

IMPACT OF IMPSA WIND POWER PLANT ON NINH THUAN - BINH THUAN GRID WITH SMALL SIGNAL STABILITY ASSESSMENT

THE IMPACT OF THE IMPSA WIND POWER PLANT ON THE NINH THUAN - BINH THUAN GRID WITH SMALL SIGNAL STABILITY ASSESSMENT

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Tóm tắt bằng tiếng Việt:

Voltage stability issue is a key problem which is attracting worldwide attention because it may lead to voltage collapse. This research presents an implementation of a Ninh Thuan – Binh Thuan grid model in Power System Analysis Toolbox (PSAT) – free and open source software. A newly developed IMPSA wind turbine model is modeled and connected to Ninh Thuan – Binh Thuan power system. The impact of IMPSA Wind Power Plant on the Ninh Thuan - Binh Thuan grid is carried out and analyzed with small signal stability. In this paper, IMPSA wind turbine based on variable speed wind generators are considered. The article ends with a validation of the stable Ninh Thuan – Binh Thuan grid model generated by PSAT including new variable speed wind turbine model. This validation is done through eigenvalue analysis by applying small disturbances from wind speed variation. The article ends with a validation of the stable Ninh Thuan – Binh Thuan grid model generated by PSAT including new variable speed wind turbine model. This validation is done through eigenvalue analysis by applying small disturbances from wind speed variation.

Từ khóa: Stability; Wind turbine; Wind speed; Modeling; Power system analysis

Tóm tắt bằng tiếng Anh:

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Key words: stability; wind turbine; wind speed; modeling; power system analysis