




**CitiPower, Powercor Australia and**

**SA Power Networks**

# JOINT RESPONSE TO AER ISSUES PAPER EXPENDITURE FORECAST ASSESSMENT GUIDELINES FOR ELECTRICITY DISTRIBUTION AND TRANSMISSION

**15 March 2013**

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**ATTACHMENTS**

## 1 OVERVIEW AND KEY POINTS

CitiPower, Powercor Australia and SA Power Networks (**the Businesses**) welcome the opportunity to make this submission on the AER's Issues Paper *Expenditure forecast assessment guidelines for electricity distribution and transmission* (**Issues Paper**).

The Businesses support the submission made by Electricity Networks Association.

### 1.1 Purpose of the Guideline

The Businesses consider that the primary purpose of the expenditure forecast assessment guidelines (**Guideline**) is to provide greater understanding and certainty to Distribution Network Service Providers (**DNSPs**) on:

- The process that the AER will undertake to assess forecast expenditure for the forthcoming price reviews; and
- The methods that the AER will employ to assess forecast expenditure for the forthcoming round of price reviews.

The Guideline should cover each stage of the price review process, from the Framework and Approach paper through to the Final Determination. Specifically the Guideline should:

- Explain how the AER's assessment process is consistent with its interpretation of the National Electricity Rules (**NER**) and National Electricity Objective (**NEO**);
- Explain how the expenditure assessment process and methods interact with the incentive arrangements. This requires close co-ordination between the two work streams on the expenditure guidelines and the incentive guidelines;
- Set out the specific methods the AER will employ to assess each aspect of DNSPs' forecast expenditure and indicate which methods will likely be given higher weightings;
- Not prohibit any particular benchmarking methods or variables and should allow DNSPs to propose alternative assessment methods (including those not proposed by the AER) that may better demonstrate the DNSPs' particular circumstances;
- Set out how the AER will take account of alternative methods proposed by DNSPs; and
- Explain the implications of the expenditure assessment methods on the Regulatory Information Notice (**RIN**) requirements and provide transitional arrangements for the collection and analysis of new data.

Importantly, the Guideline should primarily focus on the process and methods applicable to the forthcoming round of price reviews and should not try to prescribe a list of assessment methods that the AER would ideally like to employ for a future round of price reviews.

The AER is currently only in a position to adopt economic benchmarking and category based techniques for informative purposes and to potentially assist the AER in targeting possible areas for further investigation. If the AER would like to work towards developing more rigorous assessment methods that may be applied in the future, then it should run this as a separate work program to the development of the Guideline.

### 1.2 Separate work program for the development of economic benchmarking techniques

The development of economic benchmarking techniques should involve a thorough and iterative data collection, data analysis and model development process with consultation occurring at each stage of the process. Undertaking a separate work program is therefore particularly important because a thorough development process would require considerably more time than the AER has available between now, March 2013, and when the Guideline are required to be finalised by 30 November 2013. The AER is only required to prepare its first benchmarking report by September 2014.

The AER may unnecessarily expedite the development of economic benchmarking techniques at the risk of failing to ensure a thorough and robust process with adequate data collection, data analysis and industry consultation throughout.

Notwithstanding the above, if the AER feels obliged to include reference to a range of economic benchmarking techniques that cannot be rigorously applied today, given the absence of a robust data set and the AER's intention not to provide a specific model specification in the proposed Guideline, then the Businesses suggest that it is included as a separate section which is clearly distinguished as a forward looking work program. The forward looking work program would include only a high level indication of the direction the AER intends to move toward in the future with regards to the methods that may be employed to assess DNSPs' forecast expenditure in regulatory reviews beyond the upcoming round.

This submission is structured as follows:

- Section 1 sets out the Businesses' view of the purpose of the Guideline and proposes a separate work program for the development of economic benchmarking techniques;
- Section 2 sets out the Businesses' view of 'best practice' guideline development and discusses the first pass process;
- Section 3 discusses the use of benchmarking methods as informative tools, the appropriateness of benchmarking in the Australian context and importantly the appropriate data collection process and implications for RINs;
- Section 4 discusses the interaction between benchmarking and incentives;
- Section 5 provides a response to Attachment A of the Issues Paper; and
- Section 6 provides a response to Attachment B of the Issues Paper.

Attached to this submission are the following:

- Attachment A – The Businesses' responses to the Issues Paper questions 1 to 19;
- Attachment B – The Businesses' responses to Issues Paper questions 45 to 74;
- Attachment C – Castalia review of the role of the Guideline;
- Attachment D – PB review of the repex model;
- Attachment E – EA technology review of replacement capital expenditure;
- Attachment F – Nuttall Consulting report on capital expenditure to the AER; and
- Attachment G – SKM review of the augex model.

## 2 GUIDELINE DEVELOPMENT PROCESS

### 2.1 Best practice guideline development

As noted, the AER is seeking to use the Guideline process to develop benchmarking techniques for use sometime into the future.

The NER requires the AER to develop guidelines that "*specify the approach the AER proposes to use to assess the forecasts of operating expenditure and capital expenditure that form part of the Distribution Network Service Providers' regulatory proposals*" (clause 6.4.5(a)). If the AER focuses on developing assessment techniques of potential future application which have limited scope for application today, the AER will not fulfil its obligations under the NER and the resultant guidelines would be inconsistent with the intent of Australian Energy Market Commission (**AEMC**) in introducing the provisions, as well as the AER's stated intention of providing regulatory certainty for Network Service Providers (**NSPs**).

While the Guideline is not binding, the AER would need to justify deviations from the Guideline thus providing greater transparency, certainty and predictability in regulatory decisions.

Castalia[1] reviewed several 'best practice' guidelines and compared these with the AER's Issues Paper. On the basis of this review, Castalia recommended that the Guideline should:

- Define each assessment tool and technique that will be used and describe how it will be applied, this includes setting out the data required and the models or methods that will be employed for each tool. The purpose of this to enable the AER's analysis to be understood and replicated by stakeholders.
- Describe how the AER will use the information, including for each tool or technique, setting out its strengths and weaknesses, outlining the circumstances when it is best to be used and what weight it would be given. The purpose of this is to provide insight into the AER's decision making process and enable reasonable predictability.

It is important that the AER recognises that guidelines are evolutionary documents. Given the tight implementation timeframe, the Businesses support Castalia's recommendation that the AER develop the Guideline from the basis of the existing assessment methods employed by the AER in previous price reviews. On this basis, the Guideline should:

- Largely focus on codifying the existing assessment techniques that the AER has tried and tested and stakeholders are familiar with (for example, bottom up engineering reviews and historical trend analysis);
- Identify a small number of new techniques that the AER has developed and has determined that it will employ for the next round of regulatory reviews; and
- Set out decision making criteria that the AER will employ to determine whether and how a tool may be employed, including:
    - Identify strengths and weaknesses of the existing methods and how these methods can be improved;
    - Explain and justify any reasons for moving away from existing methods;

[1] Castalia, *Submission to the AER Expenditure Review Guidelines, Report to Victorian DNSPs*, March 2013 (Attachment C).

- Assess the costs and benefits of introducing new methods, including how the new methods improve on the existing methods;
- Identify the strengths and weakness of proposed new methods; and
- Detail the circumstances when each method (existing or new) will be used, the data and analysis required, how the methods would be applied and the weighting that would be used.

The Businesses are concerned that focus on too many new methods over a short period of time creates a risk that the Guideline fails to support the intended purpose of providing certainty to stakeholders. This is a particular concern if significant resources (of both the AER and DNSPs) are diverted away from the substantive issues and instead are tied up in the technical implementation details relating to assessment methods that may not be employed in the upcoming round of regulatory reviews.

The Businesses recommend that the AER first develop a process for assessing which methods are currently suitable for the next round of regulatory reviews, taking account of data requirements, stakeholder and AER confidence in the methods and other relevant costs and benefits.

The Businesses recommend that the AER then prioritise development and implementation of these methods. The development of additional assessment methods that could be useful in the future would therefore be placed on a longer term development and implementation work program.

### 2.2 First pass process

The Businesses support the proposition of a first pass process which would provide stakeholders early notification of areas of concern with a DNSP's expenditure forecast and, therefore, allow stakeholders to focus on providing evidence in relation to targeted areas. A first pass process should provide a cost effective mechanism for identifying categories of DNSPs' costs that would not require further review by the AER. This would reduce the scope of the full regulatory process and lower the costs incurred on all participants.

It is important however that such a process is only used informatively by the AER to identify expenditure categories that may require further analysis. It would not be appropriate for the first pass process to be used by the AER as a basis for rejecting a DNSP's proposed forecast expenditure.

A range of tools should be adopted at the first pass process to provide a high level 'reasonableness view' of DNSPs' overall expenditure forecasts. The results of the techniques should be used informatively by the AER as a starting point for a conversation with a DNSP about the level of operating and capital expenditure being incurred and proposed.

There will always be legitimate reasons as to why benchmarking techniques do not accurately reflect some DNSPs' network characteristics, actual cost drivers and cost structure. If the AER decides to investigate targeted areas after analysing the first pass results, the Businesses recommend the use of techniques including engineering reviews as their use can potentially provide a more detailed and accurate assessment compared to benchmarking techniques.

# 3 BENCHMARKING

## 3.1 Benchmarking tools should only be used informatively

As noted above, benchmarking tools are useful tools for providing a high-level 'reasonableness view' of a DNSP's overall expenditure forecast. Benchmarking tools are inherently imperfect and unable to account for all the factors driving different DNSPs' costs. Benchmarking models are sensitive to the assumptions made, the variables included and excluded and the estimation methods employed. Despite substantial academic research there remains unresolved debate regarding the appropriate methods, variables and assumptions to apply when benchmarking DNSPs. As noted by the Productivity Commission[2], ACCC and AER[3], there is no consensus among either academics or energy regulators on the appropriate methods or variables to be included in benchmarking analysis.

In addition, as noted by the Productivity Commission[4], benchmarking cannot estimate the actual inefficiency of a DNSP. It can only show the difference between actual costs and those predicted by the model. The model may fail to predict actual costs due to missing variables, data errors, incorrect estimation methods and inability to recognise uncontrollable factors.

While DNSPs should be given the opportunity to identify and explain uncontrollable factors that influence differences in expenditure across DNSPs, the AER should not push the onus of proof onto DNSPs to provide evidence demonstrating these differences. The NEL states that the AER must have has access to the information required to assess whether the benchmarks it applies are reasonable comparators and capable of producing robust results. Not only is it not permissible, it is not appropriate for the AER to seek to shift the onus to DNSPs. The AER is the party best placed to ensure that it obtains the required information, including through the use of its compulsory information gathering powers.

In conclusion, the Businesses consider that the imperfections and sensitivities of benchmarking models mean that it would not be appropriate for the AER to apply benchmarking outcomes in a deterministic manner.

## 3.2 Benchmarking in the Australian context

The Businesses understand that the AER has researched the application of benchmarking methods by other OECD energy sector regulators, some of which have applied the results of benchmarking models in a deterministic manner. The Businesses consider, however, that deterministic application of benchmarking would not be appropriate in the Australian context.

Australia has a relatively small number of DNSPs, many of which have significantly different operational and environmental characteristics and different jurisdictional regulatory obligations. The extent of diversity among Australian DNSPs is in stark contrast to jurisdictions such as the UK and Netherlands where the operating environments of DNSPs are more comparable.

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[2] Productivity Commission Draft Report, *Electricity Network Regulatory Frameworks*, October 2012, Chapter 4, pages 148 and 151.

[3] ACCC/AER Working Paper 6, *Benchmarking Opex and Capex in Energy Networks*, May 2012, pages 12 and 136.

[4] Productivity Commission Draft Report, *Electricity Network Regulatory Frameworks*, October 2012, Chapter 4, page 172.

This is highlighted by a report, referenced by the ACCC and AER[5], and prepared by First Quartile Consulting for the Canadian utility regulators association, CAMPUT:

> *'…the UK has a limited number of very large utilities, all of which were originally built using the same system design standards. There are no significant differences in system configuration. Further, they are all subject to essentially the same weather patterns, with the exception of London Electric, they all have similar customer density, and they all operate under exactly the same regulatory regime. All of these factors make the U.K. a very easy market to apply uniform benchmarks against, without having to factor in the very different demographic circumstances...*[6]

Given the diversity of Australian DNSPs, the Businesses do not believe that the AER, even with the best endeavours, could ever develop a single model using network benchmarking that could fully take account of every factor affecting the costs of each and every Australian DNSP. On this basis, benchmarking models should only be used informatively to supplement engineering reviews and bottom-up analysis that can account for the inherent and uncontrollable differences between DNSPs' costs.

### 3.3 Benchmarking data and models must be audited, transparent and replicable

The primary principle for any benchmarking to be undertaken by the AER should be that the data set and methodologies are audited, transparent and replicable. Access to the full data sets and the different models considered and applied by the AER are essential so that DNSPs are able to:

- Confirm the quality of the data;
- Test the models and run the models internally;
- Identify why their circumstances are different from the model assumptions; and
- Propose alternative models or assumptions that better explain their circumstances.

The importance of ensuring that the transparency of the data and models applied by the AER is highlighted by the Businesses' experiences regarding vegetation management costs as discussed in Box 1 below. The AER must share the information and data collected and the detailed specification of the models used in order for benchmarking to be employed by the AER in its assessment of forecast expenditure. The AER has both a common law duty to afford procedural fairness and an obligation under the NEL to ensure the DNSP to which a determination applies is informed of material issues under consideration by the AER to give an opportunity to make submissions in respect of the AER's determination (s16(1)(b) of the NEL).

Data collected from DNSPs and applied in any benchmarking analysis needs to be consistent across DNSPs and across time, and must be of high quality and absent of errors. The Productivity Commission[7] and AEMC[8] have both raised the issue that the AER does not currently have a robust and consistent data set to undertake economic benchmarking.

It will take a number of years before the AER has a sufficiently robust data set available that can be used for benchmarking, in particular top-down economic benchmarking techniques.

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[5] ACCC/AER Working Paper 6, *Benchmarking Opex and Capex in Energy Networks*, May 2012, page 150.

[6] First Quartile Consulting LLC and Elenchus Research Associates, *CAMPUT Benchmarking for Regulatory Purposes,* April 2010, p. 28.

[7] Productivity Commission Draft Report, *Electricity Network Regulatory Frameworks*, October 2012, Chapter 4, pages 165-166.

[8] AEMC, *Review into the use of total factor productivity for the determination of prices and revenues,* June 2011, page ii.

### 3.4 RIN requirements

In respect of the RIN, the AER must have regard to the likely costs that may be incurred by an efficient DNSP in complying with the RIN (s28F(2) of the NEL). Where the likely costs associated with the required information collection and storage do not outweigh the likely benefits flowing from the provision of that information to the AER, requiring the information will not promote the NEO.

A case in point is the AER's suggestion that it may require DNSPs to apply new information requirements retrospectively.[9] This type of 'backcasting' would be extremely costly for DNSPs and would not likely result in a consistent data set the AER requires. In many cases data cannot be retrospectively extracted and therefore DNSPs would be effectively forced to apply crude assumptions and rough approximations. Such a process would undermine the integrity of the data and undermine the credibility of any benchmarking models applying that data.

All information provided to the AER must be robust. Even information provided on a more informal basis that does not require formal sign off would still need to be fully reconcilable with information produced in response to regulatory processes. In the absence of such a requirement, there is a severe risk that the AER may inaccurately assess the Businesses' efficient costs based on data collected from other DNSPs which may be incorrect due to a lack of rigorous data collation.

In determining what data is to be collected, the following should be assessed:

- The current availability of the data;
- The additional costs to collect new data;
- Whether the data can be collected reliably and accurately or whether it must be derived; and
- The alignment with the data that DNSPs use to manage and drive efficiencies.

The Businesses encourage the AER to use its best endeavours to use one information request, the annual RIN, to gather all the information that it requires to populate its models and undertake its analysis for applying the assessment methods set out in the Guideline. The AER should also provide adequate time for DNSPs to respond to RINs, particularly when requesting new data that may not already be collected or presented in the form the AER requests. All information collected by the AER for the purpose of populating models that compare DNSPs must be collected on a consistent basis across all DNSPs.

Finally, the Businesses strongly encourage the AER to make its models available well in advance of DNSPs submitting their regulatory proposals. This is important for enabling DNSPs to reconcile any differences between the model outputs and the DNSP's own forecasts. Early provision of the model outputs would aid discussions between DNSPs and the AER and facilitate the review process.

[9] AER, *Expenditure forecast assessment guidelines for electricity distribution and transmission*, Issues paper December 2012, page 42.

**Box 1. Vegetation Management Case**

CitiPower and Powercor Australia's (**the Businesses**) vegetation management case demonstrated the importance of ensuring the AER's benchmarking approach in its assessment of forecast expenditure is transparent and replicable.

On 29 October 2010, the AER issued its *Victorian electricity distribution network service providers: Distribution determination 2011 to 2015 Final decision* (**Final Determination**) which determines the Businesses' annual revenue requirement for each year of the 2011 to 2015 regulatory control period.

In its Final Determination, the AER did not include the total amount of the Businesses' proposed 'vegetation management step change'. This proposed 'vegetation management step change' related to the changed regulatory obligation associated with the termination of the *Electricity Safety (Electric Regulations 2005* (**2005 Regulations**) and the commencement of the 2010 Regulations.

The AER had concluded that the 'vegetation management step change' proposed by the other Victorian DNSPs (United Energy, Jemena and SP AusNet), in contrast to the Businesses, reflected efficient expenditure for the purposes of complying with the 2010 Regulations. As a result, the AER substituted the Businesses' unit costs with the other Victorian DNSP's unit costs.

With the release of the Final Determination, the Businesses were not in a position to understand how the AER came to its findings and whether or not the AER could make valid 'like with like' comparisons of the Victorian DNSPs' vegetation management programs for the purposes of benchmarking. The inability to understand the AER's findings were due to the fact that the other Victorian DNSPs had provided their unit costs information and assumptions underlying the forecast costs on a confidential basis.

On 19 November 2010, the Businesses applied to the Australian Competition Tribunal (**ACT**) for leave to apply for review of the regulatory decision of the AER.

The ACT remitted the Final Determination to the AER for reconsideration of the Businesses' vegetation management claims in accordance with the NER.[10] The ACT ruled that the AER's benchmarking of the unit costs of vegetation clearance around overhead wires provided reasonable grounds for dissatisfaction with the forecasts made by the Businesses. On the other hand, the ACT concluded:

'*the assessment made by Nuttall Consulting failed to pay proper regard to the differences between Powercor's network and those of the other DNSPs and failed to take proper account of the differences between the work programs which had been put in place by Powercor, in particular, and those which the other DNSPs proposed to undertake. After all, the work programs which Powercor had put in place had been assessed as reasonable by ESV, at the behest of the AER'.*

During the remittal process, the Businesses were able to access information the AER relied on for the purposes of making its determination. Given the greater level of understanding of how the AER came to its findings, the Businesses were able to make the following conclusions:

- The unit rates of the other Victorian DNSPs used by the AER do not reflect the characteristics of CitiPower's and Powercor Australia's networks relevant to vegetation management costing. Each of the Victorian DNSPs manages a distribution network in a different part of Victoria. Even in respect of the two largest regional networks (those of Powercor Australia and SP AusNet), there are significant differences. For example, Powercor Australia's network supplies electricity to customers in 146,000km of Victoria, while SP AusNet supplies electricity to customers in only 80,000km. While the SP AusNet network is about 41,000 route kilometres carried on approximately 379,104 poles, the Powercor Australia distribution network is almost double that size, at about 82,653 circuit length kilometres on about 528,000 poles.[11]

[10] Application by United Energy Distribution Pty Limited {2012} ACompT1.

[11] Applications under s71B(1) of the National Electricity Law for a review of distribution determinations made by the Australian Energy Regulator in relation to CitiPower Pty and Powercor Australia Limited pursuant to clause 6.11.1 of the National

- The unit rates of other DNSPs were premised on different assumptions regarding the work program for compliance. Energy Safety Victoria (**ESV**) approved the Businesses' work program in September 2010.[12] The Businesses' work program is based on a 3 year cyclic inspection and cutting program, with mid cycle maintenance (inspection and cutting) as required. The deeper cut required for a 3 year cycle results in a higher unit cost, however, given a 3 year cycle only requires VEMCO (the Businesses' vegetation management service provider) to attend the tree once every 3 years, the total costs over the 2011-15 year period is lower compared to an annual cycle.
- Any comparison of unit rates would need to consider average span lengths, density of vegetation, growth conditions, the species and maturity of vegetation, travel costs, site access issues, clean up requirements, sensitivity of owner/occupiers of land subject to pruning and the incidence of service lines crossing property boundaries.[13]

The Businesses concluded that to make relevant comparisons, and draw the inferences the AER was seeking to make, would require it to take account of each of these factors.

The AER found that the Businesses' Remittal Proposal reasonably reflected the NER operating expenditure criteria. As a consequence, the AER amended the Businesses' Distribution Determination 2011-15.

In conclusion, if the AER had ensured that its vegetation benchmarking approach was transparent and replicable, the Businesses would have resolved the issue with the AER prior to the Final Determination rather than having to settle the matter through the appeal process.

# 4 INTERACTION BETWEEN BENCHMARKING AND INCENTIVES

The AER's Issues Paper indicates that the benchmark assessment techniques may supplant or complement the existing incentive arrangements. The Businesses consider that the Guideline must clearly explain how the expenditure assessment methods will interact with incentive schemes which are core to the regulatory framework.

## 4.1 Interaction with EBSS

The Businesses consider that the Efficiency Benefit Sharing Scheme (**EBSS**) creates a strong incentive for profit maximising DNSPs to pursue cost efficiencies. In previous price reviews the AER has noted that, because of the incentive regime, it is able to rely on the DNSPs' revealed costs to set the efficient base year operating costs for the forthcoming regulatory period.

> *'The AER considers that given the incentives to minimise costs in the regulatory regime, the revealed costs of a DNSP are likely to be a reasonable approximation of efficient costs in the circumstances of that DNSP for the scope of work undertaken.'*[14]

The combination of benchmarking and the revealed cost methodology for opex do not sit comfortably together. The revealed cost approach is based on the presumption that DNSPs are sufficiently incentivised to reveal their efficient level of costs through the period.

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Electricity Rules, *Confidential Outline of Joint Submission on Vegetation Management Step Change Grounds for Review*, 15 July 2011.

[12] Energy Safe Victoria, *Assessment by Energy Safe Victoria of EDPR Safety-Related Programs*, 14 September 2010.

[13] Applications under s71B(1) of the National Electricity Law for a review of distribution determinations made by the Australian Energy Regulator in relation to CitiPower Pty and Powercor Australia Limited pursuant to clause 6.11.1 of the National Electricity Rules, *Confidential Outline of Joint Submission on Vegetation Management Step Change Grounds for Review*, 15 July 2011.

[14] AER, *Final decision, Victorian electricity distribution network providers Distribution determination 2011-2015*, October 2010, page 316.

The Businesses are concerned that the effectiveness of the EBSS will be undermined if benchmarking tools are employed in a manner that has the effect of reducing base year operating costs below the revealed cost and consequently diluting the sharing of efficiency gains or losses. Particularly concerning would be the use of the EBSS in combination with selective adjustments to specific expenditure categories based on benchmarking. Such approaches would undermine stakeholder confidence in the potential rewards or penalties that exist under the EBSS and the uncertainty may ultimately render the incentives under the scheme ineffectual.

Furthermore, the NER requires the AER to develop an EBSS for opex, which provides for the fair sharing between DNSPs and users of efficiency gains and losses (clause 6.5.8). The AER developed its EBSS on the basis that, in assessing opex forecasts, the AER would place significant weight on the actual opex in the base year of the current regulatory control period. A wholesale review of incentives facing DNSPs, including in the light of the EBSS, would be required to ensure that both the AER complies with the NER and the overall regime promotes the NEO.

In contrast to the EBSS, it is unlikely that benchmarking methods will be accurate enough to reveal or set efficient expenditure. Furthermore, under benchmarking, the benefits to an individual DNSP from seeking efficiency gains will be uncertain and dependent on the actions of other DNSPs.

The EBSS provides a relatively low cost, low risk and effective regulatory tool which drives DNSPs to make cost efficiencies where and when possible. The Businesses consider that where DNSPs have demonstrated responsiveness to the EBSS, the AER should continue to accept revealed costs as being the appropriate base year cost.

The AER have however raised a concern that some individual DNSPs may not have been responding to the EBSS incentives. The AER has further indicated that where it considers a DNSP has not responded to the EBSS it would apply economic benchmarking techniques to make adjustments to base year expenditure instead of relying on revealed costs.

The Businesses consider that it would not be appropriate for the AER to simply abandon incentive regulation without further analysing the reasons for differing responses by DNSPs and considering, if necessary, the potential options for addressing any identified incentive problems.

Notwithstanding this, if the AER was to take its indicated approach then it is necessary to include in the Guideline the decision making framework that the AER will employ to assess whether a DNSP has responded to the incentives and consequently what level of reliance would be placed on benchmarking rather than revealed costs.

In conclusion, incentives are a core part of the regulatory framework both in Australia and internationally and it would not be appropriate for the AER to abandon incentive regulation and rely solely on benchmarking assessment methods even if benchmarking techniques are increasingly employed by the AER.

### 4.2 Productive versus dynamic and allocative efficiency

The Businesses are strongly of the view that effective incentive schemes will drive DNSPs to seek efficiency gains both in the short and long term, therefore promoting all aspect of efficiency – productive, allocative and dynamic.

In contrast, comparative benchmarking is primarily focused on productive efficiency. Whilst important, it is difficult for a regulator to determine with any degree of confidence whether a business is productively efficient and, if not, how it should go about becoming more efficient. As already discussed, benchmarking cannot identify ‘true inefficiency’ of a business.

Differences between actual costs and those predicted by a benchmarking model may be due to any number of factors including missing variables, data errors, incorrect estimation methods and invalid model assumptions.

In promoting the NEL objective, the AER needs to promote dynamic efficiency which requires appropriate timing and scope of innovation and investment over the long term. It is dynamic efficiency that has the potential to provide the greatest value to customers and the economy. For this reason, the Businesses consider incentive regulation to be a more appropriate and lower cost approach.

### 4.3 Incentives for outperforming the benchmarking

Notwithstanding the above concerns, if the AER is intending to impose financial penalties on DNSPs that underperform relative to the benchmark, namely by cutting base year costs and diluting the EBSS sharing ratio, then it must provide equivalent rewards for DNSPs that outperform the benchmark.

Furthermore, to promote dynamic efficiency, the AER should provide higher incentive rates for DNSPs to continue to push the 'efficient frontier'. If such rewards are not provided, then DNSPs presently outperforming the benchmark would have limited incentive to seek further efficiency gains if 'underperforming' DNSPs are currently well below the benchmark and the risks involved in attaining further efficiencies are high.

## 5 RESPONSE TO ATTACHMENT A – ECONOMIC BENCHMARKING

The Businesses understand that the intent of Attachment A of the Issues Paper is to set out the theoretical arguments for and against the various benchmarking techniques and input, output and environmental variables that could be included in a top-down economic benchmarking model.

As discussed in section 1, the Businesses consider that the Guideline should focus on the expenditure assessment methods that the AER will employ for the next round of regulatory reviews and the AER should undertake a separate work program for the development of economic benchmarking. Such a work program should involve the following steps, with stakeholder consultation being undertaken throughout each stage:

- Collection of robust and consistent data on a range of possible variables;
- Analysis of different models – this would include considering different combinations of variables, different benchmarking techniques and different assumptions regarding the underlying shape of the cost function;
- Comparing and testing the different models, including sensitivity analysis; and
- Providing DNSPs the opportunity to review and test the data and 'preferred' models and to suggest alternative specifications.

At this early stage in the process, the Businesses consider that it would not be appropriate to take strong views on specific benchmarking methods or variables that should be applied. These are complex issues which are further complicated by changing operating environments and changing views among international energy regulators as to what constitutes the outputs of a DNSP. The AER is well aware that there is no consensus among academics or international energy regulators on what the appropriate methods or variables should be for benchmarking DNSPs and therefore DNSPs cannot be expected to take strong positions based on theory and qualitative analysis only. As described above, extensive quantitative analysis, including sensitivity analysis, should be undertaken by the AER and provided to DNSPs for consultation before settling on specific methods or variables.

The AER should not underestimate the potential quantum shift in regulation entailed in moving to an economic benchmarking approach. The high level nature of the approach and the myriad of assumptions it involves poses substantial risk to DNSPs and their shareholders. This is particularly the case for DNSPs operating in higher cost environments, such as rural areas, and particularly given the AER's stated position in the Issues Paper that it will in the first instance assume a DNSP 'guilty' of inefficiency unless further compelling evidence is provided by the DNSP.

On this basis, the Businesses have not provided responses to the specific questions in Attachment A of the Issues Paper. The Businesses however are more than willing to engage with the AER on these issues through the workshop process.

## 6 RESPONSE TO ATTACHMENT B – EXPENDITURE CATEGORISATION

The Businesses' response to Attachment B addresses the following issues:

- Section 6.1 - The repex model;
- Section 6.2 - The augex model;
- Section 6.3 - The routine maintenance model;
- Section 6.4 - Real price escalation; and
- Section 6.5 - Demand forecasts.

### 6.1 Repex Model

The Businesses consider that the repex model should not be relied upon solely when determining replacement expenditure. The repex model can provide the AER information on further areas of investigation and potentially explain the different cost drivers between each DNSP.

Following the release of the AER's *Victorian electricity distribution network service providers: Distribution determination 2011 to 2015 Draft decision* (**Draft Determination**), CitiPower and Powercor Australia engaged Parsons Brinckerhoff (PB) to consider the AER's approach to assessing the Businesses' reliability and quality maintained capex forecasts for the next regulatory control period.[15] CitiPower and Powercor Australia also invited EA Technology[16] to comment on the AER's Draft Determination and the underlying Nuttall Consulting report.[17]

PB and EA Technology concluded that the repex model has a number of flaws including:

- The assumption historical expenditure is equivalent to forecast capex;
- The use of age as the sole proxy for asset condition; and
- 'Cherry picking' of results by the AER at the activity code level.

[15] PB, *Repex Model Review*, July 2010 (Attachment D).

[16] EA Technology, *Commentary on Victorian Electricity Distribution Network Service Providers Distribution Determination 2011-15 (Draft Decision) June 2010*, July 2010 (Attachment E).

[17] Nuttall Consulting, Report – *Capital Expenditure Victorian Electricity Distribution Revenue Review Revised Proposals, A report to the AER*, October 2010 (Attachment F).

*Revealed cost*

The AER adopted the repex model for forecasting reliability and quality maintained capex that '*was ….. calibrated so that it reflected historical levels and costs'*.[18] In short, the AER's forecasting methodology resulted in a forecast of reliability and quality maintained capex that reflected historical capex and thus was consistent with its starting assumption that the historical capex was efficient.

PB and EA Technology considered that the use of historical data to calibrate the repex model needs to be done with extreme caution due the changes in the condition of the assets and associated risks. PB concluded in respect of its review of the repex model:[19]

> *'….the AER's approach assumes that the asset condition and associated business risks over the period from 2006 to 2008 are not materially different to those expected over the next regulatory control period. In the absence of an ex-post review of the drivers of actual expenditure, PB considers that limited conclusions can be drawn based on historical levels of expenditure, particularly over relatively short periods'.*

*Use of age as a proxy for condition*

PB stated that as the repex model does not take account of replacement drivers other than asset age, the model is unlikely to produce reasonable forecasts of capex that reflect the circumstances of DNSPs in the next regulatory control period.[20]

PB stated:

> *'The substitute forecasts may not be sufficient to address the specific needs and risks identified in the businesses' submitted AMPs, reflecting the assessed asset condition. Given that these needs include factors other than age, it is not clear how the Repex model is able to estimate the risks associated with replacement drivers that are not related to time based deterioration (e.g. technical obsolescence, changes in statutory obligations, parts availability, etc.) or do not fit the assumed failure profile (such as multi-model failure profiles due to differing root causes)'.*[21]

*Use of the repex model at an activity code level*

For the purposes of the Draft Determination, the AER used the repex model at an activity code level as an acceptance/rejection criterion. PB considered that the wide variation (-63 per cent to +105 per cent) in the accepted and rejected forecasts across the reliability and quality maintained categories *'appears to be demonstrative of the limited confidence that can be placed in the Repex model forecasts at this level'*.[22]

Finally, PB observed that to determine whether a DNSP's forecast is accepted or not, Nuttall Consulting:

- Adopted a DNSP's proposal at the activity code level where the proposed forecast is close to or lower than the repex model or consistent with the 2006-08 average expenditure; and
- Adopted the repex model forecast at the activity code level in cases where the DNSP's forecast is above the repex model.

Such a 'cherry picking' approach led the AER to underestimate the Businesses' required prudent and efficient level of reliability and quality maintained capex for the 2011-15 regulatory control period.

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[18] AER, *Draft decision Victorian electricity distribution network service providers: Distribution determination 2011 to 2015*, June 2010 pp. 338-9.

[19] PB, *Repex Model Review*, July 2010. (Attachment D)

[20] Ibid.

[21] Ibid.

[22] Ibid

## 6.2 Augex Model

The Businesses consider that the augex model should not be relied upon when determining augmentation capex. Like the repex model, the augex model can provide the AER information on further areas of investigation and potentially explain the different cost drivers between each DNSP.

Following the release of the augex model by the AER, the Businesses engaged Sinclair Knight Merz (**SKM**) to provide a review.

SKM had a number of concerns with the augex model including the:

- Ability of the AER to utilise the model input for both inter-DNSP and intra-DNSP benchmarking;
- Potential volume of 'unmodelled' capex that is likely to be included in the Businesses' next augmentation capital expenditure forecasts; and
- Over-simplification of complex parameters which limits the model's ability to forecast accurately in an environment where some of these planning parameters are extremely dynamic.[23]

*Benchmarking*

The AER stated in the Issues Paper that the, *'…augex model can be used to determine intra-and inter-company benchmarks from actual historical augmentation levels'.*[24]

In regard to comparability, the Businesses note that the AER will have to take into account a number of factors including:

- How the segments are defined by each DNSP. Given that each DNSP's network is different, such as a rural versus urban based network, the level of comparability may be minimal;
- The reasons for differing asset utilisations for each DNSP. Asset utilisation may differ between DNSPs for a range of reasons including different jurisdictional planning requirements, the asset age and the level of energy at risk a business has determined to operate at;
- The system voltage of each DNSP's network. For example SA Power Network's distribution system voltages are 6.6kV (one customer), 7.6kV, 11kV, 19kV, 33kV, 66kV and 132kV (one customer), whilst CitiPower's distribution system voltages are 6.6kV, 11kV, 22kV and 66kV. It should be recognised that the cost of the augmentation does not have a one to one relationship with the capacity of the augmentation. For example the construction cost of a 22kV line is not significantly different from an 11kV line. As a result, a per MVA unit cost measure will be significantly lower for a 22kV line than an 11kV line; and
- Whether the asset is an overhead or underground construction. The cost differences between overhead and underground construction are significant.

In regard to categorisation, whilst the Businesses are comfortable in principle with the network segments specified by the Issues Paper, there are some specific categorisation issues which should be identified and considered in the workshops. As an example SA Power Networks have categorised their networks using the common descriptors of rural short and rural long, however the definitions for these categories which have been approved by the AER are different to those used by other DNSPs. The Guideline should not mandate the defined network segments for the purposes of the augex model.

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[23] SKM, *Augex Model Review – AER*, 12 March 2013 (Attachment G).

[24] AER, *Issues paper Expenditure forecast assessment guidelines for electricity distribution and transmission*, December 2012.

It should be at the NSP's discretion to further disaggregate beyond these network segments however it is noted that the model currently only allows a maximum of 12 network segments to be specified.

*Unmodelled augmentation capex*

The Businesses are concerned by the AER statement in the *Guidance document, AER Augmentation model - data requirements* (**Guidance document**) that it anticipates that the large majority of augmentation expenditure would be considered as modelled.

The Businesses consider that a significant component of the augmentation capex forecasts would not be captured by the augex model. Some examples of 'unmodelled' capex include:

- Expenditure on quality of supply including harmonics, fault levels and voltage compliance. In the case of CitiPower, expenditure on the CBD security project, which addresses many of these non-reliability considerations, is likely to total more than $80 million over the current regulatory period;
- Security of supply projects which can require additional capex, for example the addition of line or section circuit breakers, additional feeder ties for operational flexibility;
- Joint planning requirements between neighbouring DNSPs, can generate significant capex. For example, it is expected that Powercor Australia will have significant capex of this nature over the next regulatory control period. A joint planning requirement can occur where a regulatory test for a constraint in one network can produce an efficient and prudent investment in the neighbouring network. For example, The Western Metropolitan Melbourne Transmission Connection and Subtransmission Capacity Joint Regulatory Test Report highlighted that the preferred solution to address inadequate transmission capacity at a terminal station located within the Jemena network area, was the construction of a new terminal station within the Powercor Australia network area, involving the need for Powercor Australia to construct distribution assets at a cost of more than $50 million;
- Constraints within a TNSP's network that can cause a DNSP to incur significant capex. This can occur where the TNSP constraint can be resolved more cost effectively by the DNSP than the TNSP according to the RIT-T outcome. Examples include PF correction/improvement, the construction of new sub-transmission lines to alter power flows between connection points or changes in the Electricity Transmission Code reliability standards which require works to be performed by the DNSP; and
- Projects driven by mandated voltage quality standards rather than insufficient capacity. This is expected to be a major issue over the next regulatory control period, particularly in Powercor Australia's network, given the information that will be available through AMI metering.

*Over-simplification of complex parameters*

SKM noted that the augex model at this stage can only accommodate a single demand growth rate figure and assumes that the utilisation profile will remain constant over time. Such an assumption will compromise the accuracy of any estimation.

In the current environment, analysing customer demand growth has become considerably more complex over recent years as a result of increasing customer awareness with respect to increasing electricity prices.

For example, the rapid growth of embedded generation sources such as rooftop solar photovoltaic cells has led to noticeable changes to the utilisation of the network. Forecasters are predicting that by 2020, as many as one in three residences will have a rooftop PV system.[25]

### 6.3 Routine maintenance model

The Businesses question how adopting a routine maintenance model will provide a more robust forecast. There are a range of uncontrollable factors that will reduce the comparability of routine maintenance expenditure including the age of the asset, the unique operating environment and the fact that maintenance activities involve a complex variety of distribution assets that would be difficult to model.

Maintenance activities involve a myriad of small opex and capex activities. The costs are allocated at an aggregated maintenance level and appropriated between opex and capex. The costs are not disaggregated to each of the specific maintenance activities. As a consequence it is not viable to derive a unit rate for each individual activity and physical asset.

Furthermore, a routine maintenance model is inconsistent with the EBSS. The EBSS incentivises a business to develop the least cost solution. Any benchmarking that leads to an efficiency adjustment of the base year will dilute the 30:70 sharing ratio and hence disincentivises a DNSP from pursuing further efficiencies.

### 6.4 Real price escalation

The changes in input prices are material and, due to the majority of the inputs being specific to DNSPs, can diverge significantly from the input prices of other industries.

The Businesses see merit in the Guideline providing guidance on the preferred approach but recognising that other approaches may be needed to be able to cater for the particular circumstances of the DNSP and the timing of the determination.

Whilst the Businesses agree that the use of forecasts published independently of the regulatory process is attractive, it considers that the value of their independence should not overshadow their relevance to the input prices of a DNSP over the five year regulatory period. Due to the inexactness of forecasting even by the best forecasters, the Businesses support an approach which uses consensus forecasts.

The Businesses note that contrary to the AER's view, DNSPs do not have the ability to re-organise inputs to achieve a more efficient mix in response to changes input prices over the short to medium term.

### 6.5 Cost allocation and capitalisation approach

The Businesses do not consider it is appropriate to harmonise a cost allocation and capitalisation approach across DNSPs.

In regard to cost allocation, the AER is currently limited to the extent to which it can amend the cost allocation guidelines in Victoria. This is because under the Victorian transitional provisions (which have application beyond the first regulatory control period under the NER), the AER is required to formulate guidelines with specific application in Victoria. In Victoria, the guidelines must be formulated with regard to the Essential Services Commission of Victoria (**ESC)** and must be designed to ensure, to the maximum practicable extent, consistency between cost allocation as required by the ESC distribution pricing determination and cost allocation in later regulatory control periods (clause 11.17.4 of the NER).

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[25] SKM, *Augex Model Review – AER*, 12 March 2013 (Attachment G).

In regard to capitalisation, the NER provisions governing the cost allocation methodology and ring-fencing suggest the AER does not have the power to mandate capitalisation policies.

The cost allocation provisions, for example, address the issue of the allocation of costs between different categories of distribution services and not capitalisation. The ring-fencing provisions relate to the separation of accounts for standard control services, alternative control services and other (non-regulated) services.

Irrespective of the NER requirements, mandating capitalisation policies across DNSPs is a highly intrusive step in the every day running of the businesses.

### 6.6 Demand forecasts

The Businesses are comfortable in general with the AER's in-principle views on how demand forecasts should be determined. The Businesses have been comfortable with the current approach, where on a distribution network, DNSPs forecast maximum demand for zone substations and for individual feeders then compare this with top down forecasts prepared through an independent process (e.g. as prepared by consultants).

## 7 CONCLUDING REMARKS

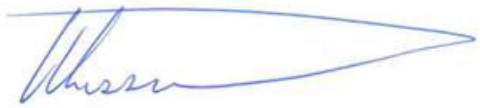
The Businesses appreciate the opportunity to make this submission to the AER and look forward to participating in the planned workshops on economic benchmarking and category analysis.

The Businesses urge the AER to remain focussed on developing and implementing a Guideline that meets the intended purpose of providing increased certainty and transparency to DNSPs and other stakeholders on the expenditure assessment methods that will be applied by the AER for the forthcoming round of regulatory reviews. Should the AER get lost in the details of implementing an array of potentially new, undeveloped and untested assessment methods then it will risk losing stakeholder confidence in the Guideline and the regulatory decision making process.

The Businesses' responses to the Issues Paper questions 1 to 19 and 45 to 74 are provided in Attachments A and B respectively. The Businesses have not responded directly to questions 20 to 44 relating to economic benchmarking for the reasons discussed in section 5 of this submission. The Businesses may provide written submission to the AER on these matters following the workshop process.

If you have any queries regarding this request please do not hesitate to contact me on 03 9236 7048 or mwillcox@powercor.com.au.

Yours sincerely



Brent Cleeve
Manager Regulation
CitiPower and Powercor Australia

Wayne Lissner
Head of Regulation
SA Power Networks