

ABSTRAK

Analisa performa pembangkit listrik akibat konsumsi rumah tangga di PKS PTPN IV kebun ADOLINA

Turbin uap termasuk dalam kelompok pesawat-pesawat konversi energi potensial uap menjadi energi mekanik pada poros turbin uap. Poros turbin uap langsung atau dengan bantuan roda gigi reduksi dihubungkan dengan mekanisme yang digerakkan. Turbin uap dapat digunakan pada berbagai bidang industri, transportasi, penerangan lampu, serta untuk pembangkit bertenaga listrik. Pada PTPN IV Kebun Adolina, daya per rumah yaitu 900 Watt dan di sekitar PKS kebun Adolina ada 20 rumah staf, jadi total daya yang di alirkan ke perumahan yaitu $900 \text{ Watt} \times 20 = 18.000 \text{ Watt}$. 3 sampel daya yang di alirkan ke listrik pembangkit yaitu sebesar $3.121.600 \text{ Watt} = 3.121,6 \text{ KW}$ dengan $\eta_{\text{turbin}} = 19,86 \%$, $2.659.880 \text{ Watt} = 2.659,88 \text{ KW}$ dengan $\eta_{\text{turbin}} = 16,89 \%$, dan $2.649.050 \text{ Watt} = 2.649,05 \text{ KW}$ dengan $\eta_{\text{turbin}} = 20,25 \%$.

Kata kunci : Turbin Uap, Performa, Pembangkit Listrik.

ABSTRACT

***Performance analysis of electricity generator due to household construction in
PKS PTPN IV Kebun ADOLINA***

Steam turbines are included in the group of planes to convert potential steam energy into mechanical energy on the steam turbine shaft. The steam turbine shaft directly or with the aid of a reduction gear is connected to driven mechanism. steam turbine can be used in various fields of industry, transportation, lighting and for electricity generation. At PTPN IV Kebun Adolina, Power per house is 900 watt and around PKS Kebun Adolina there are 20 staff houses, so the total power supplied to housing is $900 \text{ watt} \times 20 = 18.000 \text{ watt}$. 3 power samples supplied to the power plant are $3,121,600 \text{ Watt} = 3,121.6 \text{ KW}$ with $\eta_{\text{turbine}} = 19.86\%$, $2,659,880 \text{ Watt} = 2,649.88 \text{ KW}$ with $\eta_{\text{turbine}} = 16.89\%$, and $2,649.05 \text{ Watt} = 2,649.05 \text{ KW}$ with $\eta_{\text{turbine}} = 20.25\%$.

Keyword: Steam turbines, Performance, Power plants.