

**Studi Evaluasi Kinerja Turbin Francis Pada Pembangkit Listrik Tenaga Air Di
PT.PLN Indonesia Power Mrica Power Generation Unit Sub Unit PLTA TIMO**

(Study Of Francis Turbine Performance Evaluation On Water Power Plant At PT.
PLN Indonesia Power Mrica Power Generation Unit Sub Unit PLTA TIMO)

Pembimbing: Ir.Michael Joko Wibowo, M.,T

Khoriya Dwi Islami Kurniawan

Study Program Reneweble Energy Engineering

Majoring Of Technique

ABSTRACT

Optimal PLTA operation provides financial benefits and the power generated by the generator is bigger and distributed to consumers. This study aims to determine the effect of water discharge on the efficiency of the Timo hydropower turbine which has been operating for 61 years. The data analysis method used in this study is a quantitative method where the data obtained is then analyzed by means of calculations and graphical analysis. The calculations performed are the calculation of Eective Head, actual discharge, hydraulic power, turbine efficiency, minor losses, major losses and net head. Based on the efficiency obtained, the water flow rate greatly affects the power that can be generated by the turbine, as evidenced by the efficiency results in the dry season as low as 75% and as high as 88%, while during the rainy season the lowest is 85% and the highest reaches 91%.

Keywords: Discharge, Efficiency, Hydropower, Turbine, Timo.