ABSTRACT

Based on Electricity Statistics 2017 in Indonesia, there had been an increase in electricity customers from 2012 to 2017 with the addition of customers each year at an average of 3.6 million customers. PT. PLN (Persero) as a provider of electricity is required to provide electricity reliably to its customers. However, in the distribution of electricity it is sometimes subject to interference caused by various factors that result in the cessation of the distribution of electricity to customers. Basically the disruption that occurs in a 20 kV distribution system can be classified into two types, which are interference from the system and interference from outside the system. The biggest percentage of the causes of the disruption occurred in distribution network equipment with a value of 31.7% of the 104 disruption that occurred. Continuity of the electric power distribution system can be measured using reliability indices which are SAIDI (System Average Interruption Duration Index) in the form of an average blackout index per customer per year and SAIFI (System Average Interruption Frequency Index) in the form of an average blackout frequency index per customer per year. The SAIDI index value at PT. PLN (Persero) ULP Palur in May 2018 to April 2019 was 62.16 hours/customer/year while the SAIFI index value was 4.35 times/customer/year. Losses caused by the outage of the distribution network due to disruption amounted was Rp. 10,487,342,599.26.

Keywords: *disruption, continuity, SAIDI, SAIFI*

INTISARI

Berdasarkan Statistik Ketenagalistrikan Tahun 2017 di Indonesia terjadi peningkatan pelanggan listrik dari tahun 2012 hingga 2017 dengan penambahan pelanggan tiap tahunnya rata-rata sebesar 3,6 juta pelanggan. PT. PLN (Persero) sebagai perusahaan penyedia tenaga listrik dituntut untuk menyediakan listrik secara andal kepada pelanggannya. Namun dalam pendistribusian tenaga listrik terkadang mengalami gangguan yang disebabkan oleh berbagai faktor yang mengakibatkan terhentinya distribusi tenaga listrik ke pelanggan. Pada dasarnya gangguan yang terjadi pada sistem distribusi 20 kV dapat digolongkan menjadi dua macam yaitu gangguan dari dalam sistem dan gangguan dari luar sistem. Prosentase terbesar penyebab gangguan yang terjadi yaitu pada peralatan jaringan distribusi dengan nilai 31,7 % dari 104 gangguan yang terjadi. Kontinuitas sistem distribusi tenaga listrik dapat diukur dengan menggunakan indeks keandalan di antaranya adalah SAIDI (*System Average Interruption Duration Index*) berupa indeks lama pemadaman rata-rata tiap pelanggan per tahun dan SAIFI (*System Average Interruption Frequency Index*) berupa indeks frekuensi pemadaman rata-rata tiap pelanggan per tahun. Nilai indeks SAIDI di PT. PLN (Persero) ULP Palur pada bulan Mei 2018 hingga April 2019 sebesar 62,16 jam/pelanggan/tahun sedangkan nilai indeks SAIFI sebesar 4,35 kali/pelanggan/ tahun. Kerugian yang diakibatkan oleh padamnya jaringan distribusi akibat gangguan sebesar Rp 10.487.342.599,26.

Kata kunci: *gangguan, kontinuitas, SAIDI, SAIFI*