

ABSTRACT

Analysis of Reliability Index Inai Feeder PT. PLN (Persero) Teluk Naga Area using Section Technique Method and Reliability Index Assessment Method and Etap Simulation 12.6 version

The continuity of the 20 kV electric power distribution system to PLN consumers especially the PLN Teluk Naga Area customers is certainly greatly influenced by the level of system reliability. The level of reliability can be measured by the number of times the disturbance occurred and the duration of the disturbance. For achieve a reliable level of reliability, it is necessary to have an analysis and evaluation of the network. The current condition of PLN Teluk Naga Area does not yet have a method or analytical instrument to predict and evaluate the level of reliability in the feeder.

In order to provide a solution to this, the writer conducted a 20 kV distribution level reliability analysis study at the PLN Teluk Naga Area service area specifically the feeder feeder using the data mapping analysis method in the form of technique section method, Reliability Assessment Index and Etap 12.6 with the aim knowing the level of reliability of the host feeder index so that it can be compared with the standard of PLN.

The results obtained from the analysis and calculations using the section technique method, the value of SAIFI = 1,718 disorders / year, SAIDI = 14,552 hours / year and CAIDI = 8 hours / year. Whereas with the RIA method the value of SAIFI = 1,705 disorders / year, MAIFI = 0.062 disorders / year, SAIDI = 14,422 hours / year and CAIDI = 8,459 hours / year. Then when running using Software ETAP 12.6 the value of SAIFI = 1,794 disturbances / year, SAIDI = 14,480 hours / year and CAIDI = 8,069 hours / year. Based on these results the level of reliability in the feeder still meets PLN standards, namely SAIFI 3.2 times / year and SAIDI 21 hours / year.

Keywords: Electricity, interference, duration, index, reliability.

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