

Mr Zaeen Khan
Senior Adviser
Australian Energy Market Commission
PO Box A2449
Sydney South NSW 1235

15 March 2013

Email: submissions@aemc.gov.au

Dear Mr Khan

DIFFERENCES BETWEEN ACTUAL AND FORECAST DEMAND IN NETWORK REGULATION

Thank you for providing SA Power Networks with the opportunity to participate in the 28 February 2013 workshop to discuss the request from the Standing Council of Energy and Resources (SCER) for advice on the merits of the Australian Energy Regulator (AER) considering the difference between actual and forecast demand when undertaking regulatory determinations.

A key aspect of the meeting was a focus on the degree of benefit-sharing that exists in the current regulatory arrangements for the impact of any capex savings flowing from a permanent reduction in demand.

SA Power Networks has developed a simplified analysis that illustrates that under the AER's current Post-Tax Revenue Model (PTRM) approach customers receive a majority of the benefits arising from any permanent reduction in capex spend arising from reduced demand.

Description of the Simplified Approach

SA Power Networks has developed a simplified model that reflects the AER's PTRM that has been used in the existing network price determinations. This simple model mimics the current arrangements. As the AER has not released details of the proposed capital expenditure benefits sharing scheme, it is not possible to model such future arrangements at this time.

The simplifications made to the PTRM include:

- Use of a real rate of return, so eliminating the need for inflation, escalation and de-escalation of likely expenditures;
- An average asset life of 50 years;
- Year 5 capex is known accurately for regulated asset base (RAB) roll forward to Year 6; and
- A 'straw man' level of demand-related capex of \$100M in any year that is able to be optimised by a network. This capex optimisation is a permanent saving, ie there has been a permanent decline in demand that has enabled these savings. The simple model assumes there is no subsequent 'catch-up' of capex, as subsequent augmentation cashflows are also deferred.

Discussion and Analysis Outcomes

A key feature of the AER's current PTRM is that a network does not receive any revenue (from return on assets and depreciation) in the year that capex is incurred. The AER allows a half-year's return on asset to be earned (to reflect the capex being incurred in the middle of the year on average) but this amount is capitalised into the RAB. It is not a revenue item. So, there is a lag until the following year when income starts to be allowed, with depreciation charged on prior year's capex and return on asset allowed on the RAB opening balance. As an example, year 5 capex does not have any revenue outcomes in that regulatory control period (RCP) for the network – it only affects the value of year 6 RAB opening balance.

The benefits to a network owner from optimising the capex spend during a RCP are from retaining the revenue stream from the forecast capex whilst not incurring all of that capex as forecast. For the purposes of the simple model, the network owner benefit is calculated as the revenue stream that arises from the capex forecast that will not be spent.

Four scenarios have been analysed. Scenario 1 assumes that the network owner is able to optimise capex down by \$100M in each of the 5 years of the RCP. The attachment shows that the real revenue stream totals \$91.6M (ie depreciation forecast of \$20.6m and return on asset of \$71.0M).

The benefit to customers is that the RAB is much lower at the start of the next RCP if the network owner has been able to optimise the capex spend down. Under Scenario 1, the current RCP capex reduction of \$100M pa (real \$'s) would translate into a starting RAB for the next RCP of \$496.5M less.

Using a net present value (NPV) calculation and a real discount rate of 7%, the benefits from reducing capex by \$100M pa for 5 years is shared 17.5% to network owners and 82.5% to customers. That is, customers are the principal beneficiary of any capex reductions able to be achieved by network owners.

The assumption that a network could save an equal amount of capex in every year is a simplistic one. For example, the RCPs of Australian networks are staggered across jurisdictions and between transmission and distribution, so the timing of any decline in demand will affect those RCPs differently. Different networks will also have different lead times to initiate and commit to capex plans – some networks may be able to be more responsive to demand changes. Further, some networks will have different spatial growth rates and/or risk exposures in some locations within their total network that provide a different opportunity (higher and lower) than that implied by the global level of demand change seen across a network.

The further three scenarios help illustrate the level of benefit sharing that the AER's current arrangements enable. The four scenarios are:

1. Scenario 1, where the network is able to save \$100M in each year of the 5 year RCP (ie \$500M saving). This is the least likely scenario of the four.
2. Scenario 2, where the network is able to save \$100M in each of the last three years of the 5 year RCP (ie a \$300M saving).
3. Scenario 3, where the network is able to save \$100M in the last year only of the 5 year RCP (ie a \$100M saving). This could be a network similar to that in scenario 2 but whose RCP started 2 years earlier (and so finishes two years earlier as well).
4. Scenario 4, where the network is able to defer \$100M of capex for two years, but must then incur that capex. This effectively saves \$200M over the RCP.

The outcomes of the four scenarios are summarised in the following table. The detailed calculations are attached in a spreadsheet.

Analysis assumes \$Real at 7% WACC with 50 year life of assets

Scenario	Capex Saved	Network Revenue Benefit	Customer Year 6 RAB Benefit	Network Share of NPV Benefits	Customer Share of NPV Benefits
1 (Years 1 to 5)	\$500M	\$92M	\$497M	17.5%	82.5%
2 (Years 3 to 5)	\$300M	\$28M	\$304M	9.1%	90.9%
3 (Year 5 only)	\$100M	\$0M	\$103M	0.0%	100.0%
4 (Years 2 & 3)	\$200M	\$46M	\$197M	20.9%	79.1%

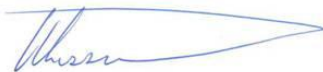
Conclusion

The model has illustrated that customers are the principal beneficiary of any savings in capex by network owners under the AER's current PTRM arrangements that underpin the existing regulatory frameworks.

If the SCER is made aware of the outcomes of this simple analysis its concerns about who benefits from lower capex as a result of demand slowing might be somewhat alleviated.

Please call James Bennett, Manager Regulation on 08 8404 5261 if you wish to discuss aspects of this submission. Alternately, please call me on 08 8404 5391 if you prefer.

Yours sincerely,



Wayne Lissner
HEAD OF REGULATION

	NPV	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Total Yrs 1-5	% benefits
RESET - Scenario 3 - Savings in Year 5 only									
RAB Op bal		0.0	0.0	0.0	0.0	0.0	103.4		
capex		0.0	0.0	0.0	0.0	100.0	0.0	100.0	
esc		0.0	0.0	0.0	0.0	3.4		3.4	
depn			0.0	0.0	0.0	0.0		0.0	
RAB cl bal		0.0	0.0	0.0	0.0	103.4			
Depn		0.0	0.0	0.0	0.0	0.0		0.0	
ROA		0.0	0.0	0.0	0.0	0.0		0.0	
INCOME ALLOWED		0.0	0.0	0.0	0.0	0.0		0.0	
NPV of BENEFITS									
Distributor	\$0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0%
Customer	\$68.9	0.0	0.0	0.0	0.0	0.0	103.4		100.0%
	\$68.9								100.0%
RESET - Scenario 4 - Savings in Years 2 and 3 only (demand growth deferred two years)									
RAB Op bal		0.0	0.0	103.4	204.8	200.7	196.5		
capex		0.0	100.0	100.0	0.0	0.0	0.0	200.0	
esc		0.0	3.4	3.4	0.0	0.0		6.9	
depn			0.0	-2.1	-4.1	-4.1		-10.3	
RAB cl bal		0.0	103.4	204.8	200.7	196.5			
Depn		0.0	0.0	2.1	4.1	4.1		10.3	
ROA		0.0	0.0	7.2	14.3	14.0		35.6	
INCOME ALLOWED		0.0	0.0	9.3	18.5	18.2		46.0	
NPV of BENEFITS									
Distributor	\$34.7	0.0	0.0	9.3	18.5	18.2	0.0		20.9%
Customer	\$131.0	0.0	0.0	0.0	0.0	0.0	196.5		79.1%
	\$165.6								100.0%