

Weerapat Senwiruch 2009: Study Impact of Three-Winding Power Transformer on the Provincial Electricity Authority System Protection. Master of Engineering (Electrical Engineering), Major Field: Electrical Engineering, Department of Electrical Engineering. Thesis Advisor: Associate Professor Kiatiyuth Kveeyam, Ph.D.  
154 pages.

This thesis shows the effect of zero sequence current in PEA distribution system using power transformer with YNyn0(d1) vector group to the protection system. The demonstration is done through DIgSILENT Power Factory simulation program. The study found that the existing protection system can malfunction when single line to ground fault occurs and yield a long time power outage. The reason is the zero sequence current flows into YNyn0(d1) power transformer. Open circuit on load side has occurred by distance relay and fail to auto-reclose. The thesis also proposes the procedure to improve the existing protection system in order to enhance reliability of PEA power system.

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Thesis Advisor's signature

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