

Jennarong Klunvaree 2011: A Data-Envelopment-Analysis Method for Reliability Target Setting of Electric Power Distribution Systems. Master of Engineering (Electrical Engineering), Major Field: Electrical Engineering, Department of Electrical Engineering. Thesis Advisor: Mr. Pisut Raphisak, Ph.D. 45 pages.

This thesis presents a method of reliability target setting for electric power distribution systems – including System Average Interruption Frequency Index (SAIFI). Data Envelopment Analysis (DEA), which is normally used to evaluate efficiency of organization work-units, is applied in the proposed method to generate a data envelope from SAIFI statistic, which is so-called an efficiency frontier. Target SAIFIs for all work-units are evaluated from the efficiency frontier. The statistical data used in this thesis are provided by the Provincial Electricity Authority of Thailand (PEA). Four models of target setting are proposed and applied to determine target SAIFI for each work-unit of PEA. In the end, the results from four models are compared and discussed about their advantages and disadvantages.

---

Student's signature

---

Thesis Advisor's signature