

Alounyadeth Bulyaphol 2012: Loss of Load Probability Evaluation in Central-1 Area, Lao PDR. Master of Engineering (Electrical Engineering), Major Field: Electrical Engineering, Department of Electrical Engineering. Thesis Advisor: Associate Professor Vichai Surapatana, M.Eng. 59 pages.

A study of Loss of Load Probability Evaluation in Central-1 Area, Lao PDR is to find out how many days annually that load demand will probably exceed the available generator's installed capacity. The study focuses only the Central-1 Area because; it's the biggest domestic's load demand area in Laos. Using the probability theory; the Force Outage Rate (FOR), the Availability (p) of the generators in 3 hydropower plants and daily peak load demand data are used in calculation method, a MATLAB R2008a program is also used in this method. Two other cases are considered to find different result of LOLP, which are: adding new generator and interconnected with IEEE RTS 3405MW system.

The results show that the probability of the load demand exceeding the available generator's installed capacity is up to 43.8045day/year. However, the number of days decrease when adding new generator or the generation system is interconnected system.

Student's signature

Thesis Advisor's signature

____ / ____ / ____