

**VOLTAGE SAG PROFILE AT POWER SYSTEM NETWORK USING
DIFFERENT TRANSFORMER CONFIGURATION**

This thesis is presented in partial fulfillment for the award of the
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With the name of ALLAH Most Gracious Most Merciful

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ABSTRACT

Abstract — Power quality has become an important issue over the past several years. One of most important power quality issues in distribution lines is the voltage sag, since sags cause severe effects to consumers. In general, sag characteristic such as magnitude, duration and phase angle jump are typically determined using an RMS voltage. Voltage sags mostly caused by the short circuit faults, transformer energizing and large induction motor starting. There are many type of transformer configuration for example wye-wye, delta-wye, delta-delta and etc. Different types of transformer configuration will give different effects of voltage sag. This paper will discuss the voltage sag profile and classification of voltage sag in a power system network using delta-wye and wye-wye transformer configuration in symmetrical and asymmetrical fault. Fault will be simulated using Power System Computer Aided Design (PSCAD/EMTDC). It is hoped that by doing this research, suitable transformer configuration will be chosen in order to reduce the losses of voltage sag in distribution lines.

Keywords — sag; voltage sag profile; transformer configuration; wye-wye; delta-wye

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