may face difficulties continuing to raise its capital at a reasonable price. However, the scope and assumptions that we provided to RSM Bird Cameron excluded consideration of the favourable characteristics and protections inherent in the regulatory regime, or of Essential Energy's actual circumstances. We discuss these factors in section 19.2.

We are satisfied that RSM Bird Cameron's conclusions are reasonable having regard to these assumptions. However, taking account of these broader characteristics and protections, we are not persuaded that Essential Energy will be unable to raise external capital at a reasonable price. We therefore are not persuaded that Essential Energy faces risks that threaten its financial viability.

RSM Bird Cameron's report has been published with this decision. We discuss this report in greater detail in this attachment.

19.2 The four scenarios

We provided to RSM Bird Cameron analysis of four scenarios. In all cases, these scenarios test the impact on financial viability if Essential Energy were to:

- receive revenue in line with our determination
- face costs in line with its revised proposal prior to the start of the 2014 to 2019 period.

The difference between the scenarios is the extent to which Essential Energy's costs converge towards our determination revenue over the 2014 to 2019 period Specific

[4] For example , RARE infrastructure submitted that "[t]here are many characteristics of the Australian Regulatory framework that makes its energy network potentially attractive investments". RARE Infrastructure, *Letter to the AER*, 13 February 2015.

details of the scenarios are set out in Table 19-1, below. The scenario descriptions in the table refer to:

- Debt convergence—over the regulatory period, the revenue and costs relating to debt (interest payments) will converge. This is because we update 10 per cent of the cost of debt each year in line with our trailing average approach. We largely agree with Essential Energy on how this update will be calculated. Consequently, as each year passes the difference between the amount Essential Energy sought for interest costs in its revised proposal and our regulatory allowance will converge. Eventually, in 10 years, the difference converges to zero. As this brings revenue and costs closer together, it reduces the risks to Essential Energy's financial viability.
- Reductions in opex—in scenario 1 and 2, we assume Essential Energy spends the total opex it proposed in its revised proposal, regardless of the revenue it receives. This has a substantially negative impact on the key indicators of financial viability. However, Essential Energy has a financial incentive to reduce its opex costs. We have therefore tested the sensitivity of the conclusions to the potential for opex efficiency savings. Scenario 3 and scenario 4 test the outcomes where the Essential Energy is able to reduce its opex. Any savings in opex improve Essential Energy's financial performance. We discuss this in greater detail in section 19.2.2.
- The hybrid tax calculation—this refers to our calculation of tax to reflect the actual revenue and tax expenses that are assumed in the scenarios below. This variation allows us to more accurately reflect the short term tax obligation faced by Essential Energy.

Table 19-1 Revenue and cost inputs for the four scenarios

	Scenario 1	Scenario 2	Scenario 3	Scenario 4
Revenue	Smoothed revenue from the draft decision	Smoothed revenue from the indicative final decision[a] including debt convergence.	Smoothed revenue from the indicative final decision [a] including debt convergence	Smoothed revenue from the indicative final [a] decision including debt convergence
Costs	All costs from revised proposal except for hybrid tax calculation.	All costs from revised proposal except for: • hybrid tax calculation • debt convergence	Based on revised proposal except for: • hybrid tax calculation • debt convergence • 10 % per annum reductions between forecast opex costs and benchmark efficient opex allowance	Based on revised proposal except for: • hybrid tax calculation • debt convergence • 20 % per annum reductions between forecast opex costs and benchmark efficient opex allowance
Comment	Worst case scenario. Importantly, this scenario excludes the effects of debt	More favourable to Essential Energy than Scenario 1. This scenario is more	More favourable to Essential Energy than Scenario 2. This scenario reflects	More favourable to Essential Energy than Scenario 3. This scenario reflects faster

	Scenario 1	Scenario 2	Scenario 3	Scenario 4
	convergence. Excluding debt convergence artificially worsens the outcomes.	closely reflective of the final decision circumstances than scenario 1.	partial efficiency savings by Essential Energy to reduce the difference between its proposed opex costs and our final decision opex determination.	opex efficiency savings than scenario 2. In combination, scenarios 3 and 4 illustrate the sensitivity of the outcome to the ability to make efficiency savings.

(a) At the time this analysis was provided to RSM Bird Cameron, decision inputs were not completely finalised. However, they are closely reflective of the final decision inputs.

19.2.1 Results of the scenarios

We summarise RSM Bird Cameron's conclusions in respect of each scenario in Table 19-2, below. RSM Bird Cameron's report identifies two key metrics: operating cash flows excluding regulatory depreciation, and cash flows after accounting for Essential Energy's proposed capex program. It presents these post-capex cash flows prior to and after external equity raised, and both of those subtotals including and excluding regulatory depreciation.

Table 19-2 Summary of RSM Bird Cameron Conclusions

Scenario	Conclusions
1	Essential Energy generates negative operating cash flows excluding the regulatory depreciation allowance. It generates negative cash flows prior to external equity raising even if it uses all of its regulatory depreciation allowance It generates positive cash flows if it uses portions of its regulatory depreciation allowance and can raise external equity.
2	Essential Energy generates positive operating cash flows excluding the regulatory depreciation allowance. It generates negative cash flows prior to external equity raising even if it uses all of its regulatory depreciation allowance It generates positive cash flows after external equity raising both including and excluding its regulatory depreciation allowance
3	Essential Energy generates positive operating cash flows excluding the regulatory depreciation allowance. It generates negative cash flows prior to external equity raising if it uses all of its regulatory depreciation allowance It generates positive cash flows after external equity raising both including and excluding its regulatory depreciation allowance

Scenario	Conclusions
4	Essential Energy generates positive operating cash flows excluding the regulatory depreciation allowance. It generates positive cash flows prior to external equity raising if it uses a significant portion of its regulatory depreciation allowance It generates positive cash flows after external equity raising both including and excluding its regulatory depreciation allowance

Source: RSM Bird Cameron, *Independent review of the AER's internal cash flow analysis of insolvency risk for NSW electricity service providers for the regulatory period 2014-19*, April 2015.

Based on the above scenarios and the assumptions provided, RSM Bird Cameron concludes that Essential Energy does not face material risk of insolvency under any of the four scenarios where it can raise external equity. Specifically, Essential Energy generates positive operating cash flows under scenarios 2–4. However, it performs less favourably on the post-capex cash flow indicators compared to Ausgrid and Endeavour Energy.

Under scenario 4 Essential Energy is able to fund its capex program without raising external equity. Under scenarios 1 to 3, Essential Energy would need to raise external equity to fund its capex program. Essential Energy is cash flow positive in all 4 scenarios where it raises external equity.

Within the constraints of the assumptions we supplied, RSM Bird Cameron has noted the potential for Essential Energy to experience difficulty in raising external equity:

> "Under scenarios 1–3, we consider that Essential may experience difficulty raising equity at an acceptable price from external third party investors. Further, we consider that debt providers may seek to review funding arrangements in the absence of forecast cash flows that indicate the ability to service debt obligations without the need for significant equity raising"[5]

The assumptions we provided to RSM Bird Cameron necessarily are a simplification. We consider that to some extent these assumption represent a worst case scenario and there are a range of factors that suggest Essential Energy is less likely to face threats to its financial viability than presented in the four scenarios above.

These factors include:

- RSM Bird Cameron's report does not address the impact of Essential Energy's ownership, and whether that ownership is favourable or otherwise for capital raising.

[5] RSM Bird Cameron, *Independent review of the AER's internal cash flow analysis of insolvency risk for NSW electricity service providers for the regulatory period 2014–19*, April 2015, p. 12, p. 19, p. 22, p. 26.

- RSM Bird Cameron's report assumes zero starting cash balance. Any positive starting cash balance would result in more favourable outcomes for Essential Energy.
- RSM Bird Cameron's report does not include any assumptions about the service provider's ability to defer capex.
- RSM Bird Cameron's report does not address fundamental questions of revenue certainty that distinguish regulated firms from unregulated firms. Unlike unregulated firms, Essential Energy faces predictable, stable revenue regardless of movements in its underlying demand.
- Significantly, Essential Energy's revenue allowance will be updated each year to incorporate current market rates on its debt portfolio. To some extent, RSM Bird Cameron's report addresses the effects of annually updating debt revenue through our debt convergence assumptions. However, our approach provides Essential Energy with an ongoing shield from interest rate risk regardless of market circumstances. Specifically, if benchmark debt costs rise as observed in the market, Essential Energy's revenue allowance will rise commensurately. Essential Energy is therefore shielded from interest rate risk compared to an un-regulated private sector business.
- The value of Essential Energy's assets is protected within the regulatory asset base (RAB), and a return on capital for assets within the RAB is set periodically under a well-established regulatory regime. This allows Essential Energy to expect to generate a benchmark return on capital in the RAB and also to recover the face value of its investments over time through a stable and predictable regulatory depreciation allowance. In the short term, equity holders may face relatively lower returns due largely to opex inefficiencies and the return on debt transition. However, in the medium term as the service provider achieves efficiency gains, those equity holders can expect to predictably receive the benchmark return on equity.

In line with these observations, the credit rating agency Moody's observed that, regarding the factor, 'regulatory environment and asset ownership model' (Factor 1):[6]

> "[M]any networks are shown as outliers for Factor 1 principally reflecting the high quality regulatory regimes where they operate, which reduces overall business risk. Such regulatory frameworks tend to be well established, provide timely cost recovery and have de-coupling mechanisms that limit volume risk. This means that scores for these sub-factors can often be “Aaa” or “Aa” while issuers themselves are rated in the “A” or “Baa” range. This applies particularly to networks in developed countries with strong regulation, e.g. AusNet Services and Powercor Australia LLC (regulated in Australia by the AER)"

[6] Moody's Investors Service, *Rating methodology: Regulated electric and gas networks*, 25 November 2014, p. 34.

We accept that RSM Bird Cameron's conclusions are reasonable having regard to the assumptions and limited scope we specified. However, taking account of these broader characteristics and protections, we are not persuaded that Essential Energy will be unable to raise external capital at a reasonable price. We therefore are not persuaded that Essential Energy faces risks that threaten its financial viability.

19.2.2 Key assumptions

In its report, RSM Bird Cameron has detailed all of the material assumptions used in setting revenue and costs. This section includes further detail on:

- debt convergence—included in scenarios 2, 3 and 4
- opex efficiency gains— included in scenarios 3 and 4
- hybrid tax calculation— included in all scenarios
- interpretation of the regulatory depreciation allowance.

Debt convergence

One of the largest differences between Essential Energy's revised proposal and our draft and final decisions is the approach to transition into the trailing average portfolio return on debt. Specifically:

- Essential Energy proposed an immediate transition. This means that its starting (2014–15) portfolio is based on an average of the past 10 years of return on debt estimates.
- Our decision commences with an on-the-day rate for existing debt and a 10 year transition to the trailing average return on debt for new debt. This means that Essential Energy's starting (2014–15) portfolio is equal to the annual estimate of the return on debt within Essential Energy's nominated averaging period in that year.

Due to the difference in approaches, the starting difference in revenue between Essential Energy's proposed approach and our decisions is substantial. However, under Essential Energy's proposed approach and our decision, the return on debt portfolio will be updated each year to include 10 per cent weight on each subsequent year's estimate. This will impact both the revenue received by Essential Energy and the costs it faces. Consequently, once the full transition is complete in 10 years Essential Energy's cost of debt and allowed debt revenue should correspond, excluding relatively minor differences in the implementation of annual estimates of the return on debt.

Therefore, we consider it is a more realistic assumption to account for this debt convergence when considering Essential Energy's financial viability. To do so, we have included consistent forward estimates of the annual return on debt to model the progression of both our decision portfolio return on debt and Essential Energy's proposed portfolio. The calculations for this portfolio are set out in Table 19-3.

Table 19-3 Debt convergence (per cent)

	2014–15	2015–16	2016–17	2017–18	2018–19
Annual estimate of the return on debt	6.51	5.38	5.38[a]	5.38[a]	5.38[a]
Essential Energy's portfolio	7.98[b]	7.72	7.46	7.20	6.94
AER portfolio	6.51	6.40	6.28	6.17	6.06
Difference between portfolios	-1.47	-1.32	-1.18	-1.03	-0.88

(a) For the forward estimates, we have used the most recent annual estimate held constant from 2016–17 to 2018–19. Regardless of what these inputs are, the portfolios will converge.

(b) The service providers proposed a 10 year average of 7.98. For simplicity, we have assumed the annual estimate for each past year is also equal to 7.98. Therefore, each year through the regulatory control period, the annual estimate replaces 1 year (10 per cent) at 7.98 per cent.

We note that there are also differences between Essential Energy's proposed implementation of the annual estimates for the return on debt and our draft decision. These relate primarily to the choice of third party data series. Specifically, Essential Energy has proposed to rely entirely on the extrapolated RBA curve, whereas our draft and final decisions adopts a simple average of the extrapolated RBA curve and the extrapolated BVAL curve. However, we have excluded these differences from our analysis because the difference between approaches is relatively less material.

Opex efficiency gains

In scenarios 1 and 2, we have assumed the service provider will spend its revised proposal opex forecast and will not make any efficiency savings. However, we expect that Essential Energy will have a strong incentive to make efficiency gains where its forecast expenses are above the opex allowance in the final decision. Therefore, we have modelled additional scenarios where the service provider is able to reduce the difference between:

- its revised proposal opex and
- our final decision on the opex that would be faced by the benchmark efficient entity.

In scenario 3, we assume Essential Energy reduces the difference between its proposed opex and our (indicative) final decision by 10 per cent per year. This means that it would reach our opex target within 10 years. In scenario 4, we assume Essential Energy reduces the difference between its proposed opex and our (indicative) final decision by 20 per cent per year. This means that it would reach our opex target within 5 years

We have not attempted to determine which of scenarios 2–4 is the most plausible, but have used the results to assess the sensitivity of the conclusions to whether the service provider can improve its opex efficiency.

Table 19-4 Opex efficiency gains ($million, 2013–14)

Item		2014–15	2015–16	2016–17	2017–18	2018–19
1	AER indicative final decision[a]	314.3	317.6	320.9	324.3	327.9
2	Essential Energy revised proposal	491.2	482.5	443.6	445.8	412.6
3	Difference between costs and efficient baseline[b]	176.8	164.9	122.7	121.5	84.6
4	Difference with 50% efficiency gains (10% p.a.)[c]	159.2	131.9	85.9	72.9	42.3
5	Difference with 100% efficiency gains (20% p.a.)[d]	141.5	98.9	49.1	24.3	0.0
6	Opex costs with 50% efficiency gains[e]	473.5	449.5	406.8	397.2	370.3
7	Opex costs with 100% efficiency gains[f]	455.8	416.5	369.9	348.6	327.9

(a) At the time this analysis was provided to RSM Bird Cameron, decision inputs were not completely finalised. However, they are closely reflective of the final decision inputs.

(b) This is equal to item 2 less item 1

(c) This is equal to item 3 reduced by 10 per cent per year. For example: 159.2 = 176.80 * (100-10)%. Then, 131.9 = 164.9 * (100-10-10)% etc

(d) This is equal to item 3 reduced by 20 per cent per annum using the approach as described in note (c).

(e) This is equal to item 1 + item 4

(f) This is equal to item 1 + item 5.

Hybrid tax allowance

The PTRM includes calculations of the benchmark tax allowance. These are based on the tax revenues and tax expenses generated within the building blocks multiplied by the benchmark rate of corporate taxation, less the value of imputation credits.

However, to more accurately model the short term financial obligation imposed by tax, we have made the following adjustments:

- On the revenue side - rather than the internally generated revenue within the service providers' revised proposal PTRMs, we have used the smoothed revenue from our decision to calculate tax
- On the revenue side - further, while redeemed imputation credits ultimately provide a return to equity holders, they do so after the service provider has had to pay the face value of tax. Therefore, we have excluded the value of imputation credits from the tax allowance cash flows estimate. This has the effect of understating the final return to equity holders in years where the service providers pay tax.
- On the expenditure side - however, to recognise the costs that the service provider proposes to face, we have used its proposed tax expenses.

Interpretation of the regulatory depreciation allowance

Under the building block revenue framework, service providers recover a regulatory depreciation allowance. This allowance returns to the service provider the face value of its capital investment over time. This can then be:

- used to pay the face value of debt as it is retired
- distributed to equity holders to return the face value of their initial investment.

However, the service provider has flexibility to use its depreciation allowance to fund short term costs. Where the service provider faces cash flow issues, it could therefore use the depreciation allowance in the short term to manage these issues. We advised RSM Bird Cameron that this was a reasonable assumption to use in its analysis.

RSM Bird Cameron has estimated both operating cash flows and cash flows prior to external equity raised to exclude the regulatory depreciation allowance. It has then addressed in its conclusions the extent to which Essential Energy would need to use a proportion of its regulatory depreciation allowance to fund its short term financial obligations. We are satisfied that this interpretation of the depreciation allowance is reasonable, and that RSM Bird Cameron's conclusions make reasonable use of the assumptions provided.