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Mr Chris Pattas
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Dear Mr Pattas

GUIDELINES, MODELS AND SCHEMES FOR ELECTRICITY DISTRIBUTION NETWORK SERVICE PROVIDERS: ISSUES PAPER

Thank you for the opportunity to comment on the Australian Energy Regulator's (**AER**) preliminary consultation paper entitled *Guidelines, Models and Schemes for Electricity Distribution Network Service Providers: Issues Paper* (**Issues Paper**). CitiPower and Powercor Australia (**the businesses**) are Victorian electricity distributors transitioning to the national regulatory framework. The guidelines, models and schemes outlined in the Issues Paper will apply to CitiPower and Powercor Australia from 1 July 2011.

Please find attached a paper outlining the businesses' initial comments on the issues raised by the Issues Paper on the development of the guidelines, models and schemes that form part of the electricity distribution regulatory framework.

Should you have any further questions in relation to this submission, please do not hesitate to contact Brent Cleeve on (03) 9683 4465.

Yours sincerely

[signed]

Richard Gross
GENERAL MANAGER REGULATION

1. Summary

- The transmission Post Tax Revenue Model (**PRTM**) is an appropriate basis for the distribution PRTM provided it is cognisant of differences between the transmission and distribution sectors.

- All capital expenditure should be able to be recognised on an 'as-incurred' basis for the purposes of calculating the return on and of capital. The hybrid approach as presented in the Issues Paper is not supported on the basis of increased costs for no demonstrable benefit.

- The PRTM should not include a forecast of future inflation based on the difference between nominal and indexed ten year Commonwealth bond yields on evidence such a calculation is biased. Forecast inflation should be a direct input into the PRTM.

- Capital contribution should be recognised in the PRTM through a net reduction in capital expenditure consistent with current practice.

- The PTRM should not incorporate intra year cash flow modelling. Further modelling intra year cash flows will increases complexity, reduce transparency and would require the introduction of a working capital allowance.

- The transmission roll forward model (**RFM**) should accommodate actual or regulatory depreciation.

- The carry forward of negative pass through amounts into subsequent regulatory periods undermines the viability of the distributor and risks customers being exposed to declining service standards. At the minimum, it will increase the regulatory uncertainty faced by a distributor raising costs and ultimately tariffs.

- A fair sharing ratio is equivalent to a 50:50 benefit sharing ratio. A five year benefit retention period, as proposed, does not achieve this.

- The effectiveness of a benefit sharing ratio should be measured in the context of any assumptions made with respect to assumed productivity factors included within the expenditure forecasts.

- To create a continuous incentive for out performance, consideration should be given to increasing the benefit sharing available to top performing distributors.

- Capital expenditure should be included as part of the efficiency benefits sharing scheme to provide a constant incentive to reduce or defer capital expenditure through a regulatory period.

- No persuasive evidence exists at this time that distribution losses are above efficient levels to warrant a distribution losses incentive scheme.

2. Post Tax Revenue Model

2.1 Consistency with the transmission regulation

The businesses agree that the transmission Post Tax Revenue Model (**PRTM**) is an appropriate basis for the Australian Energy Regulator's (**AER**) distribution PTRM. However, in developing the distribution PTRM the AER must be cognisant of the differences between the transmission and distribution sectors.

A key difference is the characteristics of the capital expenditure programmes of transmission and distribution networks. These differences increase the cost of, and diminish the benefits from, the AER's hybrid approach to recognising new assets.

The capital expenditure programmes of transmission networks can be characterised by a small number of relatively large multi year projects. Therefore, it is relatively easy and costless to track these projects on both an 'as-commissioned' and 'as-incurred' basis. In contrast, the capital programmes of distribution networks involve a large number of small short term projects, such as customer connections and small lines augmentations. Consequently, in a distribution context the AER hybrid approach would entail substantially higher administrative costs such as:

- the keeping of two sets of records for capital expenditure and the need to build up the 'as-commissioned' capital expenditure from 'as-incurred' capital expenditure[1];
- forecasting capital expenditure, ie, as required by clause 6.5.7 of the *National Electricity Rules* (**NER**) on both an 'as-incurred' and 'as-commissioned' basis; and
- for the AER in terms of verifying a distributor's forecast capital expenditure.

Furthermore, as most new distribution assets are commissioned in the year the expenditure is incurred, there is only a slight difference between the hybrid and a full 'as-incurred' approach.

To remove any uncertainty the PTRM should be changed to explicitly allow a distributor to recognise all capital expenditure on an as-incurred basis for the purposes of calculating the return on and of new assets.

A further issue with the current transmission PTRM is it specifies a potentially biased method for forecasting future inflation. That is, the PTRM calculates forecast inflation by comparing differences in yields on nominal and indexed ten year Commonwealth bonds. However, there is a growing acceptance that the current use of indexed bond yields results in a biased estimate of forecast inflation.

This issue was first raised by NERA in a report titled '*Bias in Indexed CGS Yields as a Proxy for the CAPM Risk Free Rate*'. The NERA report identified that a lack of liquidity in this market has resulted in the yields on indexed bonds being distorted by specific demand and supply conditions. Consequently, the difference between nominal and indexed bond yields should not be relied on to reflect the financial market's expectations of inflation.

[1] If capex occurs over multiple years, a DNSP will need to escalate historical expenditure to the commission date for inflation and the specific nominal WACC for the year that the expenditure occurs.

The Australian Competition and Consumer Commission sought comments from the Reserve Bank of Australia (**RBA**) on the issues raised by the NERA paper. The RBA stated:[2]

> *"To summarise our response, the Reserve Bank does not believe there are distortions in the CGS* [nominal Commonwealth Government Securities] *market and hence the CGS bond yield remains the best proxy for a risk-free rate. This is not true, however, of the indexed bond market and hence this market may no longer be providing a suitable benchmark."*

The businesses submit that inflation forecasts should be included in the PTRM as a direct input. This would allow the AER to consider a range of inflation rate forecasts and to include a 'best estimate of expected inflation' at the time of the revenue determination.

2.2 Distribution specific issues

2.2.1 Capital contributions

The businesses believe that capital contributions made by customers should be recognised in the PTRM through a reduction in net capital expenditure. This would necessitate a change in the transmission PTRM to recognise capital contributions made by customers as taxable income for the purposes of calculating compensation for the company tax building block.

The businesses would be concerned with any regulatory regime that nets capital contributions from a distributor's annual revenue requirement, as:

- it places additional burdens on future customers (for future customers to be no worse off, this approach would need to be applied in perpetuity with capital contributions, customer initiated capital expenditure and the cost of debt all being stable over time—these conditions are not unlikely to hold over time);
- it artificially deflates current tariffs below the cost of service, potentially distorting current demand by encouraging higher usage than is otherwise efficient;
- in times of high customer-initiated capital expenditure growth, the resulting reduced revenues decrease the amount of free cash available to distributors to invest in regulatory assets. This can cause distributor's debt ratio to increase, potentially affecting the businesses' cost of debt;
- requires an ex-post review of capital contributions to ensure that distributors do not have an incentive to maximise capital contributions during a regulatory period; and
- the ex-post review of capital contributions potentially generates additional tariff volatility (i.e. where capital contributions exceed (fall short of) forecast in a given access period, the capital contributions adjustment mechanism will further lower (increase) tariffs in the next period to adjust for the deemed over (under) recovery of capital contribution revenues—this despite the commensurate rise (fall) in customer-initiated capex costs—this will increase the distortion between the cost of service and the tariffs charged to customers).

[2] RBA, Letter to Joe Dimasi, 7 August 2007.

2.2.2 *Cash-flow timing*

In the businesses' opinion, it is unclear whether the timing assumptions of the transmission PTRM would result in a systematic bias in favour of distributors. It is understood that, with the exception of the timing of new assets, the AER current practice is to not take account of the intra year timing of costs and revenues.

An important repercussion of this approach is that the AER denies networks an allowance for their legitimate working capital costs. It is therefore an open question whether the current timing assumptions lead to a bias in favour of the distributor as it will depend on the specific circumstances of the distributor.

The businesses note that any assessment of the timing of a business' intra year cash flows is a complex undertaking which would require the AER to specify:

- the timing of each of the PTRM revenue building blocks, including:
  - the return on capital;
  - economic depreciation;
  - operating costs;
  - company tax;
  - dividend imputation credits;
  - revenue adjustments due to the efficiency benefit sharing scheme, service target performance and demand management incentive schemes; and
  - revenue adjustments due to the application of control mechanisms in the previous regulatory control period.
- the timing of PTRM revenues; and
- the timing of non-PTRM cash flows associated with the delivery of the regulated service, including:
  - transmission costs, ie, TUoS and connection charges;
  - embedded generation charges;
  - cross boundary network charges;
  - where applicable the timing of energy efficiency programs and d-factor payments;
  - S-factor factor, central business district security costs; and
  - any other pass through events.

The need to account for both PTRM and non-PTRM cash flows mean that the businesses have strong reservations with the suggested modifications to the PTRM contained in the Issues Paper. The suggested changes cannot fully capture a distributor's working capital requirements as it omits non-PTRM revenues. Furthermore, incorporating all intra year cash flow adjustments into the PTRM would result in a highly complex revenue model.

A highly complex PTRM has a number of significant drawbacks. Firstly, the complexity associated with accounting for multitude of different intra year timing assumptions increases the chances that modelling errors will occur.

Introducing assumptions about the intra year timing of cash flows also has the potential to diminish the public's understanding of the regulatory process. The current timing assumptions allow an interested observer to sum a distributor's expected capital and operational costs to reach its annual revenue requirement. A multitude of theoretical intra year timing assumptions will diminish the ability of the public to understand the modelling which may undermine consumer confidence that tariffs are cost reflective

A further concern is that the AER's proposed intra-year cash flow modelling is seeking to achieve a level of precision that is incompatible with the accuracy of the PTRM inputs. The businesses doubt that a number of the weighted average cost of capital parameter or expected operating cost estimates are forecast with sufficient accuracy to warrant an examination of when they occur within a given regulatory year.

3. Roll-forward model

The businesses support the use of the AER's transmission roll forward model (**RFM**) as a basis for distribution. The businesses would expect that any changes to the distribution PTRM would be consistently reflected in the distribution RFM.

The AER notes that clause S6.2.1(1)(e)(5) of the *National Electricity Rules* allows for the roll forward calculation to be based on actual or regulatory depreciation. It therefore follows that the RFM should have the flexibility to accept either approach.

It is noted that that the RFM appears to contain a small error in its calculation of the tax asset base. The AER's transmission RFM uses actual capital expenditure in the year prior to the regulatory period (ie, year *t-1*) to calculate tax depreciation during the regulatory period. In contrast the roll forward of the regulatory asset base uses expected capital expenditure in year *t-1* to calculate regulatory depreciation during the regulatory period. That is, expected capital expenditure in year *t-1* is used in the calculation of depreciation to ensure that the distributor is not rewarded (or penalised) for any difference between estimated and actual capital expenditure in year *t-1*. The businesses believe that a similar adjustment is warranted for the tax asset base.

4 Efficiency benefit sharing scheme

4.1 Similarities with the approach to transmission networks

The businesses believe that a number of the features of the transmission efficiency benefit sharing scheme (**EBSS**) should not apply to the distribution. The two features of greatest concern are:

- the transmission EBSS allows a carry forward of negative amounts into the following regulatory period; and

- the transmission EBSS fails to provide a fair sharing of the efficiency gains achieved over the regulatory period between the distributor and its customers.

Each of these issues is discussed in greater detail below.

4.1.1 Negative carry forward

A feature of the transmission EBSS is that it allows negative pass through amounts to be carried forward into the following regulatory period. The carry forward of negative pass through amounts into subsequent regulatory periods undermines the viability of the distributor and risks customer's being exposed to declining service standards.

The businesses concerns with any EBSS that allows negative carry over amounts can be summarised as follows:

- it results in the forecast revenues at a level below the estimated costs to a distributor of providing prescribed services;
- it may unduly penalise a distributor for failing to achieve the explicit regulatory efficiency factor; and
- it creates an obstacle to investing in service improvements.

Negative EBSS amounts that are carried into the following period will, all else equal, result in forecast PTRM revenues that are below the estimated efficient cost of providing the prescribed services. The AER has dismissed these concerns on the basis that negative carryover amounts combined with revealed fourth year costs provide a continuous incentive for distributors to reveal efficient costs.

The AER's arguments only hold true if operating expenditure in the next regulatory period is based on revealed costs in the fourth year. However, this does not necessarily hold as the AER must be satisfied that future operating expenditure represents efficient costs as provided for in clause 6A.6.6(c) of the NER. Consequently where costs in the forth year are unrepresentative, [3] and the AER does not recognise the higher costs in the operating expenditure benchmark, the inclusion of negative carryovers will result in future revenues falling below that reasonably required.

The consequences to a distributor, if allowed revenues are falling below that reasonably required, may be profound and impact directly on customers. In an effort to remain financially viable it would be expected the distributor will reduce expenditure on the network to maintain a commercial rate of return. As a result, service performance declines so whilst customers are receiving lower tariffs, they are also experiencing more frequent and extended outages.

[3] For example, an increase storm activity in year four would lead to an increase restoration and repair costs in that year. However, if the observed storm activity was not representative of the costs in future years then the increase in opex in year four would not be included in the opex forecast for the following period. Consequently, the negative carry over results in a "penalty" of 600 per cent of the increase in opex (ie, the cost increase in year 4 plus the negative amounts carried into the subsequent period).

Declining network performance will invoke further penalties through the service incentive scheme. Again customer tariffs will fall further, but service performance will also fall further as the network is gradually starved of investment. It is the nature of networks that significant underinvestment can not be readily rectified in a short period and it may in fact take several regulatory periods to be rectified.

Such a scenario can not be considered consistent with *National Electricity Law* objective requiring the AER to protect the *'long term interests of customers with respect to price, quality, safety, reliability and security of supply of electricity'*. In fact, it is more likely customers would prefer actions be taken to reduce further outages rather than the continuous downward spiral in prices and services.

Another issue, that has been the common practice for Australian regulators, is the incorporation of an efficiency factor explicitly in expenditure allowances. This is in addition to the implicit economy wide productivity gains associated with the use of the CPI.[4] In order to achieve a positive efficiency carry over allowance, a distributor is required not only to lower costs below their historical levels, but below the efficiency factor incorporated by the regulator.

The inclusion of an efficiency factor in the underlying expenditure forecasts means it is possible that a negative carry forward amount may arise not because the distributor has not reduced costs, but because the efficiency factor incorporated by the regulator proved excessive or too onerous. In such circumstances it would inappropriate that a distributor is punished because the efficiency factor calculated by the regulator was unreasonable.

Finally the EBSS also has a relationship with the service incentive scheme. In order for a distributor to generate a service improvement, it will generally be necessary to incur additional operating expenditure. It follows that by deciding to introduce a service performance improvement, the distributor will generally incur a negative carry forward amount.

A perfectly constructed service incentive scheme should result in the distributor providing an optimal level of service performance. That is, the rewards (penalties) of the service incentive scheme should reflect customer willingness-to-pay for incremental changes in the level of service performance. The network service provider will then continue to incur penalties resulting from exceeding the expenditure benchmark up to the point the rewards through the service incentive scheme no longer cover that penalty.

In reality there is considerable uncertainty associated with the estimates of customer's willingness-to-pay. The inclusion of negative carry over amounts increases the likelihood of sub-optimal levels of service performance being delivered. The EBSS by its nature deters service performance improvements by increasing the penalties faced by the distributor that may or may not be offset by the service incentive scheme benefits. The carry forward of negative carry over amount magnifies this risk creating a further obstacle to investment in service improvements.

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[4] The Consumer Price Index is an index of final output prices, ie, the prices of goods and services consumed. As an output price index it implicitly incorporates the economy wide productivity gains achieved from the transformation of inputs to outputs.

4.1.2 Sharing of efficiency gains

The businesses believe that EBSS should be constructed to ensure a fair sharing of revealed efficiency gains between the distributor and its customers. As such, the businesses believe a 50:50 benefit sharing ratio should be an objective of the EBSS.

It is noted the AER Final Decision on the transmission EBSS stepped away from defining its understanding of clause 6.5.8 of the NER which requires a 'fair sharing' of efficiency gains between network service providers and its customers. The businesses would encourage the AER in developing the distribution EBSS to state its understanding of a fair sharing of efficiency gains.

It is also noted that a direct consequence of adopting the transmission EBSS is that as performance of the distributor approaches frontier performance the incentive to pursue further efficiencies diminishes.

Ofwat acknowledged this issue in its deliberations for the 2005-10 water and sewerage charges determination. Ofwat concluded that a 30:70 benefit sharing ratio provided only weak incentives for frontier network service providers to strive for further efficiencies. Further, continuing with the current approach it was likely current laggard network service providers would be over rewarded whilst top performers would be under rewarded. This issue was of particular concern to Ofwat because it is improvements by the frontier network service providers benefit all customers, not just those of the specific network service provider.

Two options were considered to increase the power of incentives to frontier performers. The first was to extend the period over which the benefits of out performance are retained. The second involved the use of multipliers to escalate the rewards available to frontier performers. Ofwat decided not to extend the period over which efficiencies were retained on the basis it further delayed the return of benefits of out performance to customers and secondly, new managers within a network service provider would gain the benefits of their predecessors actions. The multiplier approach was also preferred as it provided earlier and bigger rewards within a single regulatory period.

The businesses believe that as the industry matures, the scope for large and cost effective efficiency gains will diminish. Hence, the businesses submit that there is a strong case for the AER considering the Ofwat approach to ensure the incentives for distributors to continue to pursue efficiency gains remains strong.

4.2 Including capital expenditure in the EBSS

The businesses support the inclusion of an EBSS for capital expenditure. The inclusion of a capital expenditure EBSS ensures that a distributor receives a constant incentive to reduce or defer capital expenditure through a regulatory period. Without a capital expenditure EBSS the rewards/penalties on capital expenditure diminish through the regulatory period. In fact, under the transmission PTRM there are no rewards/penalties for capital expenditure in the final year of the regulatory period.[5] This is a serious shortcoming of the transmission incentive regime, and should be corrected by the introduction of a capital expenditure EBSS.

[5] The transmission PTRM defers the return on new assets until the year after the expenditure is incurred. Furthermore the transmission PTRM defers depreciation until the year following the assets commissioning. Consequently, a network

The AER also seeks submissions on whether a capital expenditure EBSS would create an inappropriate incentives to delay capex. Efficient deferment of capital expenditure is in the long term interest of consumers as it lowers the cost of providing network services. Deferment can only have a negative consequence to consumers if it results in lower levels of network service performance. This concern has been addressed by the AER through the proposed service incentive scheme which ensures that networks have a strong incentive to maintain (and when feasible improve) network service performance.

As the regulatory framework includes a service incentive scheme the businesses submit that the deferment (or avoidance) of capital expenditure must be in the long term interest of consumers. The inclusion of an EBSS ensures that distributors have a constant incentive to identify and deliver efficient capital expenditure deferment opportunities.

5. Distribution losses incentive scheme

The businesses agree with the AER that persuasive evidence is required that distribution losses are above efficient levels before moving to create a distribution loss incentive mechanism. This issue was actively considered in a Victorian context by the Essential Services Commission as part of the 2006-10 Electricity Distribution Price Review.

The Commission concluded that:

> *"there is no evidence that distribution losses factors are at inappropriate levels, and so has not set targets for distribution losses for the 2006-10 regulatory period."* [See page 120]

The Commission's analysis was based on a report prepared by PB Power that determined the economic levels of distribution losses for Victorian distributors was 3-5 per cent for urban based distributors and up to 10 per cent for rural distributors. Both CitiPower and Powercor Australia are within this range.

Presently Victorian distributors are required to actively consider losses in making relevant capital decisions under clause 3.1(b) of the *Electricity Distribution Code*. Further these considerations are dealt with in a transparent and clear manner through the annual *Distribution Planning Reports*. Distribution losses are also included in the Essential Service Commission's annual 'health card'. These existing mechanisms appear to have operated successfully in a Victorian context and on this basis there is no evidence for the adoption of a more heavy handed approach.

It is noted that there is no nationally accepted approach to the estimation of distribution loss factors at this time. Further, the introduction of AMI across Victoria will almost certainly require a change to the Essential Service Commission endorsed methodology for calculating distribution losses. This will create issues with comparability between reported losses at least until the AMI roll out programme is complete. In addition, any calculation must be fully cognisant of any carbon trading scheme.

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service provider receives no revenues for capital expenditure that is incurred or commissioned the final year of a regulatory control period. It follows a network service provider does not face any incentive to minimise capital expenditure in the final year of a regulatory control period.

Finally, actual losses are to a large extent outside the control of the distributor. That is, ambient temperatures, system load and alike will all impact on the magnitude of losses. Penalising distributors for factors outside of their control will not improve system efficiency or result in lower line losses.