

NAME : ANTONIO DE PADUA GUARINI  
COUNTRY: BRAZIL  
REGISTRATION NUMBER: 5062

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### **The Use of Wind Power Farms in the Restoration Process: The Brazilian Case**

#### **Question 2.1: How are power electronic interfaced resources best included in system restoration plans?**

Considering Brazil's currently situation, where there is only grid following wind power plants, to best include the power electronic interfaced resources, specifically wind generation farms, in system restoration process, it is mandatory to evaluate the short circuit power and the equivalent inertia to help analysing and defining grid robustness of the minimum restoration area which may interconnect the wind generation farm to the AC substation at the Common Coupling Point (CCP).

Those two parameters will be important to decide whether to install synchronous condensers or not. The dynamic studies are important to evaluate wind farms response during load pickup and rejection and also during generation rejection.

Due to its variable behaviour, the wind power should be considered a supplementary source at a hydro or thermoelectric restoration process, where the wind farms will be used to allow more load pickup, to contribute with reactive power and to reduce the active power needed from the frequency controller source, allowing it a margin to respond if there are frequency oscillations during the restoration process.