

***Performance Evaluation Study Of Hybrid Power Plants As Public Street***

***Lighting At Lembaga Pelatihan Kerja Selaras Paiton***

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***ABSTRACT***

*PT POMI's Lembaga Pelatihan Kerja Selaras Paiton in its history built a Renewable Energy Power Plant in 2019, the first to be built was a PLTMH with a capacity of 15 kW. The second is followed by building a PLTB with a capacity of 18 V 500 Watt. Then the third is building a PLTS with a capacity of 800 Wp 17.5 Vdc with 16 solar modules. Of the three Power Plants, they have a hybrid system and the generated power is channeled to Public Street Lighting as many as 8 lamps with a capacity of 35 Watt. As time went on from the installation of the Hybrid Power Plant there were various problems from the Generator and the Control Room. From these various problems it is necessary to carry out a performance evaluation. The method used to carry out the first evaluation for PLTS is to calculate the Performance Ratio. For PLTMH and PLTB calculate the output power generated by the Generator and Kiprok.*

*The results showed that the highest PLTS PR was on the third day with a value of 40.2% and the lowest PR value was on the first day with a value of 31% which was caused by dust, temperature, angle of inclination and shadows, then for the PLTMH it produces a generator voltage starting from 22 V to 33 V adjusts to the water debit. Then for the PLTB it only produces a voltage of 0,1904 V and a current of 000.4 A due to inadequate wind speed. Furthermore, the battery energy value when charging is 2,411.95 Wh and when discharging is 1,777.6 Wh.*

***Keywords :*** Lembaga Pelatihan Kerja Selaras Paiton, PLTS, PLTMH, PLTB.