ABSTRAK

Keandalan dan Kemampuan suatu Sistem Tenaga Listrik dalam melayani mesin-mesin atau peralatan yang menggunakan tenaga listrik dipengaruhi salah satunya oleh kegiatan *Maintenance*.

Maintenance Jaringan Distribusi Tegangan Rendah merupakan kegitan pemeliharaan instalasi perangkat jaringan distribusi dari mulai MVMDP, Trafo *Stepdown* sampai LVMDP-SDP. *Maintenance* Instalasi Jaringan Distribusi Tegangan Rendah dilaksanakan untuk memastikan atau menjaga perangkat Instalasi dalam keadaan baik atau layak, parametermya dapat dilihat dari nilai resistansi penghantar dan kontak hubungnya, dengan Instalasi perangkat yang baik, maka kinerja pada pemutus arus pada saat terjadi gangguan akan tepat.

Hasil uji tes pada saat *maintenance* akan menunjukan besaran nilai tahanan instalasi jaringan distribusi yaitu, nilai tahanan isolasi, nilai tahanan kontak, dan tahanan winding pada trafo. Nilai Uji Tes mengacu pada standar yang telah ditentukan. Standar IEC 60470 & JEC-181-1971 (batas waktu kontak *circuit breaker*), IEC 60076- 1 Tahun 2011 (tahanan insulasi), IEEE C57.125 (tahanan insulasi trafo). *Maintenance* Instalasi Jaringan Tegangan Rendah mencakup; Kondisi ruangan peralatan, Kondisi perangkat/switchgear (panel MVMDP, Trafo, Panel LVMDP) Kondisi *circuit breaker, cable/busbar, jointing cable/busbar, trafo,* Fungsional *trip circuit breaker, MCCB, MCB.* Terdapat perubahan cukup signifikan pada nilai uji tes setelah dilakukannya *maintenance,* Tahanan insulasi ; MVMDP Δ 11.1 GΩ, *transformator step down* Δ 42 MΩ, LVMDP Δ 24 MΩ. Tahanan kontak pada *busbar/joint contact* Δ 7.2 $\mu\Omega$.

Kata Kunci: Maintenace, Jaringan Tegangan Rendah, Tahanan Insulasi, Tahanan Kontak

ABSTRACT

The reliability and capability of an electric power system in servicing machines or equipment that uses electric power is influenced by activities Maintenance.

Maintenance The Low Voltage Distribution Network is a maintenance activity for the installation of distribution network devices starting from MVMDP, transformers Step Down up to LVMDP-SDP. Maintenance of the Low Voltage Distribution Network Installation is carried out to ensure or maintain the installation equipment in good or proper condition, the parameters can be seen from the value of the resistance of the conductors and the contacts, with a good device installation, the performance of the circuit breaker in the event of a fault will be correct.

The test results at the time maintenance will show the value of the installation resistance of the distribution network, namely the insulation resistance value, the contact resistance value, and the winding resistance of the transformer. Test Value The test refers to a predetermined standard. Standard IEC 60470 & JEC-181-1971 (contact time limit circuit breaker), IEC 60076- 1 Year 2011 (insulation resistance), IEEE C57.125 (transformer insulation resistance). Low Voltage Network Installation Maintenance includes; Condition of equipment room, Equipment/switchgear condition (MVMDP panel, transformer, LVMDP panel) Condition of circuit breaker, cable/busbar, jointing cable/busbar, transformer, Functional trip circuit breaker, MCCB, MCB. There is a significant change in the test value after maintenance, insulation resistance; MVMDP Δ 11.1 GΩ, step down transformer Δ 42 MΩ, LVMDP Δ 24 MΩ. Contact resistance at busbar/joint contact Δ 7.2 μΩ.

Keywords: Maintenace, Low Voltage Network, Insulation Resistance, Contact Resistance