Review of: "Mathematical Assessment of the Reliability in a Complex Deregulated Power System"

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Potential competing interests: No potential competing interests to declare.

The authors elucidated the concept of power system restructuring as an effective method for ensuring economically feasible and uninterrupted power distribution. Evaluating the reliability of the power system involves considering various factors, with the reliability index being a crucial metric influenced by both system security and adequacy. Improving the reliability index necessitates strategic placement of FACTS (Flexible Alternating Current Transmission System) devices, which can be achieved through power flow analysis with specific constraints. This approach identifies vulnerabilities in the system using Genetic Algorithm-driven placement strategies. Additionally, the authors conducted a meticulous analysis of the correlation between Distributed Generation (DG) deployment and the reliability index, further enhanced by introducing a Derated Forced Outage Rate for a comprehensive performance assessment.

However, it is essential for the authors to compare their findings with benchmark