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.

Reviewer's Feedback on "Mathematical Assessment of the Reliability in a Complex Deregulated Power System".

The paper focuses on enhancing the reliability index through the strategic placement of a Flexible AC Transmission System (FACTS) using power flow analysis with specified constraints. It identifies weak points for device placement using Genetic Algorithms. This research has the potential to reshape the power system for economical and uninterrupted power supply, aligning well with the journal's scope. However, several improvements are needed for publication.

Abstract: The abstract lacks a clear link between research purpose and methodology. Also, it should be written in the past tense.

Introduction: The introduction needs more examples and elaboration supported by references.

Figures 2 and 4: Expand and strengthen the discussion regarding "mathematical expression" and "Detecting Weaknesses in Transmission within Complex Systems" in Figures 2 and 4. These figures are crucial; addressing them comprehensively is necessary.

Novelty: Define the novelty and objectives of the research paper clearly, highlighting what sets it apart from existing research.

References: Ensure reference consistency, following the journal's style.

Conclusion: Improve the conclusion section.

My submission, the manuscript has potential in the field of performance-based regulation in the bulk power system, assessing composite system reliability using sequential simulation. Addressing these points will enhance power system reliability, especially in deregulated systems with Distributed Generators (DGs).