

Dynamic Modeling of Wind Farms in the Jeju Power System

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Abstract : In this paper, we develop a dynamic modeling of wind farms in the Jeju power system. The dynamic model of wind farms is developed to study their dynamic effects on the Jeju power system. PSS/E is used to develop the dynamic model of a wind farm composed of 1.5-MW doubly fed induction generators. The output of a wind farm is regulated based on pitch angle control, in which the two controllable parameters are speed and power references. The simulation results confirm that the pitch angle is successfully controlled, regardless of the variation in wind speed and output regulation.

Keywords : dynamic model, Jeju power system, online limitation, pitch angle control, wind farm

Conference Title : ICEPES 2016 : International Conference on Electrical Power and Energy Systems

Conference Location : Los Angeles, United States

Conference Dates : April 05-06, 2016