

Flexible Grid with Inverter-Interfaced Generators

In conventional grids synchronous machines keep the grid synchronised using mechanical inertia, governors, and automatic voltage regulators. The emerging new grid architecture may not have any synchronous machine, e.g., in South Australia, Australia. In such grids most of the generation devices are connected to the grid using an inverter. This presentation will cover the challenges and possible solution for the synchronous operation of new grids. Some experimental results will be presented to demonstrate the possible approaches that combine synchronisation with optimisation for minimum cost operation.