ABSTRAK

PLTP Gunung Salak memproduksi listrik sebesar 3x60 MW namun konsumsi daya listrik pemakaian internal yaitu 6% tiap unit dan salah satu penyumbang terbesar adalah *Motor Main Cooling Water Pump*. Penghematan konsumsi daya listrik pemakaian internal menjadi konsen utama, dikarenakan target penghematan dari tahun ke tahun yang semakin menurun.

Analisa penghematan daya motor *Main Cooling Water Pump* menggunakan *Variable Speed Drive* dapat digunakan untuk mengetahui berapa jumlah penghematan konsumsi daya listrik pemakaian internal unit pada motor *Main Cooling Water Pump*. Analisa dilakukan dengan mengambil parameter operasi seperti arus dan kecepatan motor *Main Cooling Water Pump* kemudian dilakukan perhitungan manual variabel daya dengan kondisi menggunakan *Variable Speed Drive* dan tanpa *Variable Speed Drive*, hal tersebut juga dilakukan pada perhitungan berdasarkan data desain motor *Main Cooling Water Pump*. Setelah itu dilakukan perbandingan data antara kondisi menggunakan *Variable Speed Drive* dan tanpa *Variable Speed Drive*.

Hasil menyatakan bahwa penghematan daya motor *Main Cooling Water Pump* dengan *Variable Speed Drive* sebesar 25,2 % dan penurunan konsumsi daya listrik pemakaian internal unit pembangkit menjadi menjadi 5,21%

Kata Kunci : *Motor Main Cooling Water Pump, Variable Speed Drive*, konsumsi daya listrik pemakaian internal.

ABSTRACT

Mount Salak PLTP produces electricity of 3x60 MW, but the internal power consumption is 6% per unit and one of the biggest contributors is the Motor Main Cooling Water Pump. The saving of internal power consumption is the main concern, because the savings target from year to year is decreasing.

Power saving analysis of the Main Cooling Water Pump motor using Variable Speed Drive can be used to find out the amount of savings in the internal power consumption of the unit on the Main Cooling Water Pump motor. The analysis is carried out by taking operating parameters such as the current and speed of the Main Cooling Water Pump motorbike and then manually calculating the variable power with the condition using Variable Speed Drive and without Variable Speed Drive, it is also done on calculations based on motor design data Main Cooling Water Pump. After that a data comparison between the conditions using Variable Speed Drive and without Variable Speed Drive is carried out.

The results stated that the power saving of the Main Cooling Water Pump motor with Variable Speed Drive was 25.2% and the decrease in the electric power consumption of the internal use of the generating unit became 5.21%

Keywords: Main Water Cooling Pump Motor, Variable Speed Drive, internal power electricity consumption.