Abstract

Power grid is the vital life line of modern society that can be easily get affected by blackouts and outages. Therefore it is important to diagnose the faults and restore the service in a timely manner in order to minimize the fault induced losses. To add to this, the complex and stochastic nature of environment factors makes automated fault identification, its diagnosis and its restoration is a big challenge. Thus, this paper determines the blackout scenarios around the world. It further explores the Overload Cascade model (OCM) algorithm and then proposes a modification into the OCM with a focus on modernizing the transmission grid through application of ICT technologies.
References

- Soila Pertel, Handling cascading failures: - The case of Topology Aware fault tolerance
- T Suresh, "An overview of Maharashtra State Electricity Transmission Co. Ltd", 2012
- P Pentayya, "Low frequency oscillations in Indian grid".
- About 100 million people in Bangladesh, out of a total of 160 million, were without electricity for about 10 hours on November 1. www.thedailystar.net/Bangladesh-blackout-2014-48574
- Lyn Bartram et al, "Visualization viewpoints, Chasing the Megawatt," May 2010, IEEE Computer Society
- Sakshi Pahwa, "Abruptness of cascading failures in power grids," Scientific Reports, 15th Jan 2014
- Ian Dobson, "A loading dependent model of probabilistic cascading failure, 2005
- Dong Xi et al, "Research on Energy Management Systems of regional power grids," May 2010

Index Terms

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