

# **STUDY VOLTAGE REGULATION ON DIDIK FEEDER SUBSTASION CILEDUG**

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## **ABSTRACT**

Medium Voltage Distribution Network (MVDN) is a part of distribution network that distributes large amounts of energy and reaches a large area. Medium voltage distribution network consists of Air Channel Medium Voltage (ACMV) and Cable Channel Medium Voltage (CCMV). Both networks cover wide range of areas. So both of them can result in voltage losses that often exceed the allowable standard, ie + 5% -10%. The growing load voltage causes the emergence of voltage drops. So voltage supply in the distribution transformer decreases. As a result, voltage on the customer side does not match with the specified tolerance limit. To maintain the supply of voltage on distribution transformer, it need a voltage regulation so that the voltage level customer can be according with the requirement. In this thesis, it will be discussed about voltage regulation on feeder 'Didik' by used a shunt capacitor when the voltage drop occurred that has exceeded the allowed standard limit. The results of the ETAP 12.6 simulation drop voltage during the growth of the fourteenth year load when the peak load is 6.64% and when the low load is 3.08%. The result of voltage drop after the installed shunt capacitor when the peak load of 5.97% and when the low load 2.67%.

*Keywords: Medium Voltage Distribution Network (JTM), drop voltage, voltage regulation*