AUTOMATION SWITCHING ON THE PG PADJARAKAN BURNER BOILER COMBUSTION SYSTEM - PROBOLINGGO

ABSTRACT

To keep the boiler output temperature of PG Padjarakan on the value 350 °C - 400 °C is need to do fuel switching on the PG Padjarakan burner boiler combustion system. The residue oil used in oil burner and it’s used only when necessary, ie when the bagasse fuel can not meet the needs of the process. For now, switching system still done manually by the operator, by pressing the button on the control panel. The idea of this final task is to design switching boiler burner combustion system on PG Padjarakan with an automation by using logic solver. Logic solver will work to turn the oil burner if the temperature is less than 350 °C, and will turn off the oil flow if the temperature is greater than 350 °C. From the simulations carried out when the load fluid is 333.3 kg / minute, if only using sugarcane pulp (bagasse), sugarcane pulp (bagasse) is used as much as 156.06 kg / min - 178.46 kg / min to reach the temperature range 350 °C - 400 °C. For switching, the application, need to add the controller with a proportional mode, which the parameters obtained to conduct test of trial and error, with the value obtained when kp = 7, when bagasse fuel supply is only 76 kg / min or addition of load up to 373 kg / minute, the system can restore the temperature by adding heat to the oil flow regulation on the oil burner.

Keyword: Automation, Switching control, Fuel, Burner