ABSTRAK

KHAIRIL IRFAN, Analisis performa pompa *clarified water* setelah *treatment* pada jalur *transfer*, Dibimbing oleh Dr,-Ing.Andika Widya Pramono,M.Sc

Sistem pendinginan merupakan salah satu proses penting dalam operasi pembangkit listrik, termasuk pada unit *Steam Turbine Generator* (STG) di Pembangkit Listrik Tenaga Gas dan Uap (PLTGU), yang berfungsi menjaga kestabilan suhu peralatan dan komponen. Air digunakan untuk mendinginkan kondensor di unit STG, dengan sumbernya berasal dari *Cooling Tower* Basin yang telah diproses di demin plant. Di unit pembangkit listrik PT Cikarang Listrindo, suplai air Cooling Tower Fan (CTF) di Blok 3 diperoleh dari *Cooling Tower* Basin Blok 1 dan 2 melalui sistem pemompaan *Clarified Water Transfer Pump* (CWTP). Dalam kurun waktu terakhir, ditemukan permasalahan pada proses pengisian air basin Blok 3, di mana berdasarkan desain, aliran air seharusnya dapat dicapai dengan pengoperasian satu pompa saja. Namun, kondisi aktual di lapangan menunjukkan bahwa butuh lebih dari satu pompa yang dioperasikan untuk mencapai debit yang sama, Penelitian ini bertujuan untuk menganalisis akar permasalahan pada sistem pemompaan serta melakukan optimalisasi aliran air pada jalur pipa CWTP agar pengoperasian satu pompa dapat mencapai debit optimal dari 81,8 L/s menjadi 102,85 L/s sesuai dengan desain awal.

Kata Kunci : *Clarified Water Transfer Pump*, *threatment* , *transfer line*

ABSTARCT

KHAIRIL IRFAN, *Performance Analysis of the Clarified Water Pump After Treatment in the Transfer Line. Supervised by* Dr,-Ing.Andika Widya Pramono,M.Sc

The cooling system is one of the critical processes in power plant operations, including the Steam Turbine Generator (STG) unit in the Combined Cycle Power Plant (PLTGU), which functions to maintain the thermal stability of equipment and components. In the STG unit, water is utilized to cool the condenser, supplied from the Cooling Tower Basin after undergoing treatment in the demineralization plant.At PT Cikarang Listrindo's power generation facility, the Cooling Tower Fan (CTF) water supply for Block 3 is sourced from the Cooling Tower Basins of Blocks 1 and 2 through the Clarified Water Transfer Pump (CWTP) system. Recently, operational issues have been identified in the water filling process of Block 3's basin. Based on the design, the required water flow should be achievable with the operation of a single pump. However, actual field conditions indicate that more than one pump must be operated to achieve the same flow rate. This study aims to identify and analyze the root causes of the issues affecting the pumping system and Performance Analysis of the Clarified Water Pump After Treatment in the Transfer Line

Keywords: *Clarified Water Transfer Pump, Pumping System, tranfer line*