

IMPLEMENTATION OF BIOGEOGRAPHY - BASED OPTIMIZATION FOR TRANSIENT STABILITY ENHANCEMENT IN EGYPTIAN NATIONAL GRID

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The main purpose of this paper is focused upon the enhancement of transient stability of Egyptian electrical power grid anticipating the entrance of new nuclear power station in Dabaa area. For this purpose, two different approaches were investigated. The first approach is to employ a Static VAR Compensator solely with higher capacity. Capability of the device to provide synchronizing torque is tested at different contingency cases. Singular value decomposition is employed to pursue the optimum locations of implementation as well as feedback signaling. The second approach of solution is to use Power System Stabilizer (PSS) beside the SVC but of lower capacity. On the other side, Biogeography-Based Optimization (BBO) is used to attain the optimum devices parameters.

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