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EXERGY ANALYSIS FOR 120MW THERMAL POWER PLANT WITH DIFFERENT INLET TEMPERATURE CONDITIONS

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ABSTRACT

In this research paper, exergy analysis for different components of 120MW thermal power plant has been done. For analysis different inlet temperature conditions have been taken as a parameter, different inlet temperature conditions are – (1) 507.78°C, (2) 517.78°C, (3) 527.78°C, (4) 537.78°C, (5) 547.78°C, (6) 557.78°C and (7) 567.78°C. Exergy analysis has been done for boiler, for steam turbines (high pressure turbine, intermediate pressure turbine and low pressure turbine), for condenser and for feed water heaters with different inlet temperature conditions. And exergy curves have also been generated for different component of the plant.

KEYWORDS: Exergy or Available Energy, Power Output, Heat Rate, Inlet Temperature and Exergy Curves