

INTISARI

Dalam mengoperasikan sistem jaringan distribusi faktor keandalan perlu menjadi perhatian. Oleh karena itu, parameter yang dapat dijadikan acuan dalam mengetahui keandalan penyaluran energi listrik yaitu dengan menghitung indeks jumlah rata-rata gangguan sistem selama setahun yaitu SAIFI (*System Average Interruption Frequency Index*), indeks durasi rata-rata gangguan sistem selama setahun yaitu SAIDI (*System Average Interruption Duration Index*), CAIDI (*Customer Average Interruption Duration Index*).

Berdasarkan analisis dan perhitungan didapatkan bahwa nilai keandalan sistem distribusi tenaga listrik di Gardu Induk Gejayan. Penyulang GJN 03 dan penyulang GJN 19 dikategorikan kurang handal karena nilai SAIFI lebih besar dari standar nilai IEEE. Semua penyulang dikategorikan handal karena nilai SAIDI lebih kecil dari standar nilai IEEE.

Untuk kinerja rayon, Rayon Kalasan, Rayon Yogya dengan penyulang (*feeder*) yang ada di Gardu Induk Gejayan mempunyai nilai SAIFI dan SAIDI lebih besar dari standar nilai WCS dan WCC.

Kata Kunci : Keandalan, SAIFI, SAIDI, CAIDI.

ABSTRAC

In operating the distribution network system reliability factor needs to be a concern. Therefore, parameters that can be used as references to determine the reliability of distribution of electrical energy is to calculate the index average number of system disturbances during the year is SAIFI (System Average Interruption Frequency Index), an index of the average duration of system disturbances during the year is SAIDI (System Average Interruption Duration Index), CAIDI (Customer Average Interruption Duration Index).

Based on the analysis and calculations showed that the value of reliability of the electricity distribution system in the Gejayan substation. GJN 03 feeder and GJN 19 feeder considered less reliable because SAIFI value greater than the standard value of IEEE. All feeder considered reliable because SAIDI value smaller than the standard value of IEEE.

For performance rayon, Rayon Kalasan, Rayon Yogya by feeder in the Gejayan substation SAIFI and SAIDI has a value greater than the standart value of WCS and the WCC.

Keyword : Realiability, SAIFI, SAIDI, CAIDI