

19 May 2023

Australian Energy Market Operator
Submitted online to PSMGReview@aemo.com.au

Dear Sir/Madam

RE Power System Model Guidelines Review

TasNetworks welcomes the opportunity to respond to the Australian Energy Market Operator's (**AEMO's**) Power System Model Guideline Review.

TasNetworks is the Transmission Network Service Provider, Distribution Network Service Provider and Jurisdictional Planner in Tasmania. The focus in these roles is to deliver safe, secure and reliable electricity network services to Tasmanian and National Electricity Market (**NEM**) customers at the lowest sustainable prices.

As identified by AEMO, the rapid change in both technology and the energy market are leading to an increase in the size and prevalence of Inverter Based Loads (**IBLs**). Since the same modes of instability can arise with IBLs as with generators in weak networks, it is prudent to update the Guidelines to include specific modelling requirements for large power system loads.

TasNetworks supports AEMO's recommendation to consider the risks to power system operation to determine whether a detailed site-specific IBL model or a generic IBL model is appropriate. TasNetworks suggests that the wording of the final guideline explain this risk based decision and provide guidance on its application.

TasNetworks also supports AEMO's position that the site-specific IBL models should be as detailed as equivalent Inverter Based Resources (**IBR**) models, and agrees that it is critical that these models accurately reflect the control systems that track the power system voltage waveform as these drive a power electronic converter.

Section 4.3.8 of the draft Guideline includes a requirement to provide detailed site-specific electromagnetic transient (**EMT**) models for IBL (such as the power electronic interface and control systems). To enable the user of a site-specific IBL model to interpret model behaviour and to ensure that simulations accurately reflect the operation of real plant it is important that access to the internal quantities of these devices, not just the bi-directional

devices, is provided. Thus we recommend that footnote L is reviewed to ensure that internal quantities are provided for all site-specific models of IBL, not just generating units or bidirectional units.

In addition, the current drafting of Inverter Based Load in section 4.3.8 includes a quantity labelled 'energy storage level'. This should be expanded to add clarity by providing an example of what is required.

Should you have any questions on this submission please contact Tim Astley, Technical Regulation Specialist via email on tim.astley@tasnetworks.com.au.

Yours faithfully

A handwritten signature in blue ink, appearing to read 'CNoye', is positioned above the printed name.

Chris Noye

Leader Regulation