# *ABSTRACT*

*The Extra High Voltage Transmission Line (EHVTL) which was construction in the populated area creates significant implication in psychological impact to the people. It must be due to the rumor that the non-ionizing electromagnetic radiation causes some problem in the surrounding people's health.*

*In order to confirm the non-ionizing radiaton impact on the people, the research has been conducted around of EHVTL, which is located in Rancaekek, South Bandung, West Java, Indonesia. A detector for non-ionizing radiation were developed and used accordingly.*

*After doing research the results of simulation and measurement results by the PLN showed that the maximum intensity of electric field levels were 3 kV/m. These levels are significantly lower than the maximum level of the International Standard for Non-Ionizing Radiation Level, i.e., 5 kV/m. Average the maximum intensity of magnetic field levels were 0.00044 mT or 4.4 mG, which are higher than the maximum level of the International Standard for Non-Ionizing Radiation Level, i.e., 0.5 mT or 1000 mG.*

*To perform the test in determining the magnetic field strength and electric field using a radiation detector made the predetermined minimum voltage and current that can be read by the measuring instrument. On measuring instruments that have been made then performed a mathematical calculation and obtained the measured electric field strength is equal to 16 kV/m and magnetic field strength was 15.2 mT or 152 x 103 mG. Then this tool can not detect the strong magnetic field and electric field measured in the SUTET. But the detectors are made able to work well.*



***Keywords : non-ionizing radiation, electromagnetic, electrics field, magnetisms field.***