

ABSTRACT

ANALYSIS MAGNETIC FIELD DISTRIBUTION IN THE AREA AROUND THE SUBSTATION OF PT PLN (PERSERO) P3B SUMATRA SOUTH TELUK BETUNG BANDAR LAMPUNG USING SURFER

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It has been conducted research about analysis of magnetic field distribution in the area of the substation of PT PLN (Persero) P3B Sumatra, South TelukBetung, Bandar Lampung. The substation serves the distribute of electric power from electricity transmission system to consumer distribution. It caused the magnetic field around the electrical installation equipment and the current carrying wires that are on the substation. World Health Organization (WHO) set a quality standard for magnetic field was 1000 μT , while the Ministry of Health and SPLN set a quality standard magnetic field is 5000 μT . Based on the results of measurement with Milli Gauss Meter GU-3001 in the morning, afternoon, and evening (peak load) shown that the timing of the distribution of electric power affected the magnitude of the magnetic field. The maximum value of the magnetic field was 10,71 μT (direct current DC) and 3,42 μT (alternating current AC). This value was the result of measurement of magnetic field at night time (peak load) that still below of quality standard the magnetic field.

Keywords : Electric current, magnetic field, substation, WHO.