The Impact of constant Speed Wind Turbines on the Transient Stability of Syrian Power System*

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ABSTRACT

Efforts are being made to connect many wind farms to Syrian electrical network As of Wind turbine the increases; their Cumulative impact on dynamic operational characteristics of power system will increase.
In this paper, the impact of constant speed wind turbines utilizing squirrel cage induction generators, the most worldwide spread nowadays, on the transient stability of Syrian power system is analyzed.
Various aspects have been considered like wind turbine penetration level, fault location on power system overhead lines and network topology transforming.
Results of this study show that wind turbine farms planned to be connected to Syrian electrical network will have significant impact in improving transient stability parameters (CCT,d**).**
As the wind turbine penetration level increases, their impact will increase, but still remain dependent on the fault location and network topology transforming caused by double circuits of overhead lines.

Index Terms: Fixed speed wind turbines, induction generators, critical clearing time, transient stability, Syrian power system

* For The paper in Arabic see pages(325-349)

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