ABSTRACT

PT. Semen Gresik Tuban I, II and III is an industrial company in cement production. At this final project, will be analysis power flow of the electrical system of PT. Semen Gresik Tuban I, II and III. Then it will continue to know the harmonic analysis of harmonic distortion that occurs. The system analyzed is the electrical system of PT. Semen Gresik factory Tuban I, II and III, subsequent to the addition of load.

From the simulation results of power flow and harmonic, it found that there is one bus undervoltage condition and one bus that the power factor can still be maximized.

The analyzes were performed by modeling the system using ETAP software 7.5.0. Then the results of the simulation will be done the design for the installation of capacitor banks and harmonic filter. This is done to address the problems that occur in both bus is problematic. After that, re-analysis was done on the electrical system on the condition of the addition of capacitor banks and harmonic filter additional conditions.

Will do the comparison of the results of the capacitor bank and harmonic filter installation. The results of the comparison was going to be a reference to the selection of appropriate equipment to address the existing problems in the system.

Keyword: capacitor bank, harmonic filter, harmonic distortion, undervoltage
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