

ABSTRACT

This study aims to evaluate the performance of Micro Hydropower Plant (MHP) Unit 1 in Andung Biru Village, Probolinggo Regency based on its actual operating conditions. The evaluation was carried out using hydraulic and electrical parameters, including water discharge, effective head, output power, the effect of load variations, and voltage stability in the distribution system. The research employed a quantitative descriptive method through direct measurements, observations, and field documentation. The results indicate that the MHP is still capable of supplying electrical energy to the community; however, several issues affecting system performance were identified, including reduced turbine performance, less effective intake screening, deterioration of the penstock, and an inadequate power distribution system. Therefore, periodic maintenance and improvements are required to enhance the efficiency, reliability, and continuity of the MHP electricity supply.

Keywords: *Micro Hydropower Plant (MHP), performance evaluation, electrical power, power distribution, crossflow turbine.*