

ABSTRACT

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Study Program : *Electrical Engineering*

Title : ***ANALYSIS OF ELECTRICAL POWER QUALITY IN
CHICKEN SLAUGHTERHOUSE (RPA) SUKAHATI
SAMBONG***

To determine the existing electrical conditions in the Chicken Slaughterhouse (RPA), current imbalance, $\cos\phi$ values, current and voltage harmonics. The quality of electrical power is measured including active power (P), reactive power (Q), apparent power (S), voltage (V), current (I), power factor ($\cos[\overset{f_0}{\phi}]$) frequency (Hz) using a power measuring instrument. Quality Analyzer for Kyoritsu products. The measuring instrument is installed on the panel, to measure current there are 3 (three) current clamp clamps each installed on each phase conductor, for voltage measurements there are 4 (four) voltage test leads each installed on the plate between phases and on the neutral plate. And the data obtained from the data collected and measured is compared with the Indonesian National Standards (SNI) and the International Standards of the Institute of Electrical and Electronic Engineers (IEEE) to determine whether the symptoms are in accordance with the standards or not in accordance with the standards. From the research results, it was found that the largest load imbalance was 27.80% of the limit set by IEEE 519-2014 which was allowed at 5%. The power factor value in the R phase is 0.015 - 0.988, the S phase is 0.001 - 0.982 and the T phase is 0.119 - 0.987. The power factor value is less than the SPLN 70-1 Standard, namely >0.85 . And the highest current THD in the R phase is 42.88%, the S phase is 23.00% and the S phase is 26.70%. This value exceeds the maximum limit set by the IEEE 519-2014 standard of 5%.

Keywords: *Electrical power quality, SNI 04-0227-2003, IEEE 1159-2019, IEEE 519-2014, Power Quality Analyzer*