

***Electrical Performance Study at the Microhydro Power Plant (PLTMH) in
Tlocor Banyuwangi Regency***

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ABSTRACT

Microhydro Power Plants are power plants that convert the potential energy of water using a turbine. Tlocor PLTMH is a power plant that is still relatively new because it was inaugurated and only started operating in September 2023. This research aims to analyze the voltage and current produced, the consumer load in using the power produced, and the amount of excess power generated. The research method used is quantitative descriptive by recording data on a panel box using a data logger. The primary data used is water discharge data, generator data and consumer energy data. The results of research on the electrical performance of PLTMH Tlocor are quite good, but it is still hampered by waste when it rains. Voltage losses in distribution cables are still within the PLN standard, namely 0.3%. The electricity produced is sufficient for all consumer loads and there is excess electrical energy of 705.27 kWh/month so this excess can be utilized by increasing the load. There is a need for innovation in leaf litter traps so that the electricity produced by the generator is always optimal even though it rains frequently. It is best if the inductive load can be reduced to get a good power factor. Excess power can be utilized by adding loads that do not have too much power.

Keywords: *Voltage, Energy, Power, Excess power, Microhydro*