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Mr Chris Pattas
General Manager - Distribution
Australian Energy Regulator
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Dear Chris,

Submission to the AER's review of replacement expenditure modelling assumptions

Jemena Electricity Networks (Vic) Ltd. (**JEN**) would like to thank the AER for consulting on the approach to setting parameters in the replacement expenditure (**Repex**) model and the opportunity to provide feedback.

In the attachment to this letter, we have responded to the questions the AER has raised in its consultation paper.

Concerning Repex modelling more generally, we note one of the more fundamental issues is the volatility in outputs, and therefore, the Repex model's fitness for deterministic benchmarking. We recognise that when making Repex related decisions, the AER does consider a wide range of issues rather than solely relying on the Repex model, and we believe this is the right approach. However, consider there is more opportunity to improve the modelling, particularly through clarifying Regulatory Information Notice (**RIN**) data requirements. JEN is keen to work with the AER on improving RIN reporting.

If you have questions concerning our response to the AER's consultation on Repex modelling assumptions, then please contact me on (03) 9173 8231 or by email matthew.serpell@jemena.com.au.

Yours sincerely

[signed]

Matthew Serpell
Electricity Regulation Manager

Attachment

Question 1: Do you consider that setting defined maximum and minimum expected asset replacement lives would improve the forecasting accuracy of the Repex model?

JEN has observed significant disparity in the RIN data reported by the DNSPs operating in the NEM; it's not clear why this has occurred, however, the more likely case is the differing interpretations of the reporting requirements and that each business has different data capture and reporting capabilities. Nevertheless, the differences are pronounced.

JEN has also identified that using the RIN data in Repex models can yield quite varying results.

Because of these material variances, we are not confident that setting a blanket maximum or minimum will result in an efficient modelling outcome. We instead consider that continuing to address potential data anomalies on a case-by-case basis is likely to be sufficient for the foreseeable future. We also consider further development work is required, in particular, resolving data issues (see our response to question 13) is necessary to get to this next level of usability.

Question 2: What do you consider would be the preferred approach to setting maximum and minimum expected asset replacement lives, including supporting engineering and statistical evidence?

With more analysis and improved data quality, the bounds of replacement lives, robust statistical measures could potentially be employed to identify bounds in the future. Engineering and operating environmental factors (**OEFs**)—factors beyond the control of a DNSP which may also cause material differences between the asset lives of different networks—should also be taken into account, as could the results of information used by the DNSP in its asset management decision making, such as asset health information.

Question 3: Is the current approach of addressing these concerns on a case-by-case basis sufficient, as we have done for previous decisions? If not, why not?

When analysing JEN's data through the Repex model—which uses data from the NEM for comparative purposes—we see calculations yielding output variances of over 100%. This degree of variance is significant and does not give confidence in the approach, either through the data and/or through the modelling techniques. At this stage of model/data maturity, case-by-case analysis in necessary until more fundamental issues can be addressed.

Question 4: Do you consider that there are any other elements we need to consider should we limit expected asset replacement lives?

We consider that OEFs should be taken into account when assessing replacement asset lives. Without this proper consideration, the AER may be drawn to a conclusion about the efficiency (or inefficiency) that may not be correct given the unique circumstances of a particular DNSP.

Question 5: Do you consider that there is a better approach to selecting the calibration period?

Smaller DNSPs are more susceptible to calibration periods because their replacement expenditure is likely to less stable; that is, there is less opportunity to smooth out the replacement of assets. Because of this modelling sensitivity, we consider the calibration process needs to be well designed.

To smooth our replacement cycles—and as noted, particularly for smaller DNSPs—it is recommended that longer calibration periods are applied, say five years. However, there are events within a calibration period that cause normal replacement activities to 'step change' and thus distort any calibration; the longer the calibration period, the more likely this distortion will arise. Events that could trigger this distortion could include changes in laws and regulations concerning the replacement of assets, or changes in the asset replacement strategies on the DNSPs in response to external conditions, events or industry best-practices. An example of a change in JEN's policies that should be reflected in the calibration period is our policy introduced in 2018 to replace, rather than stake, wooden poles in High Bushfire Risk Areas (**HBRA**); this policy was deemed necessary given the heightened bushfire risk of this geographic area. In such cases, the most effective way to deal with these distortions is to shorten the calibration periods.

These polarised positions cause a problem for selecting a calibration period; both having merit and both potentially yielding materially different outcomes in the Repex modelling. To overcome this challenge, JEN proposes that a default five-year calibration period applies and that the AER adopt a shorter period if the DNSP can present a reasonable case for shortening the calibration period.

Questions 6: Are there any issues with the current approach to select the calibration period?

We discuss the issues with the calibration period in our response to questions 5.

Question 7: What other issues or factors should we take into account when determining the calibration period?

We discuss the issues with the calibration period in our response to questions 5.

Question 8: Is our current approach to forecasting Repex for wooden poles clear and appropriate based on the information available? If not, why not?

A key concern we have to forecasting Repex for wooden poles is the unit rates reported by DNSPs in their RIN responses, and more specifically, the OEFs that each DNSP is exposed to that cause these rates to vary.

In JEN's distribution area, we observe a geological anomaly—not see in most other distribution networks at the same concentration levels—where rock causes more complex and costly works to take place for installation and replacement of poles, and even more so, undergrounding of assets. (See appendix A which demonstrates the amount of rock JEN encounters).

JEN considers that in these circumstances, consideration of OEFs is an appropriate step to include in the Repex modelling. OEFs are discussed extensively with the AER's benchmarking of opex, and we believe similar analysis is equally important in assessing capital expenditure.

Question 9: What are your views on the appropriate estimation method for wooden pole staking or replacement volumes when the required data is not available?

Until such time that all businesses are reporting pole staking volumes and expenditure (new RIN requirement), it is too soon to determine if the estimation method is appropriate or not. JEN sees value in the model being capable of separately forecasting:

- Volumes and expenditure for replacing non-staked poles
- Volumes and expenditure for staking non-staked poles
- Volumes and expenditure for replacing staked poles

Question 10: Are there any other approaches that could be applied to reasonably forecast Repex for wooden pole asset categories?

The approach taken should consider OEFs; for example, HBRA areas in Victoria means that staking is less of an option. Further, the method for estimating staking and replacement should account for:

- forecasting one option (say replacement) reduces the opportunity for the other (that is staking); the forecast of each is dependent on the other.

- The life of one option will impact the life of the other option.

Question 11: Do you consider the assumption and rationale underpinning the exclusion of unique assets is clear and appropriate based on the information available?

JEN considers that such issues should be considered on a case-by-case basis, but that the approach set out by the AER appears appropriate.

Question 12: Are there other any approaches that could be applied to reasonably model excluded asset categories, while incorporating a level of benchmarking?

JEN considers the timeline for modelling Repex for any assets in the unmodelled category must be very long, beyond 5-years, given the cycle time for replacement activities to align with the usual replacement times. Some assets, such as transformers, having asset lives of 50 years, cannot be modelled.

One option that the AER may be considering is substituting costs and volumes from other DNSPs. JEN cautions against this approach to forecasting Repex because of the OEFs and size of a DNSP makes comparability (and therefore substitution) unworkable.

JEN believes that appropriate engineering analysis is the best way to assess the efficiency and prudency of unmodelled expenditure.

Question 13: What other Repex model issues outside the scope of this review should the AER consider in future Repex model reviews or forums?

JEN considers that to improve the usability of the Repex models for benchmarking purposes and for setting regulatory allowances, that resources are invested into addressing RIN data quality issues. Actions should include tightening definitions and better quality control.

Appendix A – A high proportion of rock in JEN's distribution area

Rock can increase the cost of network construction activities which involve underground cables (increasingly required in residential growth areas of JEN's network), pole replacements or other civil works (for example to construct zone substations). When rocks are encountered during construction activities, it generally must be removed or, in some cases, require the use of specialised drilling equipment.

Below we show areas of granite around the centre of JEN's network area, particularly in Greenvale, Oaklands Junction, Bulla, Meadow Heights and Roxburgh Park. Granite is a very hard, granular, crystalline, igneous rock consisting mainly of quartz, mica, and feldspar.

Figure A-1 – Demonstration of extensive works required in JEN's area

Figure A-2 – Demonstration of extensive works required in JEN's area

Figure A-3 – Demonstration of extensive works required in JEN's area

Geological surveys also demonstrate significantly higher proportions of rock formations that cause electrical (and associated civil) works to be more extensive, and therefore more expensive, relative to other networks.

Figure A-4 – Geological survey map of JEN's distribution area