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Control systems for the integration of wind energy in the grid through a Renewable Energy Control Center

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Abstract

The Renewable Energies Control Centers allow to control and integrate properly the wind energy into the grid. The results show that wind farms can cooperate with the stability of the grid in a similar way as do conventional generation facilities, regulating active power, reactive power and voltage level.

In order to do centralized management of wind energy are needed to implement some specific requirements in the control centers, such as the acquisition of a large amount of information or the ability to support specific developments of wind farms.

However, the characteristics of these control systems should be based on market standards, open systems and conventional SCADA functionality.

The Renewable Energies Control Centers are a basic and fundamental tool in the present and the future of the renewable energy integration in the grid.