

# Terms of Reference

## Power System Modelling Reference Group (PSMRG)

### 1. Mission

This is a technical expert reference group which focuses on power system modelling and analysis techniques and information sharing to support various NEM modelling activities.

### 2. Objective

- Provide a consistent basis for the modelling of the five-state interconnected system (NEM), and the South West Interconnected System (SWIS) of West Australia.
- Establish procedures and methodologies for power system analysis and share knowledge on emerging power system issues.
- Establish procedures and methodologies for plant commissioning and model validation.
- Propose and establish strategies, and if appropriate processes, for the modelling of distribution networks, special protection schemes, and secondary systems to improve the accuracy of power system analysis for the NEM and SWIS.
- Define control system design and test reporting standards for power system plant.
- Assess the accuracy of the power system model against measurements and system disturbance data.
- Propose and develop strategies for selection and implementation of new software platforms to model the NEM and SWIS transmission systems and their components.
- Remove modelling uncertainties for improved estimation of existing dynamic constraints, and investigate and recommend, as required, additional system constraints for the NEM and SWIS.
- Provide advice to the NEMOC on matters relating to the long-term planning and operational analysis of the electrical power system, generally.

### 3. Scope

To achieve the objectives related to plant modelling, the PSMRG will:

- Review and agree network representations, load models and plant models for the power systems of Queensland, New South Wales, Victoria, South Australia, Tasmania, and West Australia to support reliable and accurate analysis of the five-state interconnected power system and the SWIS.
- Provide advice on development of future cases.
- Review power system incidents and measured system performance to compare and report on the performance of system models.

- Develop and improve models for power system plant and loads to accurately represent the dynamic behaviour of the power system.
- Develop, maintain and modify, as required, methodologies for power system analysis, including automated scripts for the standardization of analysis.
- Develop, maintain and modify, as required, methodologies for field testing of dynamic plant.
- Recommend projects which the PSMRG considers would lead to improved modelling or understanding of the dynamic performance of the power system, and appoint task forces to deliver the same.
- Publish and review Guidelines and recommended practices in the above areas.
- Collaborate with national and international organizations to exchange modelling and operational challenges associated with inverter based resources.

#### 4. Governance

The PSMRG will consist of representatives chosen from the following organisations and may invite others at its discretion:

**The PSMRG will consist of representatives from:**

Australian Energy Market Operator	Australian Energy Market Commission
AusNet Services	ElectraNet
Energy Queensland	Powercor
Powerlink	TasNetworks
TransGrid	Western Power

The PSMRG will form working group (WG) or taskforce (TF) to support specific tasks. The WG or TF will consist of representatives from AEMO and NSPs.

#### 5. Meetings

AEMO will provide convener and secretariat services to the PSMRG. Meetings will be convened at times suitable for majority of participants, requests for meetings, the availability of stakeholders and the matters under discussion.

#### 6. Expenses

For the avoidance of doubt, any expenses incurred as a result of attending meetings or activities associated with the PSMRG are at the expense of the individual business that the person represents, unless advised otherwise.

#### 7. Version control and contact details

Version	Effective date	Comments
1.	February 2021	Review
2	August 2021	Updated to remove reference to 5.7.7

For more information on the PSMRG, please email [Nilesh Modi](mailto:Nilesh.Modi@AEMO.gov.au).

For a list of industry forums and working groups refer to AEMO's [website](https://www.aemo.gov.au).