

PSS®E Based Modelling, Simulation and Synchronous Interconnection of Eastern Grid and North-Eastern Regional Grid of India

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Abstract : Eastern Regional(ER) Grid and North Eastern Regional (NER) Grid are two major grids of Eastern Part of India. Both of the grid consists of voltage level 765kV, 400 kV, 220 kV and numerous buses at lower voltage range. Eastern Regional Grid and North Eastern Regional Grid are not only connected among themselves but are also connected to various other grids of India. ER and NER Grid having various HVDC lines or back to back systems which form the total network. The studied system comprises of 340 buses of different voltage levels and transmission lines running over a length of 32089 km. The validation of load flow has been done using IEEE STANDARD 30 bus system. The power flow simulation analysis has been performed after synchronizing both the Eastern Grid and North-Eastern Regional Grid of India using Power System Simulators for Engineering (PSS®E) Important inferences has been drawn from the study.

Keywords : HVDC, load flow, PSS®E, unsymmetrical and symmetrical faults

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