

ABSTRACT

Indonesia is one of the developing countries with all developments in every sector and also supported by technological advancement, which is why the demand for electricity in Indonesia is increasing. Without the exact formula that can ensure the amount of electrical load at any time, then that can be done is to forecast the electrical load. The load forecasting method discussed in this study is a method of artificial neural network (ANN) run by Backpropagation. This research produces a peak load forecasting system of PT. PLN (Persero) Kota Jambi rayon Kota Baru in the span of 9 years ahead by using Artificial Neural Network (ANN) Backpropagation using software MATLAB R2017a. This peak load forecasting uses historical data from PT. PLN (Persero) Kota Jambi rayon Kota Baru. In the result of this research it is found that using ANN method has error of $8,9481e-10$ this shows that method of ANN proper to use as forecasting method going forward. Forecasting results that have been done through the ANN method from 2017 to 2025 show an average peak load increase of 6.3%.

Keywords: Peak load forecasting, Artificial Neural Network (ANN) Backpropagation, Matlab.