

The dynamics of the power system are rapidly changing in response to the influx of new investment in renewable energy and storage technologies while electrical networks are now being used for purposes not previously conceived. Planning for these networks will require accurate and robust models of the dynamic power system, and the timely performance of key power system studies.

At Amplitude, we believe that having robust models is crucial for the optimum and stable operation of modern power systems and to ensure satisfactory outcomes from power system studies being performed. We have the capability to undertake a range of power system modelling, study and planning activities to support our grid owner and operator clients to achieve their objectives.

Amplitude has a team of very experienced power system engineers that have worked with many different types of generating and storage systems, including hybrid arrangements, and transmission and distribution networks in Australia and internationally.



## Amplitude delivers

- Development of generating system and storage system models
- Development of wide-area power system models
- Fine tuning of generator controllers
- Development of Generator Performance Standards
- Dynamic Model Acceptance Tests (DMAT)
- Benchmarking of model performance
- Transmission and distribution planning
- Network capacity expansion and augmentation studies
- Power import and cross-border transfer studies
- Reactive power planning and voltage control studies
- System strength analysis
- Thermal constraint analysis
- Transformer energisation studies
- Protection design, coordination and settings
- Power quality studies, harmonic modelling and assessment
- Network planning reports and business case development

Our engineers have the expertise to develop models and undertake planning studies in PSSE®, PSS/SINCAL®, DIgSILENT PowerFactory, PSCAD™/EMTDC™ and MATLAB/SIMULINK.

Amplitude's knowledge of the technical standards and processes relating to generator connections in the NEM, WEM, Northern Territory, New Zealand and other regions is excellent. Our experience with generation is complemented by transmission planning capabilities and a solid understanding of the regulatory requirements underpinning network and generation investment.

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