HYBRID FILTER DESIGN TO REDUCE HARMONICS IN PT. SEMEN INDONESIA REMBANG PLANT

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ABSTRACT

PT. Semen Indonesia is one of domestic firms that has many factory in different localities. One of them was built in Rembang, Central of Java. As the biggest cement factory in Indonesia, PT. Semen Indonesia should have a daily target for the production. One way to do is controlling the rotary motor speed with VSD (Variable Speed Drive). But one thing we should know is, inside the VSD usage, it contains non-linear load, inflicts one problem named Harmonic. Therefore to prevent the damaged of equipment like transformer or cables, it needs to do planning study for hybrid filter installation to reduce the impact of harmonic distortion in PT. Semen Indonesia.

Besides of the filter installation in this final project also analyzed to prevent of existing plant. It needs tap changer setting and capacitor bank installation before doing filter installation to reduce the harmonics. Writer analyzed some cases to get the best condition including passive and active filter placement, so that we get economic but maximum for reduce the harmonics distortion.

This final project is focused on the active filter modelling on Powersim software in spite of Passive and hybrid Filter on ETAP 7.5

Keyword: Harmonic, Active Filter, Passive Filter, Hybrid Filter