Accepted Manuscript

Reliability analysis in interdependent smart grid systems

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PII: S0378-4371(18)30104-3
DOI: https://doi.org/10.1016/j.physa.2018.02.028
Reference: PHYSA 19148

To appear in: *Physica A*

Received date : 16 November 2017
Revised date : 22 January 2018

Please cite this article as: H. Peng, Z. Kan, D. Zhao, J. Han, J. Lu, Z. Hu, Reliability analysis in interdependent smart grid systems, *Physica A* (2018), https://doi.org/10.1016/j.physa.2018.02.028

*Highlights (for review)

Highlights:

1. Based on complex network theory, we study the reliability in interdependent smart grid systems.
2. We focus on understanding the structure of smart grid systems and studying the underlying network model, their interactions, and relationships.
3. We show that how cascading failures occur in the interdependent smart grid systems.
4. Based on percolation theory, we also study the effect of cascading failures effect and reveal detailed mathematical analysis of failure propagation in such systems.
5. We analyze the reliability of our proposed model caused by random attacks or failures by calculating the size of giant functioning components in both networks.