

SUMMARY

Muhammad Thoriqul Ma'arif, *Electrical Engineering* , Engineering Faculty of Brawijaya University, 2015, Evaluation Reliability System of 20kV In Kolonel Sugiono Feeder APJ Malang, Supervisors : Ir. Teguh Utomo, M.T., Ir. Mahfudz Shidiq, M.T.

The performance reliability of the electrical distribution system has an important role to supply energy to customers. The most fundamental problem in the electrical power distribution system are the quality, continuity, and availability of electrical power service to customers. Kolonel Sugiono feeder is one of feeder that often disruption. Section technique is an analysis evaluation method that can used to find the value of the reliability system of distribution network. The reliability index in Kolonel Sugiono feeder before the change of network based on standard SPLN 59 : 1985 are SAIFI 5.264, SAIDI 13.55 , and CAIDI 2.574 whereas with ANSI / IEEE std 439-1980 standart are SAIFI 2.707, SAIDI 7.573 and CAIDI 2.798. After the change of Kolonel Sugiono feeder network is divided into two feeder, namely , Kolonel Sugiono new feeder and Tlogowaru feeder . Reliability index of Kolonel Sugiono new feeder based on SPLN standard 59 : 1985 are SAIFI 2.405, SAIDI 4.3 , and CAIDI 1,788 , while the ANSI / IEEE std 439-1980 standart are SAIFI 1,236 , SAIDI 2,399 , and CAIDI 1.94. And the reliability index of Tlogowaru feeder with SPLN standard 59 : 1985 was obtained for SAIFI 3,047 , SAIDI 3.432 , and CAIDI 1,126 , while the ANSI / IEEE std 439-1980 standart are SAIFI 1.44 , SAIDI 1,769 and 1,228 CAIDI . So, Kolonel Sugiono feeders and Tlogowaru feeder after the network changes more reliably than before the changes to the network.

Key Word – Reliability Index, Distribution System, Section Technique, Primer Network, Feeder