



RSM Bird Cameron

Australian Energy Regulator

**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

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1. Glossary of Terms and Abbreviations

Term	Definition
AER	Australian Energy Regulator
Draft Decision Revenue	Draft Decision Revenue determinations published in November 2014 by the AER for the Service Providers for the regulatory period 2014-19. The Draft Decision Revenue is utilised in Scenario 1
Final Indicative Decision Revenue	Forecast revenue utilised in the PTRMs for Scenarios 2, 3 and 4
PTRM	Post-tax revenue model; the models used to ascertain the AER's cash flow analysis on which this review is based
RAB	Regulatory Asset Base
Regulatory Depreciation Allowance or Regulatory Depreciation	Regulatory Depreciation Allowance represents the return on the face value of an asset over time and is an allowance received by Service Providers as part of Revenue.
Regulatory Period	For the purposes of this report, the regulatory period refers to the regulatory control period comprising the five years 2014-19
Revised Proposals	Revised Proposals submitted by Service Providers to the AER in response to the Draft Decision Revenue determinations published by the AER in November 2014
RoD	Return on debt or cost of debt, being the effective rate that an entity pays on its current debt
Remaining RoE	For the purposes of this report, the remaining return on equity (RoE) is calculated as revenue less short term financial obligations and less Regulatory Depreciation, representing cash flows not attributable to the recovery of Regulatory Depreciation.
RSMBC	RSM Bird Cameron
SCS	Standard Control Services being the largest component of Service Providers' regulated revenue and costs

Term	Definition
Service Providers	NSW/ACT electricity distribution service providers. For the purposes of this report, Service Providers refers to Ausgrid, Endeavour Energy (“Endeavour”) and Essential Energy (“Essential Energy”)
Short term financial obligations	For the purposes of this report, short term financial obligations refers to each Service Provider’s forecast Opex, RoD, tax payable and equity raising costs in each regulatory year during the Regulatory Period
TCorp	New South Wales Treasury Corporation
WACC	The weighted average cost of capital (discount rate) determined by the weighted average, at market value, of the cost of all financing sources in a business enterprise’s capital structure

2. Disclaimer

Disclaimer

- 2.1 This report has been prepared for the Australian Energy Regulator ("the AER") described in the consultancy terms of reference (Appendix 1). We do not accept responsibility or liability for its use outside this purpose.
- 2.2 We disclaim all liability to any party other than the AER in respect of or in consequence of anything done, or omitted to be done, by any party in reliance, whether whole or partial, upon any information contained in this report. Any party, other than the AER, who chooses to rely, in any way, on the contents of this report, does so at their own risk. The statements and opinions in this report are given in good faith and in the belief that such statements and opinions are not false or misleading.
- 2.3 This report provides an independent review and assessment of the AER's internal regulatory cash flow analysis of insolvency risk for three electricity distribution service providers for the regulatory period 2014-19.
- 2.4 The information in this report and in any related oral presentation made by us is confidential between us and the AER and should not be disclosed in whole or in part for any purpose except with our prior written consent.
- 2.5 The review performed by RSM Bird Cameron does not constitute an audit and we have not independently verified the financial information provided to us. Accordingly, our review should not be relied on to uncover errors or irregularities (if any exist) in respect of the information used in carrying out our review.

Reliance on Information

- 2.6 The statements and opinions given in this report are given in good faith and in the belief that such statements and opinions are not false or misleading. In forming our conclusions and preparing this report, we have relied upon information supplied by the AER. A summary of information used in preparing this report is set out in Appendix 2.
- 2.7 We have not independently verified the correctness of, existence or value of any item which is in, or should be in, such information. The assumptions that we have relied on in forming our conclusions have been agreed with the AER and are set out in Section 3 of this report.

Authorisations

- 2.8 Other than for the purposes outlined above, this report should not be used for any other purpose without our written consent nor should any other party seek to rely on the opinions, advices or other information contained within this report without the prior written consent of RSM Bird Cameron ("RSMBC").

3. Background and Scope

Background

- 3.1 In November 2014, the AER published its Draft Decision Revenue determinations for the NSW/ACT electricity distribution service providers ("Service Providers"). In these decisions, the AER made substantial reductions to the service providers' revenue proposals.
- 3.2 In response, the Service Providers submitted Revised Proposals that included comments that the AER's Draft Decision Revenue would create significant financial risk for the Service Providers.
- 3.3 As part of assessing the Revised Proposals, the AER has undertaken a cash flow analysis to test whether the Service Providers would be in a position to meet their short term financial obligations in the scenario ("Scenario 1") where the service providers receive the AER's Draft Decision Revenue but are unable to make any cost reductions compared to their Revised Proposals for the regulatory period 2014-19 ("the Regulatory Period").
- 3.4 For the purposes of the cash flow analysis, the AER has only included standard control services ("SCS"), which makes up the majority of the regulated Service Providers' costs and revenue.
- 3.5 The AER has employed the building block approach to determine the Service Providers' annual revenue requirement for the Regulatory Period. The building block approach involves an assessment of annual revenue requirements based on the estimated efficient costs that the Service Providers considered are likely to incur in providing distribution network services. The building block costs primarily include:
 - a return on the RAB;

- Regulatory Depreciation Allowance (representing the return on the face value of an asset received by Service Providers over time);
- forecast capital expenditure ("Capex");
- forecast operating expenditure ("Opex");
- increments or decrements resulting from incentive schemes;
- transitional revenue as determined by the AER for the 2014-15 regulatory year; and
- the estimated cost of corporate income tax.

- 3.6 Subsequent to the Scenario 1 analysis, the AER has undertaken further cash flow analysis resulting in three further scenarios ("Scenario 2", "Scenario 3" and "Scenario 4").

Scope

- 3.7 We have performed our review as agreed with you with respect to the scope described in our proposal letter dated 18 March 2015 and the consultancy terms of reference set out in Appendix 1.
- 3.8 We have performed an independent review and assessment of the cash flow analysis of insolvency risk for Service Providers (comprising Scenarios 1, 2, 3 and 4), prepared by the AER.
- 3.9 For the purposes of this report, the Service Providers comprise Ausgrid, Endeavour Energy (Endeavour) and Essential Energy ("Essential"). The findings in this report do not extend to any other Service Provider.
- 3.10 Our review of the cash flow analysis comprised the review of the following:
 - internal staff minute on the regulatory cash flow analysis of insolvency risk for Scenario 1; and

- post-tax revenue models (“PTRMs”) on which the cash flow analysis is based. Draft Decision Revenue models, Final Indicative Decision Revenue models and Revised Proposal models (used to model each Service Provider’s revenue and short term financial obligations) have been provided for Scenarios 1, 2, 3 and 4.

3.11 The table below sets out the summary of the AER’s analysis of Scenario 1.

AER Regulatory period 2014-19 Summary of cash flow analysis (Scenario 1)	Ausgrid \$'million	Endeavour \$'million	Essential \$'million
Draft Decision Revenue	7,673	3,953	4,922
Short term financial obligations:			
Opex	(2,720)	(1,600)	(2,506)
RoD	(3,213)	(1,482)	(1,841)
Tax	(161)	(63)	(83)
Equity raising costs	(43)	(21)	(34)
Total short term financial obligations	(6,137)	(3,166)	(4,464)
Funds available after payment of short term financial obligations	1,536	787	458
Allocation of funds			
Revenue attributable to Regulatory Depreciation Allowance	(751)	(397)	(594)
Remaining RoE after short term financial obligations and Regulatory Depreciation Allowance	785	390	(136)
Average equity over 2014-19	5,368	2,476	3,076
5 year RoE	14.62%	15.75%	-4.42%

Table 1: Summary of Scenario 1

3.12 The AER set out the following conclusions based on Scenario 1 as summarised above:

- 1) all Service Providers have sufficient funds available to cover their operating, interest and tax costs;
- 2) Ausgrid and Endeavour have sufficient funds available to cover their operating, interest and tax costs, and additionally can return a positive remaining RoE after recovering Regulatory Depreciation;

- 3) Essential has sufficient funds to cover its operating, interest and tax costs, but this may require Essential to forgo a positive RoE and to use available funds from the Regulatory Depreciation Allowance;
- 4) in this scenario, it is reasonable to conclude that none of the firms would be at material risk of becoming insolvent; and
- 5) the AER is satisfied that this conclusion holds even allowing for the Service Providers’ interest costs to increase substantially.

3.13 The average equity over 2014-19 set out in Table 1 is the average level of the equity component of the RAB for each Service Provider across the five year Regulatory Period, used to estimate the 5 year RoE.

3.14 The 5 year RoE is calculated as the remaining RoE divided by the average equity over 2014-19. A higher 5 year RoE indicates a more efficient use of the equity component of the RAB.

3.15 For the purposes of this report, short term obligations comprise Opex, RoD, tax payable and equity raising costs.

3.16 As part of our independent review, we have assessed the AER’s internal cash flow analysis comprising Scenarios 1, 2, 3 and 4, having regard to the following questions and information provided by the AER:

- Having regard to the PTRMs provided (for Scenario 1), provide an assessment on whether the AER has reached appropriate conclusions as set out in paragraph 3.12 above;
- If, in your view, there is a preferable method to test the risk of insolvency, please outline the method and apply it to the scenario set out above and included in the attachments; and
- the review and assessment of further scenarios provided by the AER.

- 3.17 During the course of our work, the AER provided further internal cash flow analysis for Scenarios 2, 3 and 4 and we have therefore included Scenarios 2, 3 and 4 in our assessment of insolvency risk for service providers.
- 3.18 The scope of our review is limited to the Regulatory Period and does not include the financial position of the Service Providers prior to the Regulatory Period or the forecast cash flows after the Regulatory Period. The assumptions that underpin the AER's cash flow analysis are set out in further detail below.

General Assumptions

- 3.19 As set out in paragraph 3.4, the AER has undertaken the cash flow analysis based only on SCS which comprise the largest component of each service provider's regulated revenue and costs.
- 3.20 All revenue and short term financial obligations have been assessed for the Regulatory Period.
- 3.21 We have not considered the actual financial performance or position of the Service Providers or their current funding arrangements, including the existence of any debt covenants.
- 3.22 Whilst the Service Providers are State-regulated corporations with all funding backed by the NSW State Government, we have been requested to have regard for a market-based approach if the Service Providers were required to act as typical non-regulated private corporations raising equity from third party external investors.
- 3.23 The summary of revenue and short term financial obligation items for each service provider comprises the sum of revenue and short term financial obligations in nominal terms for the five-year Regulatory Period.

General assumptions (cont.)

3.24 The table below sets out a summary of material general assumptions used in each of the four scenarios.

Regulatory period 2014-19 Summary of general assumptions	Scenario 1	Scenario 2	Scenario 3	Scenario 4
<i>Revenue assumptions:</i>				
Revenue	Draft Decision Revenue published in November 2014	Final Indicative Decision Revenue assessed by the AER with regard to the Revised Proposals submitted by the service providers in response to the Draft Decision Revenue determinations published in November 2014		
RoD utilised in assessing revenue building blocks	Nominal cost of debt of 6.51% per annum for each Service Provider	Nominal cost of debt per annum for each Service Provider as follows: 2014-15: 6.51% 2015-16: 6.40% 2016-17: 6.28% 2017-18: 6.17% 2018-19: 6.06%		
Return on equity utilised in assessing revenue building blocks	Nominal return on equity of 8.10% per annum for each Service Provider, resulting in a nominal WACC of 7.15% per annum over the regulatory period	Nominal return on equity of 7.10% per annum for each Service Provider resulting in a nominal WACC per annum for the Service Providers as follows: 2014-15: 6.75% 2015-16: 6.68% 2016-17: 6.61% 2017-18: 6.54% 2018-19: 6.48%		
Inflation for revenue determinations	Forecast inflation is assumed to be 2.50% per annum	Forecast inflation is assumed to be 2.38% per annum		
<i>Cost assumptions:</i>				
Regulatory Depreciation Allowance	Based on Revised Proposals submitted by each Service Provider. Regulatory Depreciation Allowances represent the return on face value of an asset over time and is an allowance received by the Service Providers as part of Revenue. Revenue attributable to the Regulatory Depreciation Allowance can be used to fund short term financial obligations as Service Providers typically roll forward their debt portfolios, although the AER considers that it would not be advisable to do so over a long term period			
Opex	Based on Revised Proposals submitted by each Service Provider. However, Scenario 2 includes minor amendments made in the assessed forecast Opex for Endeavour and Essential primarily in relation to revisions made for forecast debt raising costs and prior year adjustments.	Modelled to include a cumulative 10% per annum reduction in the difference between Opex costs assessed by the AER and the Service Providers' Revised Proposals (50% efficiency gain in year 5)	Modelled to include a cumulative 20% per annum reduction in the difference between Opex costs assessed by the AER and the Service Providers' Revised Proposals (100% efficiency gain in year 5)	

Regulatory period 2014-19 Summary of general assumptions	Scenario 1	Scenario 2	Scenario 3	Scenario 4
<i>Cost assumptions:</i>				
RoD utilised in assessing interest costs	Nominal cost of debt of 7.98% per annum for each Service Provider	Nominal cost of debt per annum for each Service Provider as follows: 2014-15: 7.98% 2015-16: 7.72% 2016-17: 7.46% 2017-18: 7.20% 2018-19: 6.94%		
Funding of forecast capex requirements	Funded through a combination of debt (60%) and equity raising (40%). It has also been assumed that all equity must be raised externally as no cash flows are available for reinvestment. External raising costs are assumed to be 3% of equity raised			
Short term financial obligations	The AER has utilised the short term financial obligations to comprise Opex, RoD (interest costs), tax payable and equity raising costs in each regulatory year during the regulatory period			
Tax payable	Taxable income is calculated using the Draft or Final Indicative Decision Revenue (where relevant) less Revised Proposals cost base comprising Opex, tax depreciation, and RoD (interest costs) The tax rate is assumed to be 30% per annum over the Regulatory Period			
Inflation for for short term financial obligations	Forecast inflation is assumed to be 2.50% per annum			

Table 2: Summary of other material assumptions

3.25 We have not been requested to assess the reasonableness of the assumptions set out above.

3.26 Our detailed analysis on each Scenario is set out in section 5 of this report.

4. Executive Summary

Review of Scenarios

- 4.1 This executive summary should be read in conjunction with the detail contained in the following sections of this report.
- 4.2 As set out in Table 1 above, the AER has assessed cash flows for each Service Provider excluding Regulatory Depreciation Allowance to assess if a Service Provider will be required to use Regulatory Depreciation to fund operating cash flows over the Regulatory Period. We have therefore excluded Regulatory Depreciation in our assessment of forecast cash flows of the Service Providers under each Scenario.
- 4.3 Consistent with the AER's assessment, we consider that Service Providers will not be at material risk of insolvency if Service Providers are able to generate positive operating cash flows during the Regulatory Period while utilising Regulatory Depreciation Allowances.
- 4.4 We have assessed operating cash flows to comprise Revenue (adjusted to exclude Regulatory Depreciation), less Opex, RoD and Tax expenses.
- 4.5 We also consider that Service Providers will not be at material risk of insolvency if a Service Provider is able to generate positive cash flows prior to raising external equity as this will allow a Service Provider to generate positive cash flows both for reinvestment purposes and dividend distributions to shareholders.
- 4.6 The assumptions that underpin each Scenario are set out in Table 2 above and the detailed assessment of each Scenario is set out in Section 5 below.

Summary of Scenarios

- 4.7 The table below sets out a summary of our assessment of each Service Provider's risk of financial insolvency subject to the assumptions set out in each Scenario.

Regulatory period 2014-19 Summary of Scenarios	Scenario 1 \$'million	Scenario 2 \$'million	Scenario 3 \$'million	Scenario 4 \$'million
Ausgrid				
Operating cash flows including Regulatory Depreciation Allowance	1,579	1,743	1,944	2,143
Operating cash flows excluding Regulatory Depreciation Allowance	828	992	1,193	1,393
Cash flows prior to external equity raising including Regulatory Depreciation Allowance	161	326	526	726
Cash flows prior to external equity raising excluding Regulatory Depreciation Allowance	(590)	(424)	(224)	(24)
Endeavour Energy				
Operating cash flows including Regulatory Depreciation Allowance	807	1,096	1,166	1,233
Operating cash flows excluding Regulatory Depreciation Allowance	410	699	769	836
Cash flows prior to external equity raising including Regulatory Depreciation Allowance	115	405	475	542
Cash flows prior to external equity raising excluding Regulatory Depreciation Allowance	(282)	8	78	145
Essential Energy				
Operating cash flows including Regulatory Depreciation Allowance	492	787	974	1,163
Operating cash flows excluding Regulatory Depreciation Allowance	(102)	195	382	571
Cash flows prior to external equity raising including Regulatory Depreciation Allowance	(630)	(335)	(147)	42
Cash flows prior to external equity raising excluding Regulatory Depreciation Allowance	(1,224)	(927)	(739)	(550)

Table 3: Summary of risk of financial insolvency for each Scenario

Ausgrid

- 4.8 As set out in the table above, Ausgrid is forecast to generate positive operating cash flows excluding Regulatory Depreciation Allowance for Scenarios 1 to 4. Ausgrid is also forecast to generate positive cash flows prior to external equity raising for Scenarios 1 to 4 in the event the Service Provider utilises portions of its Regulatory Depreciation Allowance of circa \$750 million over the Regulatory Period.
- 4.9 Based on the above, we do not consider Ausgrid to be at material risk of insolvency under Scenarios 1 to 4.

Endeavour

- 4.10 Endeavour is forecast to generate positive operating cash flows excluding Regulatory Depreciation Allowance for Scenarios 1 to 4. Endeavour is also forecast to generate positive cash flows prior to external equity raising without utilising its Regulatory Depreciation Allowance of \$397 million for Scenarios 2 to 4.
- 4.11 Based on the above, we do not consider Endeavour to be at material risk of insolvency under Scenarios 1 to 4.

Essential

- 4.12 Essential is forecast to generate positive operating cash flows excluding Regulatory Depreciation Allowance for Scenarios 2 to 4.
- 4.13 Essential is forecast to generate negative cash flows prior to external equity raising for Scenarios 1 to 3 despite utilising all its Regulatory Depreciation Allowance of circa \$592 million, but is forecast to generate positive cash flows prior to external equity raising for Scenario 4 if Essential utilises a significant portion of its Regulatory Depreciation Allowance.

- 4.14 Based on the above, we do not consider Essential to be at material risk of insolvency under Scenario 4.
- 4.15 On the basis that Essential is able to successfully raise the required equity to fund forecast capex requirements under Scenarios 1 to 3, we do not consider Essential to be at material risk of insolvency. However, our conclusion is based on the assumption that it would be feasible for Essential to raise significant levels of equity from external third party investors.
- 4.16 The Scenarios assume that over the Regulatory Period, Service Providers will be able to raise 40% of forecast capex requirements through external equity raising. However, based on the assumptions provided by the AER, we consider that Essential may experience difficulty raising equity at an acceptable price from external third party investors under Scenarios 1 to 3. 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.

Conclusion

- 4.17 Based on the above, we have not addressed Question 2 as set out in the consultancy terms of reference (refer Appendix 1) as we do not consider that the AER's analysis indicates a material risk of insolvency.

Strengths and Weaknesses of the Scenarios

4.18 Table 4 below sets out a summary of the strengths and weaknesses of each of the four Scenarios. The weaknesses identified in Table 4 have been used in our assessment of alternative methods to test the risk of insolvency.

Regulatory period 2014-19 Summary of strengths and weaknesses	Scenario 1	Scenario 2	Scenario 3	Scenario 4
Key points to each Scenario	Draft Decision Revenue	Final Indicative Decision Revenue		
	Revised Proposal cost base but with minor amendments made in Scenario 2 for the assessed forecast Opex for Endeavour and Essential	Revised Proposal cost base and modelled to include a cumulative 10% per annum reduction in the difference between opex costs assessed by the AER and the service providers' revised proposals (50% efficiency gain in year 5)	Revised Proposal cost base and modelled to include a cumulative 20% per annum reduction in the difference between opex costs assessed by the AER and the service providers' revised proposals (100% efficiency gain in year 5)	
	Consistent nominal RoD, return on equity and WACC	Consistent nonimal return on equity, and RoD updated on an annual basis		
Strength - agreed inputs for revised proposal cost base	Revised Proposal inputs are assessed by the AER and the service providers to facilitate the reasonableness and accuracy of forecast short term financial obligations			
Strength - assumptions used to forecast portfolio cost of debt	Applied a trailing average portfolio cost of debt approach of 6.51% per annum to assess Draft Decision Revenue, and 7.98% per annum to assess Revised Proposal RoD to assess material differences between the AER and the service providers' assessment of RoD	Modelled a convergence of return on debt between the AER's opening assessment of 6.51% per annum and the Service Providers' opening assessment of 7.98% per annum to demonstrate the convergence of the trailing average of RoD over 10 years in Scenarios 2 to 4		

Regulatory period 2014-19 Summary of strengths and weaknesses	Scenario 1	Scenario 2	Scenario 3	Scenario 4
Weakness - 40% of forecast capex can be funded through external equity raisings despite forecast negative cash flows after debt raising	<p>All the Scenarios assume that external equity raising is achievable in the event a Service Provider is forecast to produce year-on-year negative cash flows after debt raising. We consider that while it may be possible to raise the required external equity, we consider that a Service Provider may experience difficulty raising equity at an acceptable price from external third party investors.</p> <p>We also consider that debt providers would consider year-on-year negative cash flows after the receipt of debt funding to be a significant risk factor and 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.</p> <p>We have identified the above risk factors as whilst the Service Providers are State-regulated corporations, with all funding backed by the NSW State Government, we have been requested to have regard for a market-based approach if the Service Providers were required to act as typical non-regulated private corporations raising equity from third party external investors.</p>			
Weakness - the cash flow analysis does not consider the opening financial position of Service Providers	<p>We note that the cash flow analysis has been limited to the Service Providers' SCS and RAB for the Regulatory Period. The cash flow analysis does not include opening consolidated financial positions and assumes that no cash reserves are available at the commencement of the Regulatory Period. The cash flow analysis also assumes that there are no changes in working capital requirements over the Regulatory Period.</p> <p>As the Service Providers disclosed minimal cash reserves in their most recent audited financial statements for the year ended 30 June 2014 we consider that it is not an unreasonable assumption that no cash reserves are available at the commencement of the Regulatory Period.</p> <p>However, without an opening financial position, our review is limited to the extent that we are unable to assess if changes in working capital requirements would have a material (positive or negative) impact on the forecast cash flows in each of the Scenarios.</p>			
Weakness - lack of consideration for core debt borrowing limits from TCorp and other loan covenants	<p>The Scenarios assume that existing debt is rolled forward over the Regulatory Period.</p> <p>As stated in the most recent audited financial statements for the year ended 30 June 2014, the Service Providers' liquidity risks are managed with the availability of readily accessible standby facilities and other funding arrangements, and by investing surplus funds in marketable securities and deposits. As such, debt due for repayment within 12 months may not necessarily be repayable due to the availability of roll-over facilities and the liquidity of underlying debt instruments.</p> <p>While the above debt facilities provide mitigating risk factors for the forecast growth in debt raising, we consider that in the event a Service Provider produces year-on-year negative cash flows after debt funding is raised, this may negatively impact the Service Provider's capacity to invest surplus funds, manage its liquidity risks in the short to medium term and to fulfill any other applicable loan covenants.</p>			

Table 4: Strengths and Weaknesses of the Scenario

Alternative methods to test the risk of insolvency

4.19 Table 5 below sets out the weaknesses identified in Table 4 above together with our recommendations in our assessment of alternative methods to test the risk of insolvency.

Regulatory period 2014-19 Alternative methods to test financial insolvency	Recommendations
Weakness - 40% of forecast capex can be funded through external equity raisings despite forecast negative cash flows after debt raising	<p>The AER's conclusions in Scenario 1 were based on each Service Provider's positive cash flow position in the event that 40% of forecast capex was funded through external equity raisings. As set out in our assessment of each Scenario, we consider that each service provider should be assessed on its forecast operating cash flows, and cash flows prior to external equity raising.</p> <p>Whilst we have set our assessment based on the above cash flows, we do not consider the AER's conclusion that the Service Providers will not be at material risk of insolvency over the Regulatory Period under the Scenarios to be unreasonable. However, we recommend that the AER considers Essential's potential for financial distress over the Regulatory Period as the Service Provider is forecast to generate negative cash flows prior to external equity raising for Scenarios 1 to 3 despite utilising all its Regulatory Depreciation Allowance. On the basis that Essential is able to successfully raise the required equity to fund forecast capex requirements under Scenarios 1 to 3, we do not consider Essential to be at material risk of insolvency. However, our conclusion is based on the assumption that it would be feasible for Service Providers to raise significant levels of equity from external third party investors.</p>
Weakness - the cash flow analysis does not consider the opening financial position of Service Providers	<p>As the Service Providers disclosed minimal cash reserves in the most recent audited financial statements for the year ended 30 June 2014 we consider that it is not an unreasonable assumption that no cash reserves are available at the commencement of the Regulatory Period.</p> <p>However, as we have not been provided with opening financial positions, our review is limited to the extent that we are unable to assess if changes in working capital requirements would have a material (positive or negative) impact on the forecast cash flows in each of the Scenarios.</p> <p>We recommend that the AER consider if forecast working capital requirements for the Service Providers over the Regulatory Period will have the potential to materially impact on the forecast cash flows under Scenarios 1 to 4.</p>
Weakness - lack of consideration for core debt borrowing limits from TCorp and other loan covenants	<p>The Scenarios assume that existing debt is rolled forward over the Regulatory Period.</p> <p>As stated in the most recent audited financial statements for the year ended 30 June 2014, the Service Providers' liquidity risks are managed with the availability of readily accessible standby facilities and other funding arrangements, and by investing surplus funds in marketable securities and deposits. As such, debt due for repayment within 12 months may not necessarily be repayable due to the availability of roll-over facilities and the liquidity of underlying debt instruments.</p> <p>While the above debt facilities provide mitigating risk factors for the forecast growth in external debt raising, we consider that, in the event a service provider produces year-on-year negative cash flows after external debt funding is raised, this may negatively impact the service provider's capacity to invest surplus funds, manage its liquidity risks and to fulfill any other applicable loan covenants in the short to medium term.</p> <p>We recommend that the AER considers Essential's ability to manage its liquidity risks in the short to medium term as Essential is forecast to generate negative cash flows prior to external equity raisings over the current regulatory period for Scenarios 1 to 3.</p>

Table 5: Summary of recommendations

5. Detailed Analysis

Review of each Scenario

Scenario 1

5.1 The table below sets out the summary of the AER's analysis of Scenario 1.

AER Regulatory period 2014-19 Summary of cash flow analysis (Scenario 1)	Ausgrid \$'million	Endeavour \$'million	Essential \$'million
Draft Decision Revenue	7,673	3,953	4,922
Short term financial obligations:			
Opex	(2,720)	(1,600)	(2,506)
RoD	(3,213)	(1,482)	(1,841)
Tax	(161)	(63)	(83)
Equity raising costs	(43)	(21)	(34)
Total short term financial obligations	(6,137)	(3,166)	(4,464)
Funds available after payment of short term financial obligations	1,536	787	458
Allocation of funds			
Revenue attributable to Regulatory Depreciation Allowance	(751)	(397)	(594)
Remaining RoE after short term financial obligations and Regulatory Depreciation Allowance	785	390	(136)
Average equity over 2014-19	5,368	2,476	3,076
5 year RoE	14.62%	15.75%	-4.42%

Table 6: Summary of Scenario 1

5.2 As set out in Table 2, all the Scenarios assume that forecast capex requirements are funded through a combination of debt (60%) and external equity raising (40%). All equity must be raised externally as it is assumed that no internal cash flows are available for reinvestment. Debt raising costs are included in opex and external equity raising costs are assumed to total 3% of total equity raised.

5.3 As set out in Table 6 above, the AER has assessed cash flows for each Service Provider excluding Regulatory Depreciation Allowance to assess if a Service Provider will be required to use Regulatory Depreciation to fund operating cash flows over the Regulatory Period. We have therefore excluded Regulatory Depreciation in our assessment of forecast cash flows of the Service Providers under each Scenario.

5.4 Consistent with the AER's assessment, we consider that Service Providers will not be at material risk of insolvency if Service Providers are able to generate positive operating cash flows during the Regulatory Period while utilising Regulatory Depreciation Allowances.

5.5 We have assessed operating cash flows to comprise Revenue (adjusted to exclude Regulatory Depreciation), less Opex, RoD and Tax expenses.

5.6 We also consider that Service Providers will not be at material risk of insolvency if a Service Provider is able to generate positive cash flows prior to raising external equity as this will allow a Service Provider to generate positive cash flows both for reinvestment purposes and dividend distributions to shareholders.

Ausgrid

5.7 Table 7 below set out a summary of forecast cashflows for Ausgrid under Scenario 1.

Scenario 1 Ausgrid	2014-15 \$'million	2015-16 \$'million	2016-17 \$'million	2017-18 \$'million	2018-19 \$'million	Total \$'million
Revenue	1,893	1,392	1,427	1,462	1,499	7,673
Less Regulatory Depreciation Allowance	(133)	(152)	(174)	(145)	(147)	(751)
Less Opex	(512)	(546)	(543)	(554)	(566)	(2,720)
Less RoD	(587)	(614)	(644)	(670)	(698)	(3,213)
Less Tax	(161)	-	-	-	-	(161)
Operating cash flows excluding Regulatory Depreciation Allowance	501	80	65	93	89	828
Less Capex	(702)	(782)	(722)	(718)	(622)	(3,546)
Plus External debt raised	421	469	433	431	373	2,128
Cash flows prior to external equity raised excluding Regulatory Depreciation	220	(233)	(224)	(194)	(160)	(590)
Plus External equity raised	281	313	289	287	249	1,418
Less Equity raising costs	(8)	(9)	(9)	(9)	(7)	(43)
Cash flows after external equity raised excluding Regulatory Depreciation	493	70	56	85	81	785
Cash flows prior to external equity raised excluding Regulatory Depreciation	220	(233)	(224)	(194)	(160)	(590)
Add Regulatory Depreciation Allowance	133	152	174	145	147	751
Cash flows prior to external equity raised including Regulatory Depreciation	353	(81)	(50)	(49)	(13)	161
Plus External equity raised	281	313	289	287	249	1,418
Less Equity raising costs	(8)	(9)	(9)	(9)	(7)	(43)
Cash flows after external equity raised including Regulatory Depreciation	625	223	230	230	228	1,536

Table 7: Scenario 1 – Ausgrid forecast cash flows

5.8 Under Scenario 1, Ausgrid is forecast to achieve total positive operating cash flows of \$828 million (excluding Regulatory Depreciation), over the Regulatory Period.

5.9 Ausgrid is forecast to generate negative cash flows of \$590 million prior to external equity raising. However, including Regulatory Depreciation totalling \$751 million, Ausgrid is forecast to achieve positive cash flows of \$161 million prior to raising external equity.

5.10 Whilst Ausgrid will be able to fund its capex requirements (if it utilises a portion of its Regulatory Depreciation Allowance) under Scenario 1 for the Regulatory Period, we consider that external debt service providers would consider the negative year-on-year forecast cash flows for 2015-19 to be a risk factor in the provider's decision to extend debt funding, in particular, beyond the current Regulatory Period.

5.11 Nevertheless, on the basis of the positive operating cash flows, and positive cash flows of \$161 million prior to raising external equity (utilising a significant portion of Regulatory Depreciation) set out in Scenario 1 above, we do not consider Ausgrid to be at material risk of becoming insolvent over the Regulatory Period.

Endeavour

5.12 The table below sets out the summary of forecast cash flows for Endeavour under Scenario 1.

Scenario 1 Endeavour Energy	2014-15 \$'million	2015-16 \$'million	2016-17 \$'million	2017-18 \$'million	2018-19 \$'million	Total \$'million
Revenue	896	736	755	773	793	3,953
Less Regulatory Depreciation Allowance	(63)	(72)	(83)	(87)	(93)	(397)
Less Opex	(301)	(322)	(322)	(326)	(330)	(1,600)
Less Interest	(267)	(285)	(299)	(310)	(321)	(1,482)
Less Tax	(50)	(2)	(0.4)	(0.4)	(10)	(63)
Operating cash flows excluding Regulatory Depreciation Allowance	215	55	50	50	39	410
Less Capex	(434)	(363)	(314)	(313)	(306)	(1,730)
Plus External debt raised	261	218	188	188	184	1,038
Cash flows prior to external equity raised excluding Regulatory Depreciation	41	(90)	(75)	(75)	(83)	(282)
Plus External equity raised	174	145	126	125	122	692
Less Equity raising costs	(5)	(4)	(4)	(4)	(4)	(21)
Cash flows after external equity raised excluding Regulatory Depreciation	210	51	47	47	35	390
Cash flows prior to external equity raised excluding Regulatory Depreciation	41	(90)	(75)	(75)	(83)	(282)
Add Regulatory Depreciation Allowance	63	72	83	87	93	397
Cash flows prior to external equity raised including Regulatory Depreciation	104	(18)	7	12	10	115
Plus External equity raised	174	145	126	125	122	692
Less Equity raising costs	(5)	(4)	(4)	(4)	(4)	(21)
Cash flows after external equity raised including Regulatory Depreciation	273	123	129	133	128	787

Table 8: Scenario 1 – Endeavour forecast cash flows

5.13 Under Scenario 1, Endeavour is forecast to achieve total positive operating cash flows of \$410 million, excluding Regulatory Depreciation.

5.14 Endeavour is forecast to generate negative cash flows of \$282 million prior to external equity raising. However, including Regulatory Depreciation totalling \$397 million, Endeavour is forecast to achieve positive cash flows of \$115 million prior to raising external equity.

5.15 We note that Endeavour's overall positive cash flow position prior to external equity funding of \$115 million (including Regulatory Depreciation) is also due primarily to relatively higher levels of transitional revenue determined for 2014-15. However, on the basis that Endeavour is able to fund its operations through debt funding raised within the 60% gearing level, we do not consider Endeavour to be at material risk of becoming insolvent over the Regulatory Period under Scenario 1.

Essential

5.16 The table below sets out the summary of forecast cash flows for Essential under Scenario 1.

Scenario 1 Essential Energy	2014-15 \$'million	2015-16 \$'million	2016-17 \$'million	2017-18 \$'million	2018-19 \$'million	Total \$'million
Revenue	1,244	886	908	931	954	4,922
Less Regulatory Depreciation Allowance	(99)	(114)	(130)	(122)	(130)	(594)
Less Opex	(510)	(516)	(490)	(507)	(484)	(2,506)
Less Interest	(325)	(347)	(368)	(390)	(411)	(1,841)
Less Tax	(83)	-	-	-	-	(83)
Operating cash flows excluding Regulatory Depreciation Allowance	226	(90)	(80)	(88)	(71)	(102)
Less Capex	(551)	(570)	(574)	(561)	(549)	(2,806)
Plus External debt raised	331	342	345	337	329	1,683
Cash flows prior to external equity raised excluding Regulatory Depreciation	6	(318)	(309)	(312)	(290)	(1,224)
Plus External equity raised	220	228	230	224	220	1,122
Less Equity raising costs	(7)	(7)	(7)	(7)	(7)	(34)
Cash flows after external equity raised excluding Regulatory Depreciation	219	(97)	(87)	(94)	(77)	(136)
Cash flows prior to external equity raised excluding Regulatory Depreciation	6	(318)	(309)	(312)	(290)	(1,224)
Add Regulatory Depreciation Allowance	99	114	130	122	130	594
Cash flows prior to external equity raised including Regulatory Depreciation	104	(204)	(180)	(190)	(160)	(630)
Plus External equity raised	220	228	230	224	220	1,122
Less Equity raising costs	(7)	(7)	(7)	(7)	(7)	(34)
Cash flows after external equity raised including Regulatory Depreciation	318	17	43	28	53	458

Table 9: Scenario 1 – Essential forecast cash flows

5.17 Essential is forecast to generate total negative operating cash flows of \$102 million (excluding Regulatory Depreciation) but total positive operating cash flows of \$492 million including Regulatory Depreciation.

5.18 Essential is forecast to generate total negative cash flows of \$1.2 billion over the Regulatory Period, prior to raising external equity or total negative cash flows of \$630 million, including Regulatory Depreciation. Essential disclosed negative cash flow positions in each regulatory year, prior to external equity raisings, with the exception of 2014-15, due primarily to the higher transitional revenue determined for 2014-15.

5.19 The Scenarios assume that over the Regulatory Period, Service Providers will be able to raise 40% of forecast capex requirements through external equity raising. However, on the basis of the forecast cash flows set out in Table 9 provided by the AER, 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.

5.20 On the basis that Essential is able to successfully raise equity to fund forecast capex requirements over the Regulatory Period under Scenario 1, we do not consider Essential to be at material risk of insolvency. However, our conclusion is based on the assumption that it would be feasible for Essential to raise significant levels of equity from external third party investors.

Scenario 2

5.21 The table below sets out the summary of the AER's analysis of Scenario 2.

AER Regulatory period 2014-19 Summary of cash flow analysis (Scenario 2)	Ausgrid \$'million	Endeavour \$'million	Essential \$'million
Final Indicative Decision Revenue	7,619	4,116	5,074
Short term financial obligations:			
Opex	(2,720)	(1,598)	(2,504)
RoD	(2,994)	(1,381)	(1,714)
Tax	(162)	(41)	(69)
Equity raising costs	(43)	(21)	(34)
Total short term financial obligations	(5,919)	(3,041)	(4,321)
Funds available after payment of short term financial obligations	1,700	1,075	753
Allocation of funds			
Revenue attributable to Regulatory Depreciation Allowance	(750)	(397)	(592)
Remaining RoE after short term financial obligations and Regulatory Depreciation Allowance	950	678	161
Average equity over 2014-19	5,368	2,476	3,077
5 year RoE	17.71%	27.39%	5.24%

Table 10: Summary of Scenario 2

5.22 The primary differences between Scenario 2 and Scenario 1 comprise the following (refer Table 2 for further detail):

- the AER's assessment of Final Indicative Decision Revenue is utilised compared to the Draft Decision Revenue; and
- Scenario 2 includes RoD adjusted on an annual basis both in the calculation of the Final Indicative Decision Revenue building blocks and the forecast RoD included in short-term financial obligations.

Ausgrid

5.23 Table 11 below sets out a summary of forecast cashflows for Ausgrid under Scenario 2.

Scenario 2 Ausgrid	2014-15 \$'million	2015-16 \$'million	2016-17 \$'million	2017-18 \$'million	2018-19 \$'million	Total \$'million
Revenue	1,956	1,522	1,408	1,375	1,357	7,619
Less Regulatory Depreciation Allowance	(133)	(152)	(174)	(145)	(147)	(750)
Less Opex	(510)	(547)	(543)	(554)	(566)	(2,720)
Less Interest	(587)	(594)	(602)	(605)	(607)	(2,994)
Less Tax	(157)	(5)	-	-	-	(162)
Operating cash flows excluding Regulatory Depreciation Allowance	571	224	89	72	37	992
Less Capex	(704)	(782)	(721)	(716)	(620)	(3,542)
Plus External debt raised	422	469	432	430	372	2,125
Cash flows prior to external equity raised excluding Regulatory Depreciation	289	(89)	(200)	(215)	(210)	(424)
Plus External equity raised	281	313	288	287	248	1,417
Less Equity raising costs	(8)	(9)	(9)	(9)	(7)	(43)
Cash flows after external equity raised excluding Regulatory Depreciation	562	215	80	63	30	950
Cash flows prior to external equity raised excluding Regulatory Depreciation	289	(89)	(200)	(215)	(210)	(424)
Add Regulatory Depreciation Allowance	133	152	174	145	147	750
Cash flows prior to external equity raised including Regulatory Depreciation	422	64	(25)	(70)	(64)	326
Plus External equity raised	281	313	288	287	248	1,417
Less Equity raising costs	(8)	(9)	(9)	(9)	(7)	(43)
Cash flows after external equity raised including Regulatory Depreciation	695	367	254	208	177	1,700

Table 11: Scenario 2 – Ausgrid forecast cash flows

5.24 Under Scenario 2, Ausgrid's total Final Indicative Decision Revenue of \$7.62 billion has decreased by \$54 million compared to \$7.67 billion in Scenario 1.

- 5.25 Under Scenario 2, Ausgrid is forecast to achieve total positive operating cash flows of \$992 million over the Regulatory Period (excluding Regulatory Depreciation).
- 5.26 Ausgrid is forecast to generate negative cash flows prior to external equity raising of \$424 million. However, including Regulatory Depreciation totalling \$750 million, Ausgrid is forecast to achieve positive cash flows of \$326 million prior to raising external equity compared to \$161 million in Scenario 1.
- 5.27 Total forecast interest costs for Ausgrid totalled \$3.0 billion under Scenario 2, a decrease of \$219 million (7%) compared to \$3.2 billion in Scenario 1.
- 5.28 The increase in total positive cash flow position is due primarily to the decrease in forecast interest costs as a result of modelling forecast decreases in RoD.
- 5.29 On the basis of the above, we do not consider Ausgrid to be at material risk of becoming insolvent under Scenario 2 over the Regulatory Period.

Endeavour

- 5.30 The table below sets out a summary of forecast cash flows for Endeavour under Scenario 2.

Scenario 2 Endeavour Energy	2014-15 \$'million	2015-16 \$'million	2016-17 \$'million	2017-18 \$'million	2018-19 \$'million	Total \$'million
Revenue	949	813	794	784	775	4,116
Less Regulatory Depreciation Allowance	(63)	(72)	(83)	(87)	(93)	(397)
Less Opex	(300)	(321)	(322)	(325)	(329)	(1,598)
Less Interest	(267)	(276)	(279)	(280)	(279)	(1,381)
Less Tax	(38)	(3)	-	-	-	(41)
Operating cash flows excluding Regulatory Depreciation Allowance	281	141	110	93	74	699
Less Capex	(434)	(362)	(314)	(312)	(305)	(1,727)
Plus External debt raised	261	217	188	187	183	1,036
Cash flows prior to external equity raised excluding Regulatory Depreciation	107	(4)	(15)	(32)	(48)	8
Plus External equity raised	174	145	125	125	122	691
Less Equity raising costs	(5)	(4)	(4)	(4)	(4)	(21)
Cash flows after external equity raised excluding Regulatory Depreciation	276	136	107	89	70	678
Cash flows prior to external equity raised excluding Regulatory Depreciation	107	(4)	(15)	(32)	(48)	8
Add Regulatory Depreciation Allowance	63	72	83	87	93	397
Cash flows prior to external equity raised including Regulatory Depreciation	170	68	68	55	44	405
Plus External equity raised	174	145	125	125	122	691
Less Equity raising costs	(5)	(4)	(4)	(4)	(4)	(21)
Cash flows after external equity raised including Regulatory Depreciation	339	209	189	176	163	1,075

Table 12: Scenario 2 – Endeavour forecast cash flows

- 5.31 Under Scenario 2, Endeavour's total Final Indicative Decision Revenue of \$4.1 billion has increased by \$163 million compared to \$4.0 billion in Scenario 1.

- 5.32 Total forecast interest costs for Endeavour totalled \$1.4 billion under Scenario 2, a decrease of \$101 million (7%) compared to \$1.5 billion in Scenario 1.
- 5.33 Endeavour is forecast to achieve total operating cash flows of \$699 million over the Regulatory Period (excluding Regulatory Depreciation).
- 5.34 Endeavour is forecast to achieve total positive cash flows \$8 million over the Regulatory Period, prior to external equity raising and excluding Regulatory Depreciation. Including Regulatory Depreciation of \$397 million, Endeavour is forecast to achieve total positive cash flows of \$405 million prior to external equity raising compared to \$115 million in Scenario 1 over the Regulatory Period.
- 5.35 On the basis of the above, we do not consider Endeavour to be at material risk of becoming insolvent under Scenario 2.

Essential

- 5.36 The table below sets out a summary of forecast cash flows for Essential under Scenario 2.

Scenario 2 Essential Energy	2014-15 \$'million	2015-16 \$'million	2016-17 \$'million	2017-18 \$'million	2018-19 \$'million	Total \$'million
Revenue	1,292	920	937	954	971	5,074
Less Regulatory Depreciation Allowance	(96)	(115)	(130)	(122)	(130)	(592)
Less Opex	(510)	(516)	(489)	(506)	(483)	(2,504)
Less Interest	(325)	(336)	(345)	(352)	(357)	(1,714)
Less Tax	(69)	-	-	-	-	(69)
Operating cash flows excluding Regulatory Depreciation Allowance	292	(46)	(27)	(26)	0.3	195
Less Capex	(552)	(570)	(574)	(560)	(548)	(2,804)
Plus External debt raised	331	342	344	336	329	1,682
Cash flows prior to external equity raised excluding Regulatory Depreciation	71	(274)	(256)	(250)	(219)	(927)
Plus External equity raised	221	228	230	224	219	1,121
Less Equity raising costs	(7)	(7)	(7)	(7)	(7)	(34)
Cash flows after external equity raised excluding Regulatory Depreciation	285	(53)	(34)	(33)	(6)	161
Cash flows prior to external equity raised excluding Regulatory Depreciation	71	(274)	(256)	(250)	(219)	(927)
Add Regulatory Depreciation Allowance	96	115	130	122	130	592
Cash flows prior to external equity raised including Regulatory Depreciation	167	(159)	(127)	(128)	(88)	(335)
Plus External equity raised	221	228	230	224	219	1,121
Less Equity raising costs	(7)	(7)	(7)	(7)	(7)	(34)
Cash flows after external equity raised including Regulatory Depreciation	381	62	96	89	124	753

Table 13: Scenario 2 – Essential forecast cash flows

- 5.37 Under Scenario 2, Essential's total Final Indicative Decision Revenue of \$5.1 billion has increased by \$152 million compared to \$4.9 billion in Scenario 1.

- 5.38 Total forecast interest costs for Essential totalled \$1.7 billion under Scenario 2, a decrease of \$127 million (7%) compared to \$1.8 billion in Scenario 1.
- 5.39 Under Scenario 2, Essential disclosed total positive operating cash flows of \$195 million over the Regulatory Period, excluding Regulatory Depreciation.
- 5.40 Essential is forecast to generate total negative cash flows of \$927 million over the Regulatory Period, prior to raising external equity and excluding Regulatory Depreciation. Including Regulatory Depreciation of \$592 million, Essential is forecast to generate negative cash flows of \$335 million prior to external equity raising, compared to negative cash flows of \$630 million in Scenario 1.
- 5.41 Despite the forecast increase in Revenue and the decrease in interest costs set out in Table 13, Essential will be required to raise external equity to fund forecast capex requirements over the Regulatory Period. Consistent with Scenario 1, we consider that Essential may experience difficulty raising equity at an acceptable price from external third party investors under Scenario 2. 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.
- 5.42 On the basis that Essential is able to successfully raise equity to fund forecast capex requirements over the Regulatory Period under Scenario 2, we do not consider Essential to be at material risk of insolvency. However, our conclusion is based on the assumption that it would be feasible for Essential to raise significant levels of equity from external third party investors.

Scenario 3

- 5.43 The table below sets out the summary of the AER's analysis of Scenario 3.

AER Regulatory period 2014-19 Summary of cash flow analysis (Scenario 3)	Ausgrid \$'million	Endeavour \$'million	Essential \$'million
Final Indicative Decision Revenue	7,619	4,116	5,074
Short term financial obligations:			
Opex	(2,506)	(1,522)	(2,310)
RoD	(2,994)	(1,381)	(1,714)
Tax	(175)	(47)	(75)
Equity raising costs	(43)	(21)	(34)
Total short term financial obligations	(5,718)	(2,971)	(4,133)
Funds available after payment of short term financial obligations	1,901	1,145	941
Allocation of funds			
Revenue attributable to Regulatory Depreciation Allowance	(750)	(397)	(592)
Remaining RoE after short term financial obligations and Regulatory Depreciation Allowance	1,151	748	349
Average equity over 2014-19	5,368	2,476	3,077
5 year RoE	21.45%	30.22%	11.35%

Table 14: Summary of Scenario 3

- 5.44 Scenario 3 models a cumulative 10% per annum reduction in the difference between Opex costs assessed by the AER and the Service Providers' Revised Proposals (50% efficiency gain in year 5) (refer Table 2 for further detail).
- 5.45 Tax payable is forecast to increase in line with the increase in taxable income as a result of the efficiency gains compared to Scenario 2.

Ausgrid

5.46 Table 15 below sets out a summary of forecast cashflows for Ausgrid under Scenario 3.

Scenario 3 Ausgrid	2014-15 \$'million	2015-16 \$'million	2016-17 \$'million	2017-18 \$'million	2018-19 \$'million	Total \$'million
Revenue	1,956	1,522	1,408	1,375	1,357	7,619
Less Regulatory Depreciation Allowance	(133)	(152)	(174)	(145)	(147)	(750)
Less Opex	(496)	(515)	(502)	(496)	(496)	(2,506)
Less Interest	(587)	(594)	(602)	(605)	(607)	(2,994)
Less Tax	(161)	(14)	-	-	-	(175)
Operating cash flows excluding Regulatory Depreciation Allowance	580	246	130	130	107	1,193
Less Capex	(704)	(782)	(721)	(716)	(620)	(3,542)
Plus External debt raised	422	469	432	430	372	2,125
Cash flows prior to external equity raised excluding Regulatory Depreciation	299	(67)	(158)	(157)	(141)	(224)
Plus External equity raised	281	313	288	287	248	1,417
Less Equity raising costs	(8)	(9)	(9)	(9)	(7)	(43)
Cash flows after external equity raised excluding Regulatory Depreciation	572	237	121	121	100	1,151
Cash flows prior to external equity raised excluding Regulatory Depreciation	299	(67)	(158)	(157)	(141)	(224)
Add Regulatory Depreciation Allowance	133	152	174	145	147	750
Cash flows prior to external equity raised including Regulatory Depreciation	431	86	16	(12)	6	527
Plus External equity raised	281	313	288	287	248	1,417
Less Equity raising costs	(8)	(9)	(9)	(9)	(7)	(43)
Cash flows after external equity raised including Regulatory Depreciation	704	389	295	266	247	1,901

Table 15: Scenario 3 – Ausgrid forecast cash flows

5.47 Consistent with Scenarios 1 and 2, Ausgrid is forecast to achieve positive operating cash flows for the Regulatory Period (excluding Regulatory Depreciation under Scenario 3.

5.48 Under Scenario 3, total forecast opex decreased by \$214 million (8%) to \$2.5 billion compared to \$2.7 billion in Scenario 2.

5.49 As a result of the above forecast opex reductions, Ausgrid is forecast to generate negative cash flows prior to external equity raising of \$224 million. However, including Regulatory Depreciation totalling \$750 million, Ausgrid is forecast to achieve positive cash flows of \$526 million prior to external equity raising, compared to \$326 million and \$161 million in Scenarios 2 and 1, respectively.

5.50 On the basis of the forecast cash flows set out in Table 15, we do not consider Ausgrid to be at material risk of becoming insolvent over the Regulatory Period under Scenario 3.

Endeavour

5.51 The table below sets out a summary of forecast cash flows for Endeavour under Scenario 3.

Scenario 3 Endeavour Energy	2014-15 \$'million	2015-16 \$'million	2016-17 \$'million	2017-18 \$'million	2018-19 \$'million	Total \$'million
Revenue	949	813	794	784	775	4,116
Less Regulatory Depreciation Allowance	(63)	(72)	(83)	(87)	(93)	(397)
Less Opex	(295)	(308)	(305)	(306)	(309)	(1,522)
Less Interest	(267)	(276)	(279)	(280)	(279)	(1,381)
Less Tax	(40)	(7)	-	-	-	(47)
Operating cash flows excluding Regulatory Depreciation Allowance	285	150	127	112	94	769
Less Capex	(434)	(362)	(314)	(312)	(305)	(1,727)
Plus External debt raised	261	217	188	187	183	1,036
Cash flows prior to external equity raised excluding Regulatory Depreciation	111	5	2	(12)	(28)	78
Plus External equity raised	174	145	125	125	122	691
Less Equity raising costs	(5)	(4)	(4)	(4)	(4)	(21)
Cash flows after external equity raised excluding Regulatory Depreciation	280	146	124	109	91	748
Cash flows prior to external equity raised excluding Regulatory Depreciation	111	5	2	(12)	(28)	78
Add Regulatory Depreciation Allowance	63	72	83	87	93	397
Cash flows prior to external equity raised including Regulatory Depreciation	174	77	85	74	65	475
Plus External equity raised	174	145	125	125	122	691
Less Equity raising costs	(5)	(4)	(4)	(4)	(4)	(21)
Cash flows after external equity raised including Regulatory Depreciation	342	218	206	195	183	1,145

Table 16: Scenario 3 – Endeavour forecast cash flows

5.52 Consistent with Scenario 2, Endeavour is forecast to achieve total positive cash flows prior to external equity raising (excluding Regulatory Depreciation) under Scenario 3. Total forecast opex decreased by \$76 million (5%) to \$1.5 billion compared to \$1.6 billion in Scenario 2.

5.53 As a result of Endeavour's opex reductions by \$76 million offset by an increase in tax payable of \$6 million over the Regulatory Period, Endeavour is forecast to achieve positive cash flows prior to external equity raising totalling \$78 million. Including Regulatory Depreciation of \$397 million, Endeavour is forecast to achieve total positive cash flows of \$475 million prior to external equity raising in Scenario 3, compared to \$405 million and \$115 million in Scenarios 2 and 1, respectively.

5.54 On the basis of the above, we do not consider Endeavour to be at material risk of becoming insolvent under Scenario 3.

Essential

5.55 The table below sets out a summary of forecast cash flows for Essential under Scenario 3.

Scenario 3 Essential Energy	2014-15 \$'million	2015-16 \$'million	2016-17 \$'million	2017-18 \$'million	2018-19 \$'million	Total \$'million
Revenue	1,292	920	937	954	971	5,074
Less Regulatory Depreciation Allowance	(96)	(115)	(130)	(122)	(130)	(592)
Less Opex	(492)	(481)	(449)	(453)	(435)	(2,310)
Less Interest	(325)	(336)	(345)	(352)	(357)	(1,714)
Less Tax	(75)	-	-	-	-	(75)
Operating cash flows excluding Regulatory Depreciation Allowance	305	(11)	13	28	48	382
Less Capex	(552)	(570)	(574)	(560)	(548)	(2,804)
Plus External debt raised	331	342	344	336	329	1,682
Cash flows prior to external equity raised excluding Regulatory Depreciation	84	(239)	(217)	(197)	(171)	(739)
Plus External equity raised	221	228	230	224	219	1,121
Less Equity raising costs	(7)	(7)	(7)	(7)	(7)	(34)
Cash flows after external equity raised excluding Regulatory Depreciation	298	(18)	6	21	42	349
Cash flows prior to external equity raised excluding Regulatory Depreciation	84	(239)	(217)	(197)	(171)	(739)
Add Regulatory Depreciation Allowance	96	115	130	122	130	592
Cash flows prior to external equity raised including Regulatory Depreciation	179	(124)	(87)	(75)	(41)	(147)
Plus External equity raised	221	228	230	224	219	1,121
Less Equity raising costs	(7)	(7)	(7)	(7)	(7)	(34)
Cash flows after external equity raised including Regulatory Depreciation	393	97	136	143	172	941

Table 17: Scenario 3 – Essential forecast cash flows

5.56 Under Scenario 3, Essential disclosed total positive operating cash flows of \$382 million over the Regulatory Period, excluding Regulatory Depreciation.

5.57 Essential's total forecast opex decreased by \$194 million (8%) to \$2.3 billion compared to \$2.5 billion in Scenario 2. As a result of the opex reductions by \$194 million offset by an increase in tax payable of \$6 million over the Regulatory Period, Essential is forecast to generate negative cash flows prior to external equity raising, totalling \$739 million (excluding Regulatory Depreciation). Including Regulatory Depreciation of \$592 million, Essential is forecast to generate negative cash flows totalling \$147 million in Scenario 3, compared to negative cash flows of \$335 million and \$630 million in Scenarios 2 and 1, respectively.

5.58 Despite the forecast Opex reductions over the Regulatory Period under Scenario 3 set out in Table 17, Essential will still be required to raise equity to fund forecast capital requirements. Consistent with Scenarios 1 and 2, we consider that Essential may experience difficulty raising equity at an acceptable price from external third party investors under Scenario 3. 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.

5.59 On the basis that Essential is able to successfully raise equity to fund forecast capex requirements over the Regulatory Period under Scenario 3, we do not consider Essential to be at material risk of insolvency. However, our conclusion is based on the assumption that it would be feasible for Essential to raise significant levels of equity from external third party investors.

Scenario 4

5.60 The table below sets out the summary of the AER's analysis of Scenario 4.

AER Regulatory period 2014-19 Summary of cash flow analysis (Scenario 4)	Ausgrid \$'million	Endeavour \$'million	Essential \$'million
Final Indicative Decision Revenue	7,619	4,116	5,074
Short term financial obligations:			
Opex	(2,293)	(1,446)	(2,116)
RoD	(2,994)	(1,381)	(1,714)
Tax	(189)	(56)	(80)
Equity raising costs	(43)	(21)	(34)
Total short term financial obligations	(5,519)	(2,904)	(3,944)
Funds available after payment of short term financial obligations	2,100	1,212	1,130
Allocation of funds			
Revenue attributable to Regulatory Depreciation Allowance	(750)	(397)	(592)
Remaining RoE after short term financial obligations and Regulatory Depreciation Allowance	1,350	815	538
Average equity over 2014-19	5,368	2,476	3,077
5 year RoE	25.16%	32.93%	17.50%

Table 18: Summary of Scenario 4

5.61 Scenario 4 models a cumulative 20% per annum reduction in the difference between Opex costs assessed by the AER and the Service Providers' Revised Proposals (100% efficiency gain in year 5) (refer Table 2 for further detail).

Ausgrid

5.62 The table below sets out a summary of forecast cashflows for Ausgrid under Scenario 4.

Scenario 4 Ausgrid	2014-15 \$'million	2015-16 \$'million	2016-17 \$'million	2017-18 \$'million	2018-19 \$'million	Total \$'million
Revenue	1,956	1,522	1,408	1,375	1,357	7,619
Less Regulatory Depreciation Allowance	(133)	(152)	(174)	(145)	(147)	(750)
Less Opex	(483)	(484)	(461)	(439)	(426)	(2,293)
Less Interest	(587)	(594)	(602)	(605)	(607)	(2,994)
Less Tax	(165)	(24)	-	-	-	(189)
Operating cash flows excluding Regulatory Depreciation Allowance	590	268	171	187	177	1,393
Less Capex	(704)	(782)	(721)	(716)	(620)	(3,542)
Plus External debt raised	422	469	432	430	372	2,125
Cash flows prior to external equity raised excluding Regulatory Depreciation	308	(44)	(117)	(99)	(71)	(24)
Plus External equity raised	281	313	288	287	248	1,417
Less Equity raising costs	(8)	(9)	(9)	(9)	(7)	(43)
Cash flows after external equity raised excluding Regulatory Depreciation	581	259	162	178	170	1,350
Cash flows prior to external equity raised excluding Regulatory Depreciation	308	(44)	(117)	(99)	(71)	(24)
Add Regulatory Depreciation Allowance	133	152	174	145	147	750
Cash flows prior to external equity raised including Regulatory Depreciation	441	108	57	45	76	726
Plus External equity raised	281	313	288	287	248	1,417
Less Equity raising costs	(8)	(9)	(9)	(9)	(7)	(43)
Cash flows after external equity raised including Regulatory Depreciation	714	411	337	323	316	2,100

Table 19: Scenario 4 – Ausgrid forecast cash flows

5.63 Consistent with Scenarios 1, 2 and 3, Ausgrid is forecast to achieve positive operating cash flows for the Regulatory Period (excluding Regulatory Depreciation under Scenario 4).

5.64 Under Scenario 4, total forecast opex decreased by \$213 million (8.5%) to \$2.3 billion compared to \$2.5 billion in Scenario 3.

5.65 As a result of the above opex reductions of \$213 million, offset by the increase in tax payable of \$14 million, Ausgrid disclosed negative cash flows prior to external equity raising totalling \$24 million over the Regulatory Period (excluding Regulatory Depreciation). Including Regulatory Depreciation totalling \$750 million, Ausgrid is forecast to achieve total cash flows prior to external equity raising of \$726 million, compared to \$526 million in Scenario 3.

5.66 On the basis of the above, we do not consider Ausgrid to be at material risk of becoming insolvent under Scenario 4.

Endeavour

5.67 The table below sets out a summary of forecast cash flows for Endeavour under Scenario 4.

Scenario 4 Endeavour Energy	2014-15 \$'million	2015-16 \$'million	2016-17 \$'million	2017-18 \$'million	2018-19 \$'million	Total \$'million
Revenue	949	813	794	784	775	4,116
Less Regulatory Depreciation Allowance	(63)	(72)	(83)	(87)	(93)	(397)
Less Opex	(289)	(295)	(288)	(286)	(288)	(1,446)
Less Interest	(267)	(276)	(279)	(280)	(279)	(1,381)
Less Tax	(42)	(11)	(3)	-	(1)	(56)
Operating cash flows excluding Regulatory Depreciation Allowance	289	159	142	132	114	836
Less Capex	(434)	(362)	(314)	(312)	(305)	(1,727)
Plus External debt raised	261	217	188	187	183	1,036
Cash flows prior to external equity raised excluding Regulatory Depreciation	115	15	16	7	(8)	145
Plus External equity raised	174	145	125	125	122	691
Less Equity raising costs	(5)	(4)	(4)	(4)	(4)	(21)
Cash flows after external equity raised excluding Regulatory Depreciation	283	155	138	128	110	815
Cash flows prior to external equity raised excluding Regulatory Depreciation	115	15	16	7	(8)	145
Add Regulatory Depreciation Allowance	63	72	83	87	93	397
Cash flows prior to external equity raised including Regulatory Depreciation	178	87	99	94	85	542
Plus External equity raised	174	145	125	125	122	691
Less Equity raising costs	(5)	(4)	(4)	(4)	(4)	(21)
Cash flows after external equity raised including Regulatory Depreciation	346	227	221	215	203	1,212

Table 20: Scenario 4 – Endeavour forecast cash flows

5.68 Consistent with Scenarios 2 and 3, Endeavour also disclosed positive cash flows prior to external equity raising (excluding Regulatory Depreciation) under Scenario 4. Total forecast opex decreased by \$76 million (5%) to \$1.4 billion compared to \$1.5 billion in Scenario 3.

5.69 As a result of Endeavour's opex reductions by \$76 million offset by an increase in tax payable of \$9 million over the Regulatory Period, Endeavour disclosed positive cash flows prior to external equity raising totalling \$145 million (excluding Regulatory Depreciation). Including Regulatory Depreciation of \$397 million, Endeavour is forecast to achieve \$542 million in positive cash flows prior to external equity raising in Scenario 4, compared to \$475 million in Scenario 3.

5.70 On the basis of the above, we do not consider Endeavour to be at material risk of becoming insolvent under Scenario 4.

Essential

5.71 The table below sets out a summary of forecast cash flows for Essential under Scenario 4.

Scenario 4 Essential Energy	2014-15 \$'million	2015-16 \$'million	2016-17 \$'million	2017-18 \$'million	2018-19 \$'million	Total \$'million
Revenue	1,292	920	937	954	971	5,074
Less Regulatory Depreciation Allowance	(96)	(115)	(130)	(122)	(130)	(592)
Less Opex	(474)	(447)	(410)	(399)	(387)	(2,116)
Less Interest	(325)	(336)	(345)	(352)	(357)	(1,714)
Less Tax	(80)	-	-	-	-	(80)
Operating cash flows excluding Regulatory Depreciation Allowance	317	23	52	81	96	571
Less Capex	(552)	(570)	(574)	(560)	(548)	(2,804)
Plus External debt raised	331	342	344	336	329	1,682
Cash flows prior to external equity raised excluding Regulatory Depreciation	96	(205)	(177)	(143)	(123)	(550)
Plus External equity raised	221	228	230	224	219	1,121
Less Equity raising costs	(7)	(7)	(7)	(7)	(7)	(34)
Cash flows after external equity raised excluding Regulatory Depreciation	311	17	46	74	89	538
Cash flows prior to external equity raised excluding Regulatory Depreciation	96	(205)	(177)	(143)	(123)	(550)
Add Regulatory Depreciation Allowance	96	115	130	122	130	592
Cash flows prior to external equity raised including Regulatory Depreciation	192	(90)	(47)	(21)	7	42
Plus External equity raised	221	228	230	224	219	1,121
Less Equity raising costs	(7)	(7)	(7)	(7)	(7)	(34)
Cash flows after external equity raised including Regulatory Depreciation	406	131	175	196	220	1,130

Table 21: Scenario 4 – Essential forecast cash flows

5.72 Essential's total forecast opex decreased by \$194 million (8%) to \$2.1 billion compared to \$2.3 billion in Scenario 3. As a result of the opex reductions of \$194 million offset by an increase in tax payable of \$5 million over the Regulatory Period, Essential is forecast to generate negative cash flows, prior to external equity raising, totalling \$550 million (excluding Regulatory Depreciation).

- 5.73 Including Regulatory Depreciation of \$592 million, Essential is forecast to generate positive cash flows prior to external equity raising of \$42 million in Scenario 4, compared to negative cash flows of \$147 million, \$335 million and \$660 million in Scenarios 3, 2 and 1, respectively.
- 5.74 Despite the forecast cost reductions under Scenario 4, we consider that Essential may be exposed to the risk of financial distress over the Regulatory Period. Specifically, on the basis of the forecast cash flows set out in Table 21, Essential is forecast to generate positive cash flows prior to external equity raising only in the event that Essential utilises a significant portion of its Regulatory Depreciation Allowance.
- 5.75 Nevertheless, on the basis of the forecast positive operating cash flows and forecast positive cash flows prior to raising external equity of \$42 million (including a significant portion of Regulatory Depreciation), we do not consider Essential to be at material risk of becoming insolvent over the Regulatory Period under Scenario 4.

Summary of Scenarios

- 5.76 The table below sets out a summary of our assessment of each service provider's risk of financial insolvency subject to the assumptions set out in each Scenario.

Regulatory period 2014-19 Summary of Scenarios	Scenario 1 \$'million	Scenario 2 \$'million	Scenario 3 \$'million	Scenario 4 \$'million
Ausgrid				
Operating cash flows including Regulatory Depreciation Allowance	1,579	1,743	1,944	2,143
Operating cash flows excluding Regulatory Depreciation Allowance	828	992	1,193	1,393
Cash flows prior to external equity raising including Regulatory Depreciation Allowance	161	326	526	726
Cash flows prior to external equity raising excluding Regulatory Depreciation Allowance	(590)	(424)	(224)	(24)
Endeavour Energy				
Operating cash flows including Regulatory Depreciation Allowance	807	1,096	1,166	1,233
Operating cash flows excluding Regulatory Depreciation Allowance	410	699	769	836
Cash flows prior to external equity raising including Regulatory Depreciation Allowance	115	405	475	542
Cash flows prior to external equity raising excluding Regulatory Depreciation Allowance	(282)	8	78	145
Essential Energy				
Operating cash flows including Regulatory Depreciation Allowance	492	787	974	1,163
Operating cash flows excluding Regulatory Depreciation Allowance	(102)	195	382	571
Cash flows prior to external equity raising including Regulatory Depreciation Allowance	(630)	(335)	(147)	42
Cash flows prior to external equity raising excluding Regulatory Depreciation Allowance	(1,224)	(927)	(739)	(550)

Table 22: Summary of risk of financial insolvency for each Scenario

Ausgrid

5.77 As set out in Table 22 above, Ausgrid is forecast to generate positive operating cash flows excluding Regulatory Depreciation Allowance for Scenarios 1 to 4. Ausgrid is also forecast to generate positive cash flows prior to external equity raising for Scenarios 1 to 4 in the event the Service Provider utilises portions of its Regulatory Depreciation Allowance of circa \$750 million over the Regulatory Period.

5.78 Based on the above, we do not consider Ausgrid to be at material risk of insolvency under Scenarios 1 to 4.

Endeavour

5.79 Endeavour is forecast to generate positive operating cash flows excluding Regulatory Depreciation Allowance for Scenarios 1 to 4. Endeavour is also forecast to generate positive cash flows prior to external equity raising without utilising its Regulatory Depreciation Allowance of \$397 million for Scenarios 2 to 4.

5.80 Based on the above, we do not consider Endeavour to be at material risk of insolvency under Scenarios 1 to 4.

Essential

5.81 Essential is forecast to generate operating positive cash flows excluding Regulatory Depreciation Allowance for Scenarios 2 to 4.

5.82 Essential is forecast to generate negative cash flows prior to external equity raising for Scenarios 1 to 3 despite utilising all its Regulatory Depreciation Allowance of circa \$592 million, but is forecast to generate positive cash flows prior to external equity raising for Scenario 4 if Essential utilises a significant portion of its Regulatory Depreciation Allowance.

5.83 Based on the above, we do not consider Essential to be at material risk of insolvency under Scenario 4.

5.84 On the basis that Essential is able to successfully raise the required equity to fund forecast capex requirements under Scenarios 1 to 3, we do not consider Essential to be at material risk of insolvency. However, our conclusion is based on the assumption that it would be feasible for Essential to raise significant levels of equity from external third party investors.

5.85 The Scenarios assume that over the Regulatory Period, Service Providers will be able to raise 40% of forecast capex requirements through external equity raising. However, based on the assumptions provided by the AER, we consider that Essential may experience difficulty raising equity at an acceptable price from external third party investors under Scenarios 1 to 3. 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.

Conclusion

5.86 Based on the above, we have not addressed Question 2 as set out in the consultancy terms of reference (refer Appendix 1) as we do not consider that the AER's analysis indicates a material risk of insolvency.

Strengths and Weaknesses of the Scenarios

5.87 Table 23 below sets out a summary of the strengths and weaknesses of each of the four Scenarios. The weaknesses identified Table 23 have been used in our assessment of alternative methods to test the risk of insolvency.

Regulatory period 2014-19 Summary of strengths and weaknesses	Scenario 1	Scenario 2	Scenario 3	Scenario 4
Key points to each Scenario	Draft Decision Revenue	Final Indicative Decision Revenue		
	Revised Proposal cost base but with minor amendments made in Scenario 2 for the assessed forecast Opex for Endeavour and Essential	Revised Proposal cost base and modelled to include a cumulative 10% per annum reduction in the difference between opex costs assessed by the AER and the service providers' revised proposals (50% efficiency gain in year 5)	Revised Proposal cost base and modelled to include a cumulative 20% per annum reduction in the difference between opex costs assessed by the AER and the service providers' revised proposals (100% efficiency gain in year 5)	
	Consistent nominal RoD, return on equity and WACC	Consistent nonimal return on equity, and RoD updated on an annual basis		
	Revised Proposal inputs are assessed by the AER and the service providers to facilitate the reasonableness and accuracy of forecast short term financial obligations			
Strength - agreed inputs for revised proposal cost base				
Strength - assumptions used to forecast portfolio cost of debt	Applied a trailing average portfolio cost of debt approach of 6.51% per annum to assess Draft Decision Revenue, and 7.98% per annum to assess Revised Proposal RoD to assess material differences between the AER and the service providers' assessment of RoD	Modelled a convergence of return on debt between the AER's opening assessment of 6.51% per annum and the Service Providers' opening assessment of 7.98% per annum to demonstrate the convergence of the trailing average of RoD over 10 years in Scenarios 2 to 4		

Regulatory period 2014-19 Summary of strengths and weaknesses	Scenario 1	Scenario 2	Scenario 3	Scenario 4
Weakness - 40% of forecast capex can be funded through external equity raisings despite forecast negative cash flows after debt raising	<p>All the Scenarios assume that external equity raising is achievable in the event a Service Provider is forecast to produce year-on-year negative cash flows after debt raising. We consider that while it may be possible to raise the required external equity, we consider that a Service Provider may experience difficulty raising equity at an acceptable price from external third party investors.</p> <p>We also consider that debt providers would consider year-on-year negative cash flows after the receipt of debt funding to be a significant risk factor and 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.</p> <p>We have identified the above risk factors as whilst the Service Providers are State-regulated corporations, with all funding backed by the NSW State Government, we have been requested to have regard for a market-based approach if the Service Providers were required to act as typical non-regulated private corporations raising equity from third party external investors.</p>			
Weakness - the cash flow analysis does not consider the opening financial position of Service Providers	<p>We note that the cash flow analysis has been limited to the Service Providers' SCS and RAB for the Regulatory Period. The cash flow analysis does not include opening consolidated financial positions and assumes that no cash reserves are available at the commencement of the Regulatory Period. The cash flow analysis also assumes that there are no changes in working capital requirements over the Regulatory Period.</p> <p>As the Service Providers disclosed minimal cash reserves in their most recent audited financial statements for the year ended 30 June 2014 we consider that it is not an unreasonable assumption that no cash reserves are available at the commencement of the Regulatory Period.</p> <p>However, without an opening financial position, our review is limited to the extent that we are unable to assess if changes in working capital requirements would have a material (positive or negative) impact on the forecast cash flows in each of the Scenarios.</p>			
Weakness - lack of consideration for core debt borrowing limits from TCorp and other loan covenants	<p>The Scenarios assume that existing debt is rolled forward over the Regulatory Period.</p> <p>As stated in the most recent audited financial statements for the year ended 30 June 2014, the Service Providers' liquidity risks are managed with the availability of readily accessible standby facilities and other funding arrangements, and by investing surplus funds in marketable securities and deposits. As such, debt due for repayment within 12 months may not necessarily be repayable due to the availability of roll-over facilities and the liquidity of underlying debt instruments.</p> <p>While the above debt facilities provide mitigating risk factors for the forecast growth in debt raising, we consider that in the event a Service Provider produces year-on-year negative cash flows after debt funding is raised, this may negatively impact the Service Provider's capacity to invest surplus funds, manage its liquidity risks in the short to medium term and to fulfill any other applicable loan covenants.</p>			

Table 23: Strengths and Weaknesses of the Scenario

Alternative methods to test the risk of insolvency

5.88 Table 24 below sets out the weaknesses identified in Table 23 above together with our recommendations in our assessment of alternative methods to test the risk of insolvency.

Regulatory period 2014-19 Alternative methods to test financial insolvency	Recommendations
Weakness - 40% of forecast capex can be funded through external equity raisings despite forecast negative cash flows after debt raising	<p>The AER's conclusions in Scenario 1 were based on each Service Provider's positive cash flow position in the event that 40% of forecast capex was funded through external equity raisings. As set out in our assessment of each Scenario, we consider that each service provider should be assessed on its forecast operating cash flows, and cash flows prior to external equity raising.</p> <p>Whilst we have set our assessment based on the above cash flows, we do not consider the AER's conclusion that the Service Providers will not be at material risk of insolvency over the Regulatory Period under the Scenarios to be unreasonable. However, we recommend that the AER considers Essential's potential for financial distress over the Regulatory Period as the Service Provider is forecast to generate negative cash flows prior to external equity raising for Scenarios 1 to 3 despite utilising all its Regulatory Depreciation Allowance. On the basis that Essential is able to successfully raise the required equity to fund forecast capex requirements under Scenarios 1 to 3, we do not consider Essential to be at material risk of insolvency. However, our conclusion is based on the assumption that it would be feasible for Service Providers to raise significant levels of equity from external third party investors.</p>
Weakness - the cash flow analysis does not consider the opening financial position of Service Providers	<p>As the Service Providers disclosed minimal cash reserves in the most recent audited financial statements for the year ended 30 June 2014 we consider that it is not an unreasonable assumption that no cash reserves are available at the commencement of the Regulatory Period.</p> <p>However, as we have not been provided with opening financial positions, our review is limited to the extent that we are unable to assess if changes in working capital requirements would have a material (positive or negative) impact on the forecast cash flows in each of the Scenarios.</p> <p>We recommend that the AER consider if forecast working capital requirements for the Service Providers over the Regulatory Period will have the potential to materially impact on the forecast cash flows under Scenarios 1 to 4.</p>
Weakness - lack of consideration for core debt borrowing limits from TCorp and other loan covenants	<p>The Scenarios assume that existing debt is rolled forward over the Regulatory Period.</p> <p>As stated in the most recent audited financial statements for the year ended 30 June 2014, the Service Providers' liquidity risks are managed with the availability of readily accessible standby facilities and other funding arrangements, and by investing surplus funds in marketable securities and deposits. As such, debt due for repayment within 12 months may not necessarily be repayable due to the availability of roll-over facilities and the liquidity of underlying debt instruments.</p> <p>While the above debt facilities provide mitigating risk factors for the forecast growth in external debt raising, we consider that, in the event a service provider produces year-on-year negative cash flows after external debt funding is raised, this may negatively impact the service provider's capacity to invest surplus funds, manage its liquidity risks and to fulfill any other applicable loan covenants in the short to medium term.</p> <p>We recommend that the AER considers Essential's ability to manage its liquidity risks in the short to medium term as Essential is forecast to generate negative cash flows prior to external equity raisings over the current regulatory period for Scenarios 1 to 3.</p>

Table 24: Summary of recommendations



APPENDIX 1

Order of Services

Attachment A- Consultancy Terms of Reference

Introduction

The AER is responsible for the economic regulation of electricity networks and gas pipelines in Australia.¹ In undertaking this role the AER sets the allowed revenues or prices for these monopoly service providers over a fixed period determined in advance (usually 5 years),² in accordance with the relevant legislation.³ As part of determining the total revenues or prices that a service provider may earn, the AER applies a 'building block' framework that includes a return on capital building block, which is derived from a regulated rate of return.⁴

In November 2014, the AER published draft revenue determinations for the NSW electricity distribution service providers. In these decisions, the AER made substantial reductions to the service providers' revenue proposals. The most substantial of these changes related to:

- operating expenditure
- the rate of return—in particular the return on debt.

In response, the service providers submitted in their revised proposals that the AER's draft decision revenue allowance would create significant financial risk for the service providers.

As part of assessing this submission, AER staff have undertaken analysis to test whether the service providers are able to meet their short term financial obligations in the scenario where they receive the AER's draft decision revenue but are unable to make any cost reductions compared to their revised revenue proposals.

Background documents for the advice

The expert advice should engage with the following documents (attached):

- Staff internal minute on regulatory cash flow analysis of insolvency risk
- Post-tax revenue models on which this analysis is based. For each service provider, this will include:
 - a draft decision PTRM—setting out the AER's draft decision smoothed revenue allowance
 - a revised proposal PTRM—for reference regarding the service providers' proposed allowances
 - an adjusted revised proposal PTRM—this is to source the hybrid tax calculation explained in the staff minute.

Services Required

The AER seeks expert advice to inform its analysis of the role of financeability within the NEL/NGL. In particular, the AER requires a report setting out your views on the following questions:

Question one

Having regard to the attached regulatory models (PTRMs), please review AER staff's analysis (attached) and identify whether AER staff have reached appropriate conclusions as set out above.

In your response, please review the strengths and weaknesses of the approach used by AER staff to assess the risk of insolvency.

Question two- Contingent

Note: this question should only be undertaken in the event you find the AER's conclusions to question 1 are not reasonable and should be quoted on a contingent basis

¹ Excludes Western Australia and the Northern Territory.

² This period is known in an electricity context as a regulatory control period or in a gas context as an access arrangement period.

³ For electricity networks, this means the National Electricity Law (NEL) and National Electricity Rules (NER). For gas networks, this means the National Gas Law (NGL) and National Gas Rules (NGR).

⁴ That is, the rate of return on capital is multiplied by the regulated asset base (for electricity networks) or the capital base (gas networks) to derive the return on capital building block for a given year.

In the event you consider that the AER's staff's analysis indicates what you consider is a material risk of insolvency, please explain if, in your opinion, there would be a material risk of insolvency for any of the businesses if they acted as a typical non-regulated private corporation would if facing the risk of insolvency. This should include consideration of:

- the likely scope to cut operating and capital expenditure, including through the deferment of works, to improve free cash flows
- the ability to raise new equity capital through normal mechanisms such as rights issues and private placements
- the ability to raise new debt; and the possibility of restructure existing debt (including the deferment of repayments) in the event of default, or a material risk of default.

Question three

If, in your view, there is a preferable method to test the risk of insolvency, please outline the method and apply it to the scenario set out above and included in the attachments.

Project Deliverables

The key deliverable required is expert advice addressing the services required. However, please include in your quote a contingency for the inclusion of one further scenario. This will be in the same form as the scenario provided above.

The expert advice provided is expected to be provided via a formal publishable report.

Additional deliverables are:

- After commencement of the contract, a meeting or phone meeting with AER staff to discuss broadly whether any other information is necessary or useful to address the key questions.
- A draft report is to be provided to the AER staff for comments before the final report is produced and published.
- A presentation to the AER Board

AER staff analysis

This short section includes:

- a short background of the building block revenue model
- an explanation of how AER staff have reached the conclusions set out in the terms of reference
- explanation of how each row above was calculated, including references to the attached post tax revenue models.

The building block revenue model

We have employed the building block approach to determine the service providers' annual revenue requirement—that is, we based the annual revenue requirements on our estimated efficient costs that the service providers are likely to incur in providing distribution network services. The building block costs include:

- a return on the Regulatory Asset Base (RAB) (return on capital)
- depreciation of the RAB (return of capital)
- forecast opex
- increments or decrements resulting from incentive schemes such as the efficiency benefit sharing scheme (EBSS)

- the estimated cost of corporate income tax.

Our assessment of capex directly affects the size of the RAB and therefore, the revenue generated from the return on capital and return of capital building blocks.

AER staff's conclusions

Table 1, below, sets out the scenario analysis AER staff have undertaken to assess the risk of insolvency for the NSW electricity distribution service providers. For simplicity, this analysis is concerned only with standard control services, which makes up the majority of the regulated service providers' costs and revenue.

Table 1 Cash flow analysis

	Ausgrid	Endeavour	Essential
Draft decision revenue	7673	3953	4922
Short term financial obligations			
Opex	2720	1810	2506
RoD	3213	1482	1841
Tax **	161	63	83
Equity raising costs **	43	21	34
Total	6137	3376	4464
Funds available after payment of short term financial obligations	1536	577	458
Allocation of funds			
Revenue attributable to depreciation	751	400	613
Remaining RoE after costs and depreciation (where negative, implies depreciation revenue is being used to fund costs)	785	177	-155
Average equity over 2014-19	5368	3714	2919
5 year RoE as %	14.63%	4.77%	-5.30%
Average annual RoE (geometric average)	2.77%	0.94%	-1.08%

This scenario assumes that the service provider is able to make no cost savings compared to the forecasts in its revised proposal. Our draft decision estimates of these parameters were different to the service providers, and we expect that the above allowances are likely to be worse than the actual scenario the service provider faces.

In the terms of reference, AER staff set out the following conclusions based on the above analysis:

1. All service providers have sufficient funds available to cover their operating, interest and tax costs.
2. Ausgrid and Endeavour Energy have sufficient funds available to cover their operating, interest and tax costs, and additionally can return a positive return on equity after recovering regulatory depreciation.
3. Essential Energy has sufficient funds to cover their operating, interest and tax costs, but this may require the firms to forego a positive return on equity and to use available funds from the regulatory depreciation allowance.
4. In this scenario, it is reasonable to conclude none of the firms are at risk of insolvency.
5. We are satisfied that this conclusion holds even allowing for the service providers' interest costs to increase substantially.

Table 2 sets out the basis for these conclusions.

Table 2 *Basis for AER staff conclusions*

Conclusion	Support from figures
1	For all service providers, draft decision revenue exceeds the total row in the section 'short term costs'. Therefore, the service providers are in a position to meet all of their short term financial obligations in the 'worst case scenario'. Note: the return on debt will be updated each year to be weighted at 10 per cent based on current market rates. Therefore, an increase in debt market yields will result in an increased allowance.
2	For Ausgrid and Endeavour Energy, the row 'remaining RoE after costs + depn' is positive. Therefore, even in the 'worst case scenario', these service providers can meet their short term financial obligations, recover the forecast proportion of initial capital investment value through depreciation, and still generate a positive return on equity to return to shareholders.
3	For Essential Energy, revenue less short term costs is positive, but the remaining RoE after costs + depn is negative. Therefore, these service providers can meet their short term financial obligations and can recover some of the forecast proportion of the initial capital investment value through depreciation. However, these service providers will not generate a positive return on equity.
4	Therefore, on the basis of 1–3, we conclude that none of these service providers are at risk of insolvency in this scenario.
5	<p>The service providers have proposed to the AER that their financing practices are already consistent with the AER's trailing average cost of debt. This suggests that 10 per cent of debt is financed each year over a 10 year cycle. Therefore, in a 5 year regulatory period, this suggests that 50 per cent of the service providers' debt would need to be re-financed.</p> <p>In order to change our conclusions, the cost of debt faced by the service providers would need to increase to the point that revenue less short term costs was zero.</p> <p>For example, in Essential's circumstances, this suggests that 50 per cent of its debt portfolio (approximately \$921 million in interest costs) would have to increase in cost by \$493 million (54 per cent).</p>

Explanation of the analysis

For each row in table 1, the table 3 sets out an explanation of that row and cell references for where the row can be sourced from the attached PTRMs.

Table 3 *Explanation of analysis*

Table item	Explanation	PTRM reference
Draft decision revenue	The draft decision revenue row is based on the smoothed revenue from the AER's draft decision PTRMs. However, it is adjusted to remove the effects of the metering and ANS adjustment. This adjustment arose because metering/ANS revenue was included in the transitional revenue proposal (2014–15), but was to be excluded from year 2 onwards. As this	<p>In the (adjusted) draft decision PTRM, this is available on the X-factor tab in cells:</p> <ul style="list-style-type: none"> • Ausgrid—E44:I44 • Endeavour Energy—E44:I44 • Essential Energy—E44:I44.

	revenue does not relate to SCS, we have removed it from the cash flow analysis to be consistent with costs. We have removed the entire adjustment from the first year of smoothed revenue because that is consistent with when that revenue was recovered.	
Opex	This is the opex less carryovers from the revised revenue proposal model. We have used opex excluding carryovers, because the carryovers relate to past performance and are not a short term financial obligation.	<p>In the (adjusted) revised proposal PTRM, this is available on the X-factor tab in cells:</p> <ul style="list-style-type: none"> • Ausgrid---E13:I13 • Endeavour Energy---E13:I13 • Essential Energy---E13:I13.
RoD	These are the forecast interest costs from the service providers' revised revenue proposals.	<p>In the (adjusted) revised proposal PTRM, this is available on the analysis tab in cells:</p> <ul style="list-style-type: none"> • Ausgrid---G18:K18 • Endeavour Energy---G18:K18 • Essential Energy---G18:K18.
Tax	<p>The tax calculation is a hybrid of the draft decision and revised regulatory proposal. Also, we have used tax payable rather than the tax allowance to exclude the effects of the value of imputation credits. These credits ordinarily provide a benefit to shareholders from the payment of tax, and thus are used to reduce the tax allowance. However, in this analysis we are interested in the short term financial obligations of the company, so have therefore assumed the full tax allowance without an adjustment for imputation credits.</p> <p>We calculate the tax estimate by estimating tax based on the draft decision revenue and revised proposal tax expenses. To simply use the revised proposal would overestimate tax costs, since it would be calculating tax off the revised proposal revenue, where this scenario is based on the lower draft decision revenue. However, this revenue is offset against the revised proposal tax expenses.</p>	<p>In the (adjusted) revised proposal PTRM, this is available on the analysis tab in cells:</p> <ul style="list-style-type: none"> • Ausgrid---G42:K42 • Endeavour Energy---G42:K42 • Essential Energy---G42:K42.
Equity raising costs	This is the costs that the service providers will incur in raising equity to fund the equity component of their capex program. To be conservative, we have assumed that all equity must be financed externally. We have therefore multiplied the equity component of the capex program by 3%,	The equity component of the capex program is available by multiplying 0.4 (benchmark equity proportion) by the sum of the capex program. The capex program is available in the assets tab of (adjusted)

	which is the regulatory benchmark for external equity raising costs	revised proposal PTRMs, in cells: <ul style="list-style-type: none"> • Ausgrid—G41:K41 • Endeavour Energy—G41:K41 • Essential Energy—G41:K41
Total short term costs	This is calculated as the sum of opex, RoD and tax.	n/a
Funds available after payment of short term financial obligations	This is calculated as decision revenue less total short term costs.	n/a
Depreciation	This is the depreciation allowance from the revised regulatory proposal. In the short term, this is a free cash flow as it does not relate to an immediate financial obligation. However, it arises to return the principal value of the service providers investment over time, and therefore is distinct from the funds directly attributable to return on equity.	In the (adjusted) revised proposal PTRM, this is available on the analysis tab in cells: <ul style="list-style-type: none"> • Ausgrid—G20:K20 • Endeavour Energy—G20:K20 • Essential Energy—G20:K20.
Remaining RoE after costs and depn	This is revenue less short term costs less depreciation. It indicates the free cash flows that are not attributable to the recovery of depreciation. Where this is positive, service providers can generate a positive return on equity to distribute to shareholders without using the available funds attributable to depreciation.	n/a
Average equity component of RAB over 2014–19	This is the average level of equity for the service provider across the five year regulatory control period, used to estimate an available return on equity.	In the (adjusted) revised proposal PTRM, this is available on the analysis tab as the average of the following cells: <ul style="list-style-type: none"> • Ausgrid—G11:K11 • Endeavour Energy—G11:K11 • Essential Energy—G11:K11.
5 year ROE as %	This expresses the remaining RoE after costs and depreciation as a proportion of the average equity component of the RAB (Remaining ROE ÷ Average equity component)	n/a
Average annual ROE (geometric average)	This converts the 5 year RoE as % into a geometric average annual RoE.	This is achieved in Excel by goal-seeking a calculation cell to reach the 5 year RoE as %, by varying the average annual RoE. The calculation cells are available in the attached excel file 'Available cash flows' in row 21.

APPENDIX 2

Sources of Information

In preparing this report, RSM has relied upon the following sources of information:

- internal staff minute on the regulatory cash flow analysis of cash flow risk;
- PTRMs on which the cash flow analysis is based. Draft Decision Revenue models, Final Indicative Decision Revenue models and Revised Proposal models (used to model each Service Provider's revenue and short term financial obligations) have been provided for Scenarios 1, 2, 3 and 4;
- the AER's response to Appendix A of RSM's proposal letter comprising further detail and explanations regarding the assumptions that underpin the cash flow analysis; and
- discussions with Kevin Fincham and Esmond Smith.

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