

## **SE-24.1 New Control of Power Systems with Renewable Sources, Storage and Converters: From Frequency to Angle Control S**

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In the future the electrical power supply system will be changed from conventional power plant structures with real inertia to a complete inertia free system with storages for different generation speed together with power electronic converters. Therefore, the artificial generation of an electrical frequency in the network as in the old world with inertia will be obsolete. In this paper, a method is described to control the electrical power system completely by angle control of the nodal voltages in the network. For this reason, the power supplying converters act as Slack or PV nodes and the loads act as PV or PQ nodes. This applies to both steady state and dynamic operation. Hence, all the control principles necessary involving spinning reserve, primary control and secondary control depending on the frequency can be substituted by a comprehensive angle control of the nodal voltages in the transmission and distribution network.