

ABSTRAK

Purifikasi minyak trafo atau biasa disebut juga *treatment trafo* merupakan suatu proses pemurnian minyak trafo melalui alat yang disebut *Transformer Oil Purification Plant* dengan cara menghilangkan atau mengurangi kontaminasi fisik berupa kontaminasi partikel-partikel, kandungan air, kandungan gas, dan lain-lain. Transformator yang dilakukan penelitian merupakan transformator 1 GIS Grogol yang digunakan kebutuhan listrik didaerah grogol dan sekitarnya yang mempunyai masalah pada isolasi minyak trafo sehingga diperlukan perawatan dan tindakan.

Penelitian kondisi kesehatan dan prediksi umur transformator penting untuk dilakukan supaya diketahui bagaimana kondisi dan tindakan yang diperlukan pada transformator. Salah satu metode yang digunakan untuk analisa kondisi transformator adalah metode *health index*. Metode *health index* sendiri menggunakan 4 parameter pengujian transformator seperti parameter *Dissolved Gas Analysis (DGA)*, kualitas minyak, furan dan kondisi *tap changer*. Penelitian ini juga membandingkan *health index* trafo sebelum dan sesudah di purifikasi.

Berdasarkan hasil perhitungan dan analisa total *health index (HI%)* trafo 1 GIS Grogol naik 18% setelah dilakukannya purifikasi minyak trafo yang sebelumnya 52% menjadi 70%. Beberapa parameter pengujian membaik setelah dilakukannya purifikasi minyak trafo. Berdasarkan nilai *health index* tersebut maka trafo 1 GIS Grogol masih dalam keadaan waspada serta diperkirakan mampu beroperasi 5-10 tahun sesuai dengan *treatment* yang diberikan.

Kata kunci : *Health Index*, Purifikasi Minyak Trafo, Prediksi Umur Trafo.

UNIVERSITAS
MERCU BUANA

ABSTRACT

Transformer oil purification or also known as transformer treatment is a process of purifying transformer oil through a device called a Transformer Oil Purification Plant by eliminating or reducing physical contamination in the form of contamination of particles, water content, gas content, and others. The transformer that was carried out in this study was a GIS Grogol 1 transformer that was used for electricity needs in the Grogol area and its surroundings which had problems with transformer oil insulation so that maintenance and action were needed.

Research on the health conditions and prediction of the life of the transformer is important to do so that the conditions and actions required for the transformer are known. One of the methods used to analyze the condition of the transformer is the health index method. The health index method itself uses 4 transformer testing parameters such as Dissolved Gas Analysis (DGA) parameters, oil quality, furan and tap changer conditions. This research also compares the transformer health index before and after purification.

Based on the results of calculations and analysis the total *health index* (HI%) of transformer 1 GIS Grogol rise 18% after purification of transformer oil which was previously 52% to 70%. Several test parameters improved after purification of transformer oil. Based on the *health index* value, the Grogol GIS transformer is still on alert and is estimated to be able to operate for 5-10 years according to the treatment given.

Keywords: Health Index, Purification of Transformer Oil, Prediction of Transformer Age.

UNIVERSITAS
MERCU BUANA