

Effect of Economic in Factory installing Voltage Regulator

There are many factors contributing to a problem of voltage drop in electricity distribution system such as a proximity to large electricity demand during the peak hours, a long distance between the industries/end users and the electricity substations, load factors and etc. To solve the problem, the electric utility normally compensates this drop by increasing the input voltage level in the transmission line. To avoid these consequences, in this research, the tap –switching voltage regulator is introduced to a sample of manufacturers located in Mahasarakham industrial estate, its conventional input voltage level is approximately 229 volts which is higher than the nominal voltage level. After the regulator installation, the input voltage is lower to 220 volts. It leads to 4.36 % electricity saving per month. Since the electricity consumption is reduced around 21,144.51 kWh per month or 61,319.08 Baht/month. The investment will break even within only 1.32 years.

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