

PROJECT DATA

Detailed Network Simulation Using PSCAD



CLIENT	Hydro Tasmania/Transend Networks
PROJECT LOCATION	Tasmania, Australia
DATE OF PROJECT	Early 2005
SERVICES PROVIDED	<ul style="list-style-type: none">• Development of full three phase model of Tasmanian Power System• Simulation of contingency events such as Basslink commutation failure, transmission line faults, load and generation tripping• Analysis and assessment of results

Generally we use PSS/e to model power systems. The ETRAN tool now allows automatic conversion of these single-phase PSS/e models into the full three-phase PSCAD representation of the power system - with minimal work required to develop the PSCAD model. PSCAD gives a wide frequency bandwidth model of the complete system, allowing accurate simulation of saturation, resonance, TOV and imbalance effects etc.

The work was used to confirm the results of the factory testing of the Basslink controls that was performed in the Siemens factory using simplified network representations. The short time constants associated with HVDC necessitates the complexity of using PSCAD for this analysis.

Once developed the model can be used to:

- assess the performance of transmission lines in terms of phase imbalance;
- determine propagation of voltage spikes caused by switching events; and
- model system restart conditions.

LEADERS IN CONSULTABILITY



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