10 November 2020

Mr Sebastian Roberts
General Manager
Transmission and Gas
Australian Energy Regulator

Via email: sebastian.roberts@aer.gov.au

Dear Sebastian

re: AER Draft Annual Benchmarking Report 2020

ElectraNet appreciates the opportunity to provide feedback on the Australian Energy Regulator's (AER) Draft 2020 Annual Benchmarking Report prepared with the input of Economic Insights and circulated for comment on 26 October 2020.

Threshold Issues

As noted in previous submissions on the AER's benchmarking measures, there remain several limitations with the current measures which need further consideration before the AER relies too heavily on economic benchmarking in the transmission sector.

1. There are limitations to benchmarking Transmission Network Service Providers (TNSPs) in Australia due to the small sample size and the extent of the diversity between the transmission networks being compared. It is important that these limitations are highlighted through the course of benchmarking and annual reporting in order to provide a balanced view of the use of the data and to ensure that differences are appropriately considered in interpreting the results. The diversity between transmission networks is increasing over time with ongoing structural changes in the sector, including the merger of distribution and transmission businesses, increasing the difficulty of meaningful comparisons across transmission networks.

2. As noted in the development of the original transmission benchmarking reports, there remains no robust basis for determining that the model specification for Multilateral Total Factor Productivity (MTFP) developed by Economic Insights is the most appropriate. The adoption of alternative model specifications appears to lead to significant variations in measured MTFP and relative rankings across the businesses. It is important that further testing and development occurs to provide greater confidence in the robustness of the model before any more widespread application would be possible in revenue determination processes.

3. The limitations of the measures themselves should be recognised, noting that it is not possible to draw firm conclusions about relative efficiency from the Partial Performance Indicator (PPI)

benchmarks due to the exclusion of the range of external factors that impact on efficient transmission costs, and noting that the MTFP results reflect productivity changes rather than business efficiency. ElectraNet encourages further engagement on these issues to ensure that the ongoing development of the model and refinement of model inputs is fully informed, and that the benchmarking results can be meaningfully interpreted and applied.

The draft report states that "The benchmarking results also provide network owners and investors with useful information on the relative efficiency of the electricity networks they own and invest in" and that "benchmarking provides consumers with accessible information about the relative efficiency of the electricity networks they rely on."

However, this is at odds with the views expressed by Economic Insights in its updated advice to the AER, in which it reiterates its consistent position that it has "always been cautious about using the TNSP economic benchmarking results to compare productivity levels across TNSPs …" and it would "caution against drawing strong inferences about TNSP efficiency levels from these results."

It is important that the report acknowledges at the outset the limitations of the data in drawing any inferences over the relative efficiency of network businesses. While the measures may be used to provide some broad measure of sector wide productivity over time, the data set is not suitable to assess the individual or relative productivity of TNSPs.

Within this overall context, the following comments address key issues with respect to the current specification of the model and data applied.

Model Specification

ElectraNet notes Economic Insight's assessment that end–user customer numbers and energy throughput are only of secondary importance in comparison with other factors as drivers of cost for TNSPs and supports the direction of the subsequent changes to the output weightings applied in the Draft Annual Benchmarking Report 2020.

However, the flaws that remain in the output measures that do not bear any direct relationship to transmission costs, as discussed further below, make the MTFP analysis quite misleading, suggesting incorrectly businesses are now using more resources (inputs) to produce the same quantity of outputs. Furthermore, while the output measures Economic Insights uses have not changed, ElectraNet's obligations have increased substantially over the assessment period (e.g. provision of system strength and inertia services) but this is not reflected in any of the outputs being measured.

Total Factor Productivity

The AER states in its draft report that Total Factor Productivity (TFP) is "a technique that measures the productivity of TNSPs over time by measuring the relationship between the inputs used and the outputs delivered."

Broadly, the concept of TFP, or indeed any underlying analysis of a firm's productivity, is that, for a given level of inputs, a:

- *more* efficient TNSP produces more outputs
- *less* efficient TNSP produces less outputs.

Therefore, TFP, and any approach to measuring productivity, requires measures of both *inputs* and *outputs*.

Economic Insights applies the TFP model on the AER's behalf using outputs, and output measures, that were developed in 2014 and then updated three years later. The outputs upon which the model is based and the way they are measured in the analysis, listed in descending order of importance as per Economic Insights' weights, are:

- The size of the network, measured by circuit line length – 52.79%
- The size of the TNSP's delivery task, measured by both:
    - Maximum demand - in 'ratcheted' terms – 24.71%
    - Energy delivered (throughput) – 14.91%
- Network complexity, measured by the number of customers the network in question supplies – 7.59%
- Reliability performance, measured by energy not supplied (outages).

In simple terms, this implies that a TNSP is primarily a supplier of network length, and that the performance of that network can be accurately measured by reference to the TNSP's maximum demand, energy throughput and the total number of end customers supplied indirectly from the distribution networks to which it connects.

It also implies that a TNSP's task has not changed substantially since 2014.

The key outstanding issues from ElectraNet's perspective are that:

- the number of end customers connected to the grid in South Australia is a poor proxy for the complexity of the transmission network and for the way that complexity has changed in recent years;
- energy throughput is irrelevant as a measure of output, particularly considering the substantial increases in rooftop solar in South Australia;
- providing new system security services, including system strength and inertia, is a substantial part of our output, and has increased substantially in recent years, but is not reflected at all in Economic Insights' analysis of our productivity or that of other TNSPs.

These issues are addressed in turn below. These shortcomings mean that the results of the benchmarking exercise fail to provide a basis for meaningful comparison either between:

- ElectraNet's current and past performance, or
- ElectraNet's performance and that of other TNSPs

As such, the benchmarks presented in the draft report are not meaningful and risk incorrect conclusions being drawn on these two matters.

End Users as an Output Measure

As indicated on page 9 of the draft report, customer numbers are included in the productivity model on the basis that the number of end customers "is a proxy for the complexity of the TNSP's network."

The number of customers connected to distribution networks to which a transmission network connects is not a reasonable or fit for purpose measure of the complexity of either South Australia's transmission network or those of other regions. For this reason, ElectraNet did not support the substitution of jurisdictional end-user customer numbers for the previous current voltage-weighted connections output measure used prior to the 2017 Annual Benchmarking Report.

The number of electricity customers in South Australia has been largely static in recent years, yet the complexity of our network and of the services we provide has increased substantially. Examples include increased requirements to provide system strength and inertia. End customer numbers are not an effective measure of the scale of service being provided by a transmission network, nor does the number of downstream customers directly influence the number and size of exit points required by the TNSP and therefore its efficient costs. For example, a connection point serving a 20 MW load in a certain location requires the same effort to serve whether it delivers energy to one large customer or 20,000 small customers.

For this reason, the number of downstream customers served by the distribution network does not provide a measure of the scale of the transmission network, nor does it provide a good proxy for the complexity of the task facing the TNSP.

Customer numbers may have a greater role in a distribution context, where each downstream customer is served by a physical point of connection to the distribution network that must be operated and maintained by the distribution business. However, there is no corresponding role in transmission. The benchmark analysis would be improved if customer numbers were omitted in favour of a more robust measure of the complexity of transmission networks.

End user numbers do not take account of differences in external operating environments (such as population density and the resulting network topology) and will unreasonably disadvantage networks with low customer density. In South Australia as an example the transmission network has many relatively lightly loaded and older 132 kV lines and small 132/66 kV and 132/33 kV substations given historic factors and the geographic spread of the population and correspondingly low customer density.

An additional factor is the demarcation between transmission and distribution assets which varies across networks. In other regions, assets of this voltage would be assigned to the distribution network. In each case the consumer end user numbers, and therefore the 'proxy' network complexity, would be the same when in fact the transmission network would be notably different.

Energy Throughput as an Output Measure

ElectraNet has consistently highlighted that energy throughput is not an appropriate output measure to be included in the weighted MTFP output calculation. The level of energy throughput across the transmission network bears no relationship to the efficient costs incurred by the TNSP and has no impact on the level of effort required by a TNSP to maintain its assets.

Throughput is unrelated to the service being provided by a transmission network, which is focused on ensuring adequate, secure and reliable levels of network capacity. Using energy throughput as an output measure therefore artificially distorts the relative performance of networks under the MTPF measure and should be removed as an output of the model.

In our case, South Australian energy demand, and therefore throughput, has been substantially influenced by the uptake of rooftop solar systems over the last decade or so and has been declining as a result, a trend expected to continue across power systems worldwide. This has in fact increased the complexity of the transmission network, yet the inclusion of energy throughput in the model would suggest the opposite.

Network Support Costs

Network support and operational refurbishment activities should be removed or appropriately adjusted in the Opex Multilateral Total Factor Productivity (MPFP) measure. In particular, the use of network support services (funded by opex) is an alternative to network augmentation (funded as capex). These services are non-standard costs, which are not present in most network businesses, but account for over 10% of annual operating expenditure in the case of ElectraNet. Failing to adjust for these payments distorts the benchmarking results.

Overall Benchmarking Limitations

The AER acknowledges that there are several limitations with the current benchmarking approach. There are operating environment factors beyond a TNSPs control, TNSP benchmarking remains in the early stages of development and the analysis to date has been limited.

ElectraNet therefore encourages the AER to review the form and use of the transmission benchmarking measures moving forward and looks forward to engaging further on the issues raised in this submission.

Should you wish to discuss any aspects of this response, please contact [redacted]

Yours sincerely

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Group Executive Asset Management