Ref: C2076156

14 October 2016

Sebastian Roberts
General Manager, Network Expenditure
Australian Energy Regulator GPO Box 520
Melbourne VIC 3001

Dear Mr Roberts

Response to 'Draft Annual Benchmarking Report, Electricity distribution network service providers, November 2016'

Essential Energy appreciates the opportunity to provide comments on the AER's 2016 Draft Annual Benchmarking Report (the 'draft report' or 'ABR'). We consider benchmarking a valuable tool that can provide insight into the relative performance of businesses. However, Australian DNSPs are difficult to benchmark, particularly using econometric benchmarking techniques, due to the small sample of DNSPs within the NEM and the heterogeneous nature of this dataset. Other jurisdictions which have been undertaking benchmarking for some time, such as Great Britain, have more homogeneous datasets, have evolved their process over time and still treat benchmarking results with some caution.

We recognise that it will take time to develop a dataset and benchmarking approach that is of sufficient quality that it may reliably inform stakeholders of the relative efficiency of Australian DNSPs. In the absence of reliable benchmarking between DNSPs we consider a more prudent approach to benchmarking in the current context is to benchmark individual businesses over time. This would avoid the over-reliance on comparative benchmarks that are not sufficiently well developed to form views as to a firm's relative efficiency.

Our main concerns with the draft report are noted below. Given the draft ABR has not changed markedly from the previous ABR, many of these points are similar to those put forward last year, including:

- Not all operating environment factors have been properly considered, meaning the associated benchmark results do not render true like-for-like comparisons;
- Little recognition and weight has been applied to each DNSPs predominant cost drivers, for example customers are not a predominant driver for a rural DNSP;
- Additional (Partial Performance Indicator) PPI analysis should be undertaken to highlight the diversity between DNSPs. Whilst in theory DNSPs can be benchmarked, the differences in the scale, characteristics and density of Australian DNSPs makes true comparisons difficult when customer density is the only measure against which DNSPs are compared;

- Trend lines and correlation coefficients (R^2) for the current year and the prior year should be added to the PPI figures. The use of valid benchmarking approaches in the regulatory determination process should see the R^2 value getting closer to 1 over time[1];
- Some of the statements made in the report require additional explanation, particularly in relation to rural DNSPs. We have made wording suggestions in Attachment 1 to this letter;
- Additional benchmarking measures, such as 'Opex per kilometre of line' and 'Repex as a portion of RAB' could be included.
- There has been no consultation undertaken to identify ways to improve the ABR and expand its scope, including the use of other benchmarking models and datasets;

Overall, we remain concerned that the AER continues to make broad statements and conclusions on the relative efficiency of DNSPs based on what we consider to be simplistic, insufficient analysis and limited benchmarking tools. We believe that the report could be enhanced by:

- improving and expanding the scope and benchmarking methods employed;
- independent peer reviews;
- undertaking consultation throughout the process;
- ensuring compliance with the National Electricity Rules (Rules); and
- providing additional explanations throughout the report.

These matters are addressed in further detail in Attachment 2.

If you would like to discuss this response further please contact Justine Langdon, Regulatory Analyst on (02) 6214 9897 or via email at Justine.langdon@essentialenergy.com.au

Yours sincerely

Natalie Lindsay
Manager Network Regulation

[1] Whilst in the 2014 ABR the AER noted that it did not include trend lines as that would assume a certain relationship between inputs and outputs that is unknown and could therefore be misleading, by interpreting the results in the ABR as it does, the AER is implicitly implying a relationship

Attachment 1 – Suggested improvements to the draft report

Key messages

- The first paragraph under Figure 2 should be amended to account for the modelling assumptions. We suggest the following:

  *"Productivity **may** be declining because the resources used to maintain, replace and augment the networks are increasing at a greater rate than the demand for electricity services (measured in terms of increases in customer numbers, line length, energy throughput, maximum demand and reliability). However, the decline may also be driven by the fact that the output variables used in the model may not necessarily reflect the current cost drivers of network services. Energy throughput and demand were growing incrementally in the earlier years and this may have led to a greater correlation in output change and input change than exists in reality."*

- Under the current model specification, Essential Energy will never be able to reach the top four performers. This is illustrated by goal seeking the level of operating expenditure Essential Energy would need to spend in order to reach first place under the current model specification. The result derived from this sense check is approximately $90 million of operating expenditure, which is barely enough to cover our emergency response obligations let alone doing any inspections, maintenance or vegetation on the network.

  The third paragraph under Figure 2 beginning with "Figure 2 suggests that the productivity gap…" therefore requires an additional comment after the sentence "These DNSPs have consistently been among the best and worst performers, respectively, over the period". We suggest:

  "This outcome may mean that the model specification (inputs and outputs) are biased. We plan to expand our benchmarking approach in the future to provide additional insight and analysis that may better explain this result".

Section 1.2 Benchmarking techniques

- The last sentence in the second bullet point relating to bottom up benchmarking techniques should highlight that overseas regulators do not rely solely on benchmarking in forming their assessment of a DNSP's expenditure.

Section 1.3 Inputs and outputs

- Capital stock – This input measure should include the following statement:

  "This measure will disadvantage rural distributors as:

  - *They may be required to install asset components with a greater capacity (and at greater cost) than required demand to account for the drop in voltage that occurs as electricity travels vast distances; and*
  - *The minimum size of assets available in the market may exceed the actual level required by customers. This is especially the case in areas with very sparse populations."*

- Customer numbers – This output measure should include the following statement:

  "Whilst customer numbers are a driver of DNSP services, the number of assets required to service those customers is equally important. On this basis, urban distributors who can make use of limited poles to run additional circuits are advantaged, whilst rural distributors with very low customer density will be disadvantaged as they necessarily require many more assets (and time) to service very few customers. So whilst customer numbers may be considered an output, the costs of installing and providing on-going services to those customers (that is the number and spread of assets) plays an equal role. The weighting given to these two factors will necessarily impact the benchmarking results for different types (urban versus rural) of DNSP."

- Circuit length - This output measure should include the following statement:

  "This measure will advantage urban distributors who run multiple circuits on the same poles (that is this measure will make the size of an urban distributors network appear larger than it really is), and disadvantage rural distributors who must run lines, often over very long distances, to service just a few customers."

Section 1.4 Data

- The first paragraph contains a sentence that says *"We have tested and validated this data, and it is published on our website"*. Given the varying ways in which DNSPs have collated their data, as evidenced by the variations in the Basis of Preparations, we believe this statement is misleading.

  As such, we believe the sentence should be reworded:

  "We have tested and validated the RIN data lines used to prepare the annual benchmarking report. We have not, however, tested and validated every single RIN line item provided by DNSPs. As such, readers should interpret all other RIN data items with reference to the 'Basis of Preparations' provided by each DNSP when attempting to compare data. We intend to roll-out further validation processes for these items as our benchmarking process continues to evolve."

Section 2.1.1 Industry MTFP

- In its present form, this section implies that DNSPs have continued to spend money in the face of declining demand, when there have been external influences that have contributed to this divergence. As such, this section should include a summary of the external drivers (outside of DNSPs control) for declining outputs and inclining inputs, for example:
  - solar penetration (aided by generous government rebates) and its relative non-impact on peak demand
  - political and regulatory pressures, such as NSW' licence conditions and Victoria's Black Saturday vegetation management changes
- Additional charts relating to these external influences, for example the growth of solar PV by state (or DNSP) and its relationship to peak demand could be included.
- We also suggest the addition of the following statement:

  "The decline may also be driven by the fact that the output variables used in the model may not necessarily reflect the current cost drivers of network services. Energy throughput and demand were growing incrementally in the earlier years and this may have led to a greater correlation in output change and input change than exists in reality."

Section 2.1.2 MTFP by state

- This section could be improved by better explaining to readers the major external factors that have impacted MTFP by State. As above, these would include solar penetration and other regulatory and political influences which would be available in each DNSPs regulatory submission. This is a particularly important addition to the report for those States that the AER has not thoroughly analysed in section 3.1 as, at this stage, they are swept into a cursory comment that recent cost cutting should improve their performance.
- We suggest that section **3.1 Variations in recent productivity performance** be moved into this section of the report as it is directly related to this section.

Section 2.1.4 Observations for 2014-15

- Rather than presenting the average MTFP for each DNSP from 2006-15, the table in this section would be more meaningful if it presented a five year rolling average as well the current year's result. Many DNSPs have vastly increased(decreased) their expenditure levels from earlier years and the use of a 10-year average means average expenditure levels for these DNSPs are far lower(higher) than more recent expenditure levels.

  Such a change to the averaging period would also align this section with:

  - The PPI analysis and the data in Table 3 of section B.2 of the draft report that are both based on five year rolling averages; and
  - The length of regulatory determinations.

Section 2.2.2 Econometric opex modelling

- Again, the use of the 2006-15 period for this section advantages DNSPs who may have been underspending in earlier years and disadvantages DNSPs who may have made savings in recent years. Instead, a five year rolling average should be used to align with the length of a regulatory

period and the other analysis presented in the ABR. Using a five-year average will also ensure that averages are better aligned with more recent expenditure levels.

- This section should specify the ratios of inputs to outputs used in each model and refer the reader to section 1.3, where the relative advantages and disadvantages of the different measures and their impact on rural and urban DNSPs is highlighted. Whilst the ratios are included in the Economic Insights memo, they are important enough to be included in the ABR itself.

Section 2.2.3 Partial performance indicators

- The third paragraph ends with words explaining why customer density has been used. We have suggested some graphics that should be included in the report highlighting customer density by DNSP – see our comments relating to section C below. As such, we also suggest the following sentence be added to the end of this paragraph:

  "The network maps shown in section C of this report may help readers visualise the customer density impacts for rural DNSPs".

- Rather than just stating that "per customer" metrics disadvantage rural DNSPs and "per km" metrics are more favourable to them and then selecting "customer density" as the solution in the third paragraph, it would be more useful to readers of the report if the ABR presented each of the four graphs in this section **against each of these three measures**.

  This would provide a broader range of benchmarking analysis for stakeholders to consider and allow readers to make their own interpretation using the various measures. Such an expansion of the approach would be particularly beneficial given the diversity of the DNSPs being compared. For example, CitiPower services 327,000 customers in a 157km^2 area whereas Essential Energy services 867,000 customers (1.6 times more than CitiPower) in a 737,000km^2 area (4,693 times larger than CitiPower). We do not believe it is possible to benchmark these two entities appropriately using only the one measure of customer density, especially given that customer density is a function of line length and customer numbers that fails to take other spatial factors and their associated costs into account (for example the number of buildings/depots required and travel time required).

Total cost per customer

- We suggest the following paragraph be added to the first paragraph in this section (above Figure 9).

  "As previously mentioned, large rural DNSPs will be disadvantaged using the per customer measure as they operate and maintain more assets on a per customer basis. This is coupled with the fact they are often required to install asset components with a greater capacity (and at greater cost) than required demand to account for the drop in voltage that occurs as electricity travels vast distances and that the minimum size of assets available in the market may exceed the actual level required by their customers. This means that customer numbers are not the most significant output for rural distributors for whom 60 to 70 per cent of operating costs are directly related to the number of assets[2]"

- The second paragraph under Figure 9 states that Ergon and Essential spend approximately double the cost per customer of SA Power and Powercor. We believe this needs more explanation and suggest the following:

  "This may be explained by their relatively low customer density and the number of assets required to service those customers as well as the need to often install more expensive assets based on market availability and the need to accommodate for voltage drops. Further analysis and graphical representations of customer density for rural DNSPs is contained in section C of this report.

  To add further context, CitiPower spends about $600 per customer to service 102 customers per km^2, where Essential Energy spends $1,300 to service less than 5 customers per km^2."

[2] Relationship between Opex and Customer Density for Sparse Rural Networks; EMCa April 2015; pg.1

Total cost per km of line length

- This section seems to interchange the term “circuit length” with “line length”. We believe “line length” is a more appropriate shortening of “route line length” and that “circuit length” should always be labelled as such. As such, we suggest all references to “line length” in this section (including the heading) be replaced with the term “circuit length”.
- Alternatively, as previously suggested, this section including the accompanying Figure 11, should include the analysis using route line length instead of circuit length given that route line length plotted against customer density has the highest correlation of all the PPI analysis.
- The final paragraph in this section (below Figure 11) contains a statement that Ergon and Essential have comparable costs per kilometre to that of SA Power and Powercor, despite their lower density. This sentence should be followed with:

  “This may be partially explained by their relatively low customer density and the need to often install more expensive assets based on market availability and the need to accommodate for voltage drops. Further analysis and graphical representations of customer density for rural DNSPs is contained in section C of this report.”

Section 3.2 Differences in operating environment

The second last paragraph in this section uses various terms that are all related to circuit length, but are somewhat misleading in their current form. As such, we suggest that:

- “network length” be replaced with “Circuit length”
- “customers per line/cable kilometre” be replaced with “customers per kilometre of circuit length”
- “peak demand per line/cable kilometre” be replaced with “peak demand per kilometre of circuit length”

B.1 Outputs

- This sentence should also contain the term “circuit length”

B.1.2 Line length

- Another sentence is required at the end of the second paragraph to highlight that circuit length will favour urban DNSPs. We suggest the following:

  “As such, the use of circuit length will be more favourable to urban distributors than the use of route length”

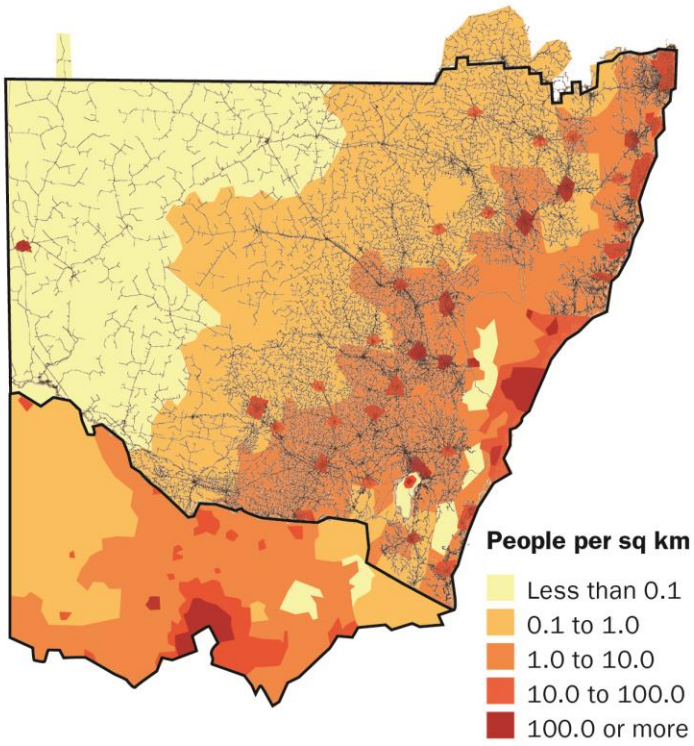
- The third paragraph is misleading in its interpretation of system capacity. We suggest the following rewording:

  “In economic benchmarking metrics and PPI metrics, we use circuit length because, in addition to measuring network size, it also approximates the line length dimension of system capacity. System capacity may represent the amount of network a DNSP must install and maintain to supply consumers with the quantity of electricity demanded at the places where they are located. However, for large, rural DNSPs the amount of network that must be installed and maintained to supply consumers has a much greater correlation with customer density and network sparsity than customer demand or system capacity.

  Figure 16 shows each DNSP’s circuit length, on average, over the five years from 2011 to 2015. Further analysis and graphical representations of customer density for rural DNSPs is contained in section C of this report.”

C Map of the National Electricity Market

This section would be bolstered by showing a map of each of the AER determined rural DNSP’s (Ergon Energy, Essential Energy, Powercor, AusNet Services and SA Power Networks) network areas, overlaid with a picture of the actual network and the attributable population density from the Australian Bureau of Statistics. An example of this is shown below for Essential Energy’s network area.



Stylised population density from Australian Bureau of Statistics SA2 June 2014

Given the ABR consistently refers to Ergon and Essential as being rural networks like Powercor, AusNet and SA Power, this sort of image will highlight the scale of network coverage relative to the associated population density. These images will provide visual explanations to readers that may help explain some of the relative differences between rural DNSPs.

Attachment 2 – Benchmarking enhancements

Improving and expanding the benchmarking approach

- Additional models should be created to better accommodate the inherent variations between the DNSPs. For example:
  - It is not possible that the same mix of inputs and outputs that would apply to a very dense urban network (CitiPower) could also apply to a very sparse rural operator (Essential Energy).
  - The focus on customers as a key output measure is also harsh for rural operators for whom, even if customer numbers halved, would see very little decrease in their costs. This fact was supported by the AER commissioned EMCa report that clearly stated that 60 to 70 per cent of a rural operator's operating costs are directly related to their assets.[3] As a rural network becomes less dense, line length (assets) becomes a more dominant cost driver, yet such weightings are not considered in the AER efficiency models.
- The selection of inputs and outputs for econometric modelling will always favour some providers and induce bias against others. Slight changes in the model specification provide significantly different results and rankings.
  - For example, under each of the three econometric models used, Essential Energy's 2015 AER determined base year operating expenditure is significantly different, with a difference of approximately $60 million between the three models.
- Similarly, MTFP and MPFP measures can produce materially different results through minor adjustments to the inputs measured or the weighting of these inputs. This suggests a level of subjectivity in the model specification that could be addressed by using multiple models with varying input and output specifications and weightings or at least by treating the results with an appropriate level of caution. Any model that relies on total opex or capex that has not been normalised for differences (e.g. CAM, capitalisation, presence of subtransmission assets, etc.) cannot produce results that are comparable or meaningful.
- The MTFP model allows the AER to measure a DNSP's efficiency to the extent that the model specification reflect the actual inputs and outputs associated with the DNSP's services. The drivers of network costs have changed over the time horizon of the modelling. Changes in expenditure driven by new legal obligations, ageing assets or vegetation management are not linked to increases in energy throughput, customer numbers, ratcheted peak demand, or circuit length. Therefore, the model assumes that these increased costs are a decline in productivity as the specified variables do not accurately capture the drivers of these costs.
- We recommend more robust consideration be given to selection of input and output specifications which more closely align to the tasks a DNSP is obliged to perform and the services it ultimately provides to customers. We also recommend increased transparency as to the statistical and qualitative criteria used to select the preferred specification. We consider that assumptions used to select a specification should be explained in further detail, making particular reference as to how relative advantages and disadvantages have been considered – we have made some suggested wording changes in Attachment 1 to this letter.
- The AER's top down techniques ignore trade-offs between operating and capital expenditures. The effect in the AER's analysis is that moving operating expenditure to capital expenditure results in a perceived efficiency gain.
- Essential Energy, operating as part of Networks NSW, provided extensive commentary on the AER's approach to benchmarking during the Better Regulation consultation process, the NSW/ACT 2014-19 distribution determinations and in response to the 2014 draft ABR. This material comprised numerous expert reports reviewing the AER's dataset, methodologies and application of benchmarking in detail. We refer the AER to this substantive body of material as it provides meaningful input as to how the AER could refine its approach over time.
- We also note that the AER's benchmarking approach more generally was subject to merits review with the Australian Competition Tribunal and is currently subject to judicial review by the Federal Court of Australia as part of the NSW/ACT appeal of the 2014-19 distribution determinations. We expect that any future benchmarking reports will reflect any direction or feedback by the Federal Court and/or the Australian Competition Tribunal as appropriate.

[3] Relationship between Opex and Customer Density for Sparse Rural Networks; EMCa April 2015; pg.1

Undertaking consultation

- The limited time provided for responding to the draft ABR does not allow sufficient time to review the extensive data provided for errors, anomalies, areas for further investigation or to propose alternative approaches.
- We would like to see the AER audit the RIN data provided to understand whether there is a consistent application of the AER's guidelines and instructions. Whilst DNSPs provide audited data there are numerous, legitimate approaches to classifying and accounting for categories of costs and complying with the AER's instructions. The AER should seek to understand whether the application of each DNSPs' respective CAM, various capitalisation policies and estimation methods result in material differences in the data. These issues should be addressed over time to ensure that any benchmarking conducted relies on data that has been prepared on a consistent basis.
- We would like to see the AER adopt a continuous improvement approach to benchmarking. This process would include discussions with Stakeholders, DNSPs, consultants and academics to refine the benchmarking approach and techniques. We would welcome the opportunity to participate in recurrent, regular workshops to help develop the AER's dataset, review and debate the selection of model variables and benchmarking methodology and to better understand and explain the results. The AER could compliment this with further written consultation to allow all stakeholders to respond to the issues raised in the workshops.

Compliance with the Rules

- A time series can provide a useful insight into a DNSPs performance and identify trends or one-off movements for further investigation. However, the use of an averaging period is inherently subjective and has the potential to conceal the current performance of a business. This is relevant to businesses that have improved their operating performance during the period, and to businesses that have increased their costs over time for compliance or other reasons.
- As such, we recommend that the report primarily focus on the most recent 12-month period as intended by the Rules. This information could be complimented by presenting average results side by side to provide a full view of a DNSPs current and historic performance.
- We also suggest that all averages used in the ABR be a five year rolling average consistent with the length of a regulatory period and most of the tables and figures in the draft report.

Providing additional explanation

- If the AER wishes to include a view as to relative efficiency of DNSPs in its ABR, Essential Energy believe the ABR would benefit from further explanation of the relevance of model inputs and outputs for each DNSP and analysing data inputs to ensure accuracy and comparability across DNSPs. Furthermore, any results should be further analysed and interrogated to understand whether they are the result of relative efficiency, the operational and environmental differences between DNSPs or a combination of both.
- In its current form, the judgements drawn in the draft report may mislead stakeholders. We have therefore proposed some wording suggestions in Attachment 1 to this letter as clarification to some of these judgements.