

Tri-level transmission expansion planning under intentional attacks: virtual attacker approach-part II: case studies

G.R. Yousefi; H. Nemati; M.A. Latify

Abstract-

In the second part of this two-part study, the authors numerically validate and analyse the tri-level transmission expansion planning (TTEP) which is formulated and explained in the first part. TTEP is performed aim to minimise the destructive impacts of physical intentional attacks. At first, an illustrative example (a three-bus system) is provided to show the capability of the proposed TTEP model to find the Nash equilibria and identify the Pareto equilibria of the game among virtual attackers. Then, the proposed TTEP model is applied on the Garver network and the modified IEEE 30-bus network and numerical results for several case studies are provided. The numerical results confirm the proposed model and show its significant capability in reducing the vulnerability of the power networks.

Index Terms-

Due to copyright restriction we cannot distribute this content on the web. However, clicking on the next link, authors will be able to distribute to you the full version of the paper:

[Request full paper to the authors](#)

If you institution has a electronic subscription to IET Generation Transmission & Distribution, you can download the paper from the journal website:

[Access to the Journal website](#)

Citation:

Latify, M.A.; Nemati, H.; Yousefi, G.R. "Tri-level transmission expansion planning under intentional attacks: virtual attacker approach-part II: case studies", IET Generation Transmission & Distribution, vol.13, no.3, pp.399-408, February, 2019.