20 March 2019

Audrey Zibelman
Chief Executive Officer and Managing Director
Australian Energy Market Operator

Dear Ms Zibelman

AEMO PLANNING AND FORECASTING CONSULTATION PAPER

Origin Energy Limited (Origin) welcomes the opportunity to provide feedback on the input assumptions described in the Planning and Forecasting Consultation Paper for use in the 2019-2020 Integrated Systems Plan (ISP). Our submission focuses on those areas where we consider there is scope for process improvement or the need for further clarification. Specifically, we suggest that:

- AEMO's consultation and stakeholder engagement should extend beyond the input assumptions to also allow consultation on the modelling outputs. This will allow for a sanity check of the results while instilling greater confidence in the overall process and the planning documents that are produced.

- Once AEMO has formed a view on its preferred methodology, it should consult with participants on its approach to incorporate the closure of coal and other thermal generators into the modelling.

- It would be helpful if more transparency is provided around the costs and expected benefits attributed to projects set out in the ISP.

- Sensitivity analysis should be undertaken to consider the outlook with and without government sponsored projects such as Snowy 2.0 and Battery of the Nation. This will allow for a meaningful comparison of alternative generation and network development pathways.

- AEMO should hold dedicated consultations for its other planning documents including the Electricity Statement of Opportunities (ESOO) and Gas Statement of Opportunities (GSOO). While all the planning documents are likely to utilise a common set of assumptions, we note the modelling approach will differ given different time horizons and areas of focus.

Consultation on the modelling outputs will increase transparency and serve as a sanity check

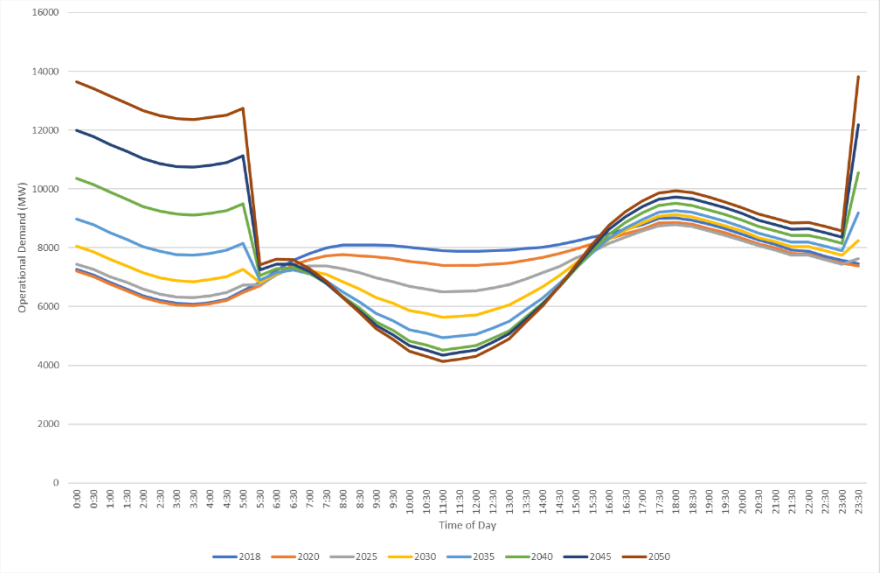
Origin suggests that AEMO should consult on not just its input assumptions but also the detailed modelled outputs. This will provide a sanity check and help instil confidence in the results.

In last year's ISP, the output from the PLEXOS modelling was only made available to participants after the publication of the final ISP report. Stakeholders would have been able to provide more informed and useful feedback on the conclusions of the ISP if they had been able to comment on the output of the modelling prior to the finalising of the report.

Chart 1 below shows how the 2018 ISP modelled operational demand in NSW over the course of a day, and how the demand trace changed over the forecast period. The forecasts for the later years of the model show peak demand to be occurring around midnight with a substantial drop in demand occurring at sunrise. This is presumably due to forecast increase of solar penetration along with assumed battery charging cycles.

Origin Energy Limited ABN 30 000 051 696; Level 32, Tower 1, 100 Barangaroo Avenue, Barangaroo, Sydney NSW 2000;
GPO Box 5376, Sydney NSW 2001 • Telephone (02) 8345 5000 • Facsimile (02) 9252 9244 • www.originenergy.com.au

Chart 1: 2018 ISP: NSW Operational Demand



The demand trace modelled from these assumptions is extreme in its shape, and thus unlikely to eventuate.

If stakeholders had the opportunity to provide feedback on the details of the model last year, this issue may have been raised at the time. AEMO would have been able to revise the relevant inputs or modelling techniques which would have resulted in better outcomes for the ISP. In this instance stakeholder advice would have been helpful in ensuring reasonable outcomes were modelled.

More detail required on emission trajectory and thermal plant closures

The presumed closure date for coal generators is one of the key inputs that define expectations of future investment. For example, some of the Group 1 projects identified in last year's ISP were justified on the basis of changed market conditions due to the planned closure of the Liddell power station.

The 2018 ISP assumed that coal generators would retire 50 years after their original commissioning date. The consultation paper indicates that the upcoming ISP will instead model coal retirements to meet emission policy settings. However, there is still no clarity on the emission policies or targets to be modelled, or the specifics of how these will factor into the assumptions around forecast closure dates.

Origin considers that the following factors could be considered when modelling thermal plant closure dates:

- The dates supplied by generators to AEMO, under the rule change made last year on generator closure notifications.
- Guidance from government on the appropriate carbon emissions targets along with any jurisdictional renewable energy targets.

Due to the importance of this element on the forecasts, we request there be an additional round of consultation on the thermal plant closure dates, once AEMO has developed its proposed methodology. This will allow stakeholders to correct any erroneous assumptions and thus strengthen the model and final ISP.

Origin Energy Limited ABN 30 000 051 696; Level 32, Tower 1, 100 Barangaroo Avenue, Barangaroo, Sydney NSW 2000;
GPO Box 5376, Sydney NSW 2001 • Telephone (02) 8345 5000 • Facsimile (02) 9252 9244 • www.originenergy.com.au

Greater transparency in how net benefits are derived would be helpful

While the 2018 ISP set out the cost of the proposed network augmentations and the estimated net benefits to the market, there was little detail on how these benefits were derived.

The upcoming ISP should clearly set out the various wholesale market and network cost drivers across the different scenarios, AEMO could also present any modelling of the costs of resolving any identified issues through network construction compared to using generation or demand response.

Treatment of government and private generation investment

AEMO should look to ensure that the inclusion of large government sponsored generation projects in its ISP modelling does not inadvertently crowd out private sector generation investment. The economics of government sponsored projects is likely to significantly improve by virtue of being considered in the ISP, particularly if this results in them not having to fully fund any required transmission works.

Private generation proposals which are not committed or finalised do not have the opportunity to be included in the ISP, and thus being an input in the network planning process.

Network congestion represents an investment risk for new generators, especially considering the AEMC COGATI proposal that generators should face dynamic regional pricing or be required to purchase firm access. We are concerned that the ISP process may lead to consumer funded transmission investments that primarily lessens this risk for government owned generators but creates additional investment uncertainty for private investors.

In preparing the ISP, AEMO should include sensitivities to consider the outlook with and without government sponsored projects such as Snowy 2.0 and Battery of the Nation. This will allow for a meaningful comparison of alternative generation and network development pathways.

AEMO should provide details on the inputs for usage across different forecasting publications

Our understanding is that a common set of input assumptions will be used in preparing the forecasts for the various planning documents including the ISP, ESOO, and GSOO. However, despite this, a separate consultation process is necessary for each as the reports have different uses. The final forecasting report, due in May 2019, is a good opportunity for AEMO to outline the plan for consulting on the preparation of forecasts across the ISP, ESOO, GSOO and considerations of the Retailer Reliability Obligation (RRO).

Should you have any questions or wish to discuss this submission further, please contact Alex Fattal via email alex.fattal@originenergy.com.au or phone, on (02) 9375 5640.

Yours sincerely

Steve Reid
Group Manager, Regulatory Policy

Origin Energy Limited ABN 30 000 051 696; Level 32, Tower 1, 100 Barangaroo Avenue, Barangaroo, Sydney NSW 2000;
GPO Box 5376, Sydney NSW 2001 • Telephone (02) 8345 5000 • Facsimile (02) 9252 9244 • www.originenergy.com.au