

Dr Alex Wonhas
Chief System Design and Engineering Officer
Australian Energy Market Operator

By email to FutureEnergy@aemo.com.au

Dear Alex,

Submission to Renewable Integration Study: Stage 1 report

AusNet Services welcomes the opportunity to comment on the Australian Energy Market Operator's (AEMO) Renewable Integration Study – Stage 1 report (RIS-1) published in April 2020. AusNet Services strongly supports the RIS-1 focus on maintaining power system security as we look forward to operating the system with increasingly higher penetration of wind and solar generation. The actions recommended in the RIS-1 are critical and urgent.

AusNet Services appreciates AEMO's stakeholder engagement throughout the development of the RIS-1 and the industry briefings following publication of the Stage 1 report. With regard to the findings of the RIS-1, AusNet Services agrees with:

- The forecast pace of the transformation of the National Electricity Market (NEM) power system between now and 2025, and the resulting challenges this will place on system security and current operational experience;
- The areas of focus, including: System Operation; Distributed solar PV; Managing frequency; System Strength; Variability and uncertainty; Maintaining security and maximising potential wind and solar;
- The urgency and critical nature of recommended actions to address the NEM wide challenges identified; and
- The likelihood that greater constraints will be imposed on the penetration of wind and solar generation if the issues identified are not resolved in the timeframe.

As the transmission network service provider for Victoria, and owner of one of five Victorian electricity distribution networks, AusNet Services is concerned that the RIS-1 findings and forecasts show that the Victorian power system is approaching identified limits rapidly and will require intervention earlier than most other NEM regions. The Victorian power system is already experiencing shortfalls in inertia and system strength along with, operational challenges of

voltage management in the 500 kV network and in the distribution network related to integration of small scale solar PV.

AusNet Services supports the recommended actions and encourages expedited timeframes required to gather data, further investigate identified issues, formulate, consult, recommend and make changes to rules and obligations, and implement projects to address the needs.

Examples of areas that require urgent and immediate actions are:

- Inertia and system strength shortfalls;
- Operational constraints related to increasing connection of new generators around the network as well as increasing uncontrolled solar PV in the distribution network
- Planned outage windows reducing (or non-existent) restricting maintenance activities and project delivery
- Impact of increasing distributed PV generation on the distribution network impacting voltage, and adding to credible contingency size in the transmission network.

We would be pleased to discuss our comments and provide assistance on any of the issues identified. Please contact Jacqui Bridge - Manager Transmission Planning and Development to arrange follow up discussions.

Yours sincerely,



Adrian Hill
General Manager –External Affairs
AusNet Services