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EFFECT OF DIFFERENT COOLING WATER FLOW RATES IN CONDENSER ON A STEAM MOTOR POWER PLANT

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ABSTRACT

Steam motor power plant is important to reduce the greenhouse gas emissions and fuel consumption. Most of the electricity nowadays is produced by steam motor power plant. Condenser remains one of the key components that affects the plant performance. The steam that has used most of its energy leaves the turbine and flows into the condenser. In most of recent search, better cooling system in condenser may increase the efficiency of steam motor power plant. Thus, an experiment will be conducted to determine the effects of different cooling water flow rates on the steam motor power plant by using different loads and to study the effects of condensation rates based on the effect of different water flow rates on the steam motor power plant. The range of the cooling water flow rates are from 1.0 lpm to 2.5 lpm with the interval of 0.5 lpm, meanwhile the range of the loads are from 0 gram to 40 grams with 10 grams interval. As a result, larger flow rates with lower loads are predicted to contribute to increased efficiency of steam motor.

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