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AUTOMATION OF FURNACE AIR SYSTEM IN A BIO-MASS POWER PLANT

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Abstract

This paper outlines the various stages of operation involved in the conversion of a manually air flow plant towards a fully automated plant. Over the years the demand for high quality, greater efficiency and automated machines has increased in this globalised world. This paper gives importance to the furnace air system, so as to make the inputs to the boiler suitable enough towards efficient functioning of the boiler and also focuses on passing the inputs to the boiler at a required temperature, so as to constantly maintain a particular temperature in the boiler. The Air preheater and Economiser helps in this process. And also the paper focuses pressure control at various stages in the Furnace air system. Thus the temperature in the boiler is constantly monitored and brought to a constant temperature as required by the power plant. The automation is further enhanced by constant monitoring using SCADA screen, which is connected to the PLC by means of a communication cable. By means of tag values set to various variable in SCADA the entire process is controlled as required. Thus the entire cycle is carried out as a paper and at various stages each phase is detailed out. This paper has proved to be very efficient practically as the need for automation grows day by day.

Keywords: Automation, PLC – SCADA, Air Flow Unit