Locked Bag 14051
Melbourne City Mail Centre
Victoria 8001 Australia
T: 1300 360 795
www.ausnetservices.com.au

22 August 2014

Mark McLeish
Director
Australian Energy Regulator
GPO Box 520
Melbourne, VIC 3001

Via email: expenditure@aer.gov.au

Dear Mark,

Re: Draft Annual Benchmarking Report – Transmission

AusNet Services welcomes this opportunity to comment on the AER's draft annual transmission benchmarking report. Given the relative infancy of the application of economic benchmarking techniques to electricity transmission businesses this consultation is crucial to gain a practical understanding of the drivers of the results presented in the reports. For this reason, AusNet Services would welcome a discussion with the AER on these matters.

AusNet Services considers that, given the real weight applied to annual benchmarking reports in the NER, the AER should not publish multilateral total factor productivity (MTFP) results that do not provide meaningful insights into the relative productivity of TNSPs. To do otherwise would trivialise the requirements of the NER and potentially create inefficient incentives for TNSPs.

The following additional changes should be made to the report prior to publication:

- The impact of easement tax on AusNet Services' performance should be shown;
- Correct the statements in both the AER's and Economic Insights report linking AusNet Services' 2009 reliability performance to bushfires (see earlier email correspondence on the drivers of reliability performance in this year); and
- Change references to 'SP AusNet' to 'AusNet Services' in both reports.

The attachment provides a detailed response to the draft report and offers some insights into AusNet Services' ranking in the particular MTFP model specification applied. Please contact Charlotte Coster, Regulatory Economist on 03 9695 6309 if you have any questions in relation to this submission.

AusNet Services also supports Grid Australia's submission on this matter.

Sincerely,

Tom Hallam
Manager Economic Regulation
AusNet Services

Attachment – Detailed Response to Draft Transmission Economic Benchmarking Report

AusNet Services' considers that the AER should remove the MTFP analysis from the annual benchmarking report as, at this time, it is not fit for purpose.

This is based on the following considerations:

- The status of the annual benchmarking report in the NER, which implies that the AER should give due scrutiny to the content of this report.
- The conflicting results produced by the MTFP analysis and the partial productivity and category analysis measures which raises serious questions as to the validity of the MTFP analysis.
- The high sensitivity of the MTFP results to the model specification.
- The inconsistent specification of inputs and outputs between the partial and MTFP measures.
- The particular MTFP model selected places a heavy emphasis on installed capacity of lines as an input to production. Because AusNet Services has high capacity lines installed relative to other TNSPs it appears less productive under this measure. However the relationship between line capacity and expenditure to replace and/or maintain these assets is non-linear. Therefore no direct link can be drawn between these results and AusNet Services' efficiency in expenditure terms.

The publication of MTFP measures in the annual benchmarking report is not required by either the NER or the AER's own Guideline[1]. The use of economic benchmarking techniques to yield meaningful conclusions for transmission businesses is an extremely complex exercise which will take time to develop to the extent that it can be used robustly in the determination process. Publishing the results of a single MTFP model's results with no sensitivity analysis and limited explanation is undesirable and misleading.

Notwithstanding the above, if the AER does chose to proceed with publishing MTFP analysis it should select a model with a greater alignment to the partial factor productivity modelling the AER has undertaken. Not to do so erodes the value and undermines the credibility of both activities as the two exercises current produce conflicting results which create confusion to networks and stakeholders alike. In addition, it should also conduct sensitivity analysis around the results of the model.

In addition, easement land tax has been included in both the partial productivity and MTFP measures. It is appropriate to show the impact of this tax on the productivity results as it is an exogenous requirement that has no bearing on either the underlying productivity or efficiency of AusNet Services.

These points are expanded upon below.

Context – Why the Annual Benchmarking Report Matters

The AER is required to publish its first annual benchmarking report by 30 September 2014. Despite this being a new requirement, the AER must have regard to the most recent annual benchmarking report when assessing the capex and opex proposals in the regulatory determinations of TNSPs.

[1] The Guideline does specify that the AER will use MTFP as part of the expenditure assessment. This would appropriately allow the AER more discretion over the weight of this analysis.

In particular, the AER is required to have regard to:

> 'the most recent *annual benchmarking report* that has been published under clause 6A.31 and the benchmark operating [capital] expenditure that would be incurred by an efficient *Transmission Network Service Provider* over the relevant *regulatory control period*[2]'

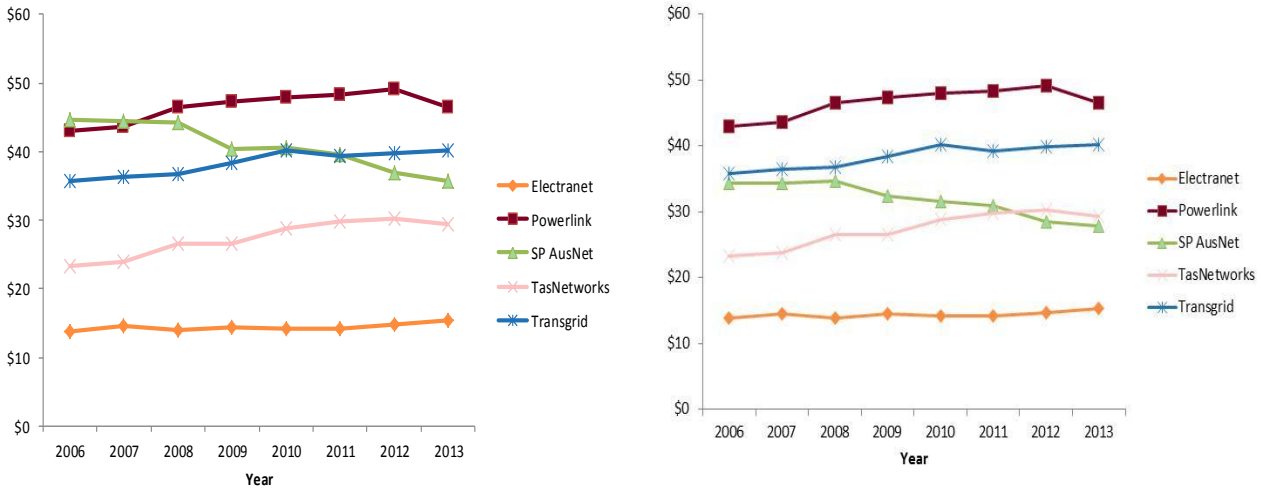
The real weight given to these benchmarking reports in the NER compels the AER to apply a high degree of scrutiny to the benchmarking results that are contained in these reports to ensure that they are credible. Without giving due regard to NER obligations associated with the content of its annual benchmarking report the AER may introduce fundamental flaws in the revenue determination processes for TNSPs.

This is particularly true if there are insufficient qualifications contained in the reports on the validity of these results. In its current form this scrutiny has not been applied. The blatant inconsistencies between the results of both the partial productivity and category analysis measures and the MTFP analysis used by the AER implies that the modelling containing in the draft report has not been subject to basic sense checks.

Conflicting Results – Partial and Multilateral Productivity Measures

The performance of AusNet Services under the AER's partial productivity measures is at odds with its performance under the multilateral total factor productivity analysis included in the draft annual benchmarking report. As an example, the two measures below demonstrate that AusNet Services ranks well in efficiency terms relative to other TNSPs (both with and without including easement tax in total costs).

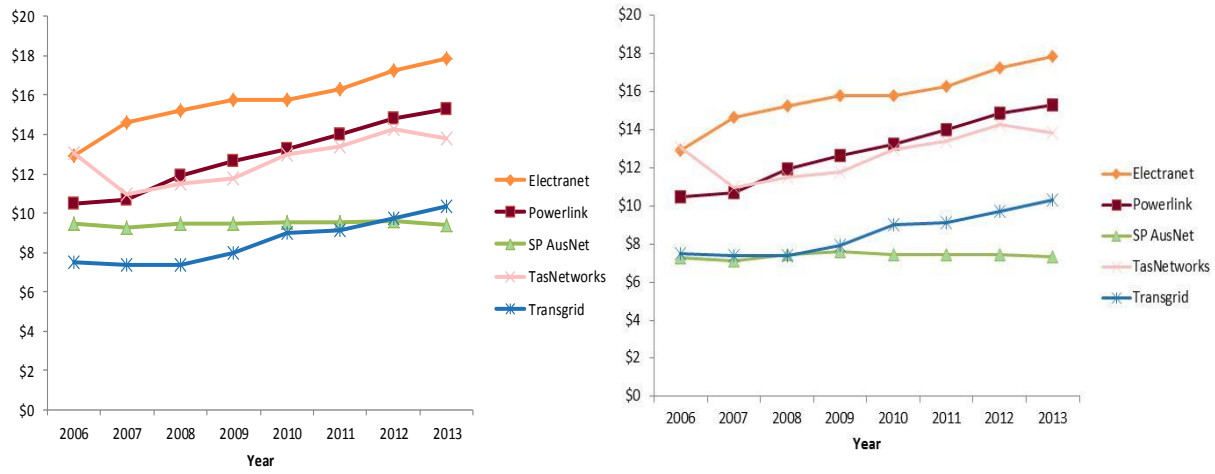
Figure 1 – Total cost per total kV of entry/ exit points ($2013) (with and without easement land tax)



Source: AER. The graph on the right has been modified to exclude easement tax.

[2] NER 6A.6.6(a)(4) and NER 6A.6.6(e)(4)

Figure 2 – Total cost per GWh energy transported ($2013) (with and without easement tax)



Source: AER. The graph on the right has been modified to exclude easement tax.

The above figures also show the impact of easement tax (which accounts for half of AusNet Services' total opex) on AusNet Services' productivity under these measures. It is appropriate to separate out this impact as the tax is not controlled by AusNet Services and has no bearing on underlying productivity.

To highlight the inconsistency between the partial and multilateral productivity measures, the table below shows the relative rankings of the TNSPs under the partial and MTFP measures.

Table 1 – Results of partial and multilateral total factor productivity (for 2013)

2013	AusNet Services	TransGrid	Powerlink	TasNetworks	ElectraNet
Total cost per kV of entry/ exit points	3	4	5	2	1
Total cost per km of line length	3	2	5	4	1
Total cost per MW of max demand served	2	1	4	5	3
Total cost per MVA of connection point capacity	3	2	5	4	1
Total cost per GWh energy transported	1	2	4	3	5
MFTP analysis	5	3	4	1	2

Conflicting Results – Category Analysis and Multilateral Productivity Measures

The draft category benchmarking metrics circulated by the AER also presents AusNet Services as relatively efficient compared to other TNSPs. Compared to its peers, AusNet Services appears to be least, or second least cost in opex-related measures including:

- Maintenance per km of circuit; and
- Vegetation management opex per maintenance span

While AusNet Services also performs very well under a number of the capex measures, this is not directly comparable given AusNet Services' prescribed capex does not include augmentations.

AusNet Services' strong performance in the category analysis measures contrasts strongly with its relative productivity indicated by the MTFP model. This further highlights that the MTFP analysis is currently not fit for purpose.

Sensitivity of the MTFP Analysis Results to Model Specification

As the AER recognises, the MTFP scores of the transmission networks 'shifted somewhat depending on the model specification used[3]'. This shift is significant. Three of the five transmission networks measured both first and last in productivity terms across the six model specifications tested by Economic Insights.

To illustrate this point, the productivity ranking of each transmission business under each model specification for the 2013 year is shown in the table below.

Table 2 – Results of different multilateral total factor productivity specifications (2013)

MTFP Model Specification		AusNet Services	TransGrid	Powerlink	TasNetworks	ElectraNet
Input	**Output**					
#1	**#1**	3	5	2	4	1
#1	**#2**	4	2	5	1	3
#1	**#3**	5	3	4	1	2
#1	**#4**	5	3	4	2	1
#2	**#3**	3	1	4	5	2
#3	**#3**	1	2	5	4	3

Reasonable arguments may be made for the application of each of the above model specifications. That is why these particular models have been included in Economic Insights' analysis. Indeed, the preferred model specification has significantly changed compared with that outlined in the explanatory statement of the AER's Expenditure Forecast Assessment Guideline[4], which further emphasises the conceptual difficulties of selecting one 'best' model. This is reasonable given the maturity of this technique in its application to NEM transmission businesses.

Nonetheless, the sensitivity of the results to the various model specifications raises significant questions over the value of the analysis. Until a more robust approach is developed, it is inappropriate to arbitrarily select a single MTFP model for publication in the annual benchmarking report.

[3] AER, *Draft Annual Benchmarking Report* p.34, August 2014
[4] AER, *Explanatory Statement - Expenditure Forecast Assessment Guideline* p. 142, November 2013

Model Specification – Defining Inputs and Outputs

AusNet Services offers the following comments on the inputs and outputs considered in the AER's draft report.

The inputs and outputs applied in the partial productivity measures and the MTFP model are inconsistent. In particular, transformer capacity is treated as an input by Economic Insights and an output by the AER. This inconsistency partially explains the differences between the results of the two approaches. Defining the inputs and outputs of transmission networks is the starting point for productivity analysis. However this issue appears to be unresolved.

In addition, the inputs and outputs specified do not explicitly correct for exogenous factors. There is clear agreement amongst stakeholders responding to the AEMC's Rule Change process that exogenous factors should be adjusted for by benchmarking. However the AER's draft report does not give due consideration to whether exogenous factors have been appropriately been accounted for in a numerical sense.

No commentary or sensitivity analysis is provided in the AER's draft report to justify the particular specification of the inputs and outputs adopted for MTFP. This is a major omission given the sensitivity of the rankings of networks to MTFP model specifications.

Explanation for AusNet Services' Ranking under the particular MTFP model

Despite ranking relatively well in the partial factor productivity measures contained in the draft benchmarking report, the MTFP model specification selected by Economic Insights places AusNet Services as the least efficient TNSP in the NEM.

There are two explanations for this result:

- The contribution of easement land tax to AusNet Services' total costs; and
- The MVA-km measure used to proxy the lines and cables capital input.

These points are discussed below.

Easement land tax constitutes roughly half of AusNet Services' opex. This is a tax levied by the Victorian Government and, while it contributes to total costs, does not impact either the underlying productivity or the efficiency of AusNet Services. As it is an exogenous factor, it has historically been excluded from the AER's annual comparative performance reports for transmission networks. Economic Insights has also previously supported the removal of this tax from productivity analysis[5].

For these reasons, AusNet Services considers that it would be sensible for the AER to identify the impact of the easement tax on the productivity results. This will improve the AER's ability to make meaningful comparisons using the partial productivity measures. However, even if the impact of easement land tax were identified in the MTFP analysis, AusNet Services considers that this analysis would remain flawed.

The input specification selected by Economic Insights proxies the annual input quantity of overhead lines and underground cables using MVA-kms. This measure implies that 200km of a

[5] Economic Insights, *Economic Benchmarking of Electricity Network Service Providers* p. 55, 25 June 2013

100MVA line requires the equivalent capital input as 20km of a 1000MVA line. However, the relationship between capital cost and line capacity is not linear.

AusNet Services submits that maintaining and operating a higher capacity line does not require a proportional increase in cost compared to maintaining and operating a lower capacity line. The application of the MVA-kms measure assumes that this is the case. Therefore this measure inherently ignores the scale efficiencies from operating higher capacity assets.

AusNet Services' transmission network contains a much higher proportion of high capacity lines compared with its peers. This is demonstrated in the figures below. This means the quantity of AusNet Services' overhead lines capital input included in the MTFP model specification is particularly high compared with its peers, given the scale of its network under other common used measures captured in the output specification, such as energy delivered, peak demand and circuit length. This increases the ratio of inputs to outputs for AusNet Services.

Figure 3 – Weighted Average Transmission Line Capacity (MVA) (2013)

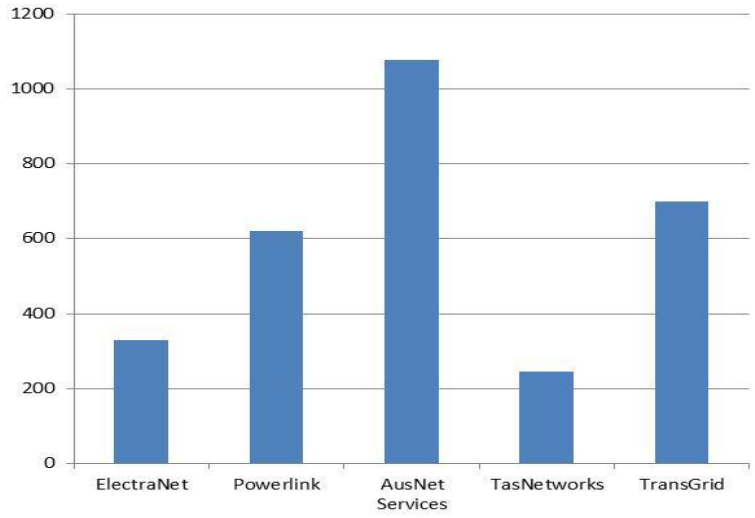
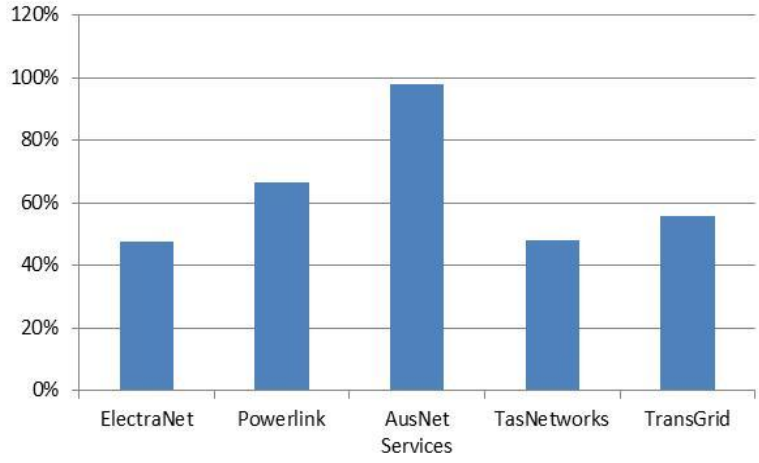


Figure 4 – Proportion of Overhead Circuits ≥ 220kV (2013)



The installed capacity of AusNet Services' transmission lines is a consequence of previous investment decisions. As the AER has recognised, 'Benchmarking inevitably needs to account for the differing characteristics of each network.'[6] However, this distinctive structural difference has not been appropriately normalised under this model specification.

In addition, while AusNet Services appears relatively less productive under this model specification, it does not follow that it is less efficient. The aforementioned scale economies associated with operating higher capacity lines could be seen as relatively *more* efficient than the contrary. Therefore, it is unclear whether this model specification satisfies the AER's stated purpose of this report, which is to 'describe the relative efficiency of electricity transmission networks'[7]. It is even less clear how this analysis could effectively be applied by the AER in its assessment of revenue proposals.

Confusion for Stakeholders

Consumers are a key part of the audience of the annual benchmarking report. This was recognised by the AEMC when it stated that:

> *'Whilst benchmarking is of critical importance to the regulator, it can also be of assistance to consumers, providing them with relative information about network performance.'*

This was also recognised in the final Rule made, which required the annual benchmarking reports to be prepared 'in reasonably plain language'[8]. The clear policy intent of the requirement to publish such reports is to improve the clarity of information in the public domain about the relative efficiency of network businesses. As the current draft report contains conflicting and contrary results, in its current form it only adds confusion to the debate. This can only be untangled by those with an advanced understanding of econometric techniques and a sound knowledge of the characteristics of each transmission network.

AusNet Services considers that publishing only the partial factor productivity measures will substantially simplify the messages contained in the report and reduce this confusion.

Summary

In conclusion AusNet Services considers that the AER should hold off publishing results of its MTFP analysis in the annual benchmarking report until the results are fit for purpose. At this time, the analysis should provide clarity to stakeholders about the relatively efficiency of transmission businesses, assist the AER in assessing revenue proposals and provide clear signals to transmission businesses on their potential to increase productivity and efficiency under certain measures.

---

[6] AER, *Economic regulation of network service providers – AER submission to draft rule determination* p.12, October 2012
[7] AER, *Draft Annual Benchmarking Report* p.6, August 2014
[8] NER 6A.31