

**ECONOMIC DISPATCH BASED ON CONSIDERATION OF THE
ADJUSTED AIR-CONDITIONING LOAD**

MOHD ABI AUNULFATIHIN BIN SAARI

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ABSTRACT

This thesis discusses the solution of Economic Dispatch (ED) problems which is to minimize the total cost of operation in power system by considering an adjusted air-conditioning load. A model of the adjusted air-conditioning load has been designed with the addition of wind power in order to reduce the cost. This adjusted feature is studied and explored with the consideration of the thermal comfort of residents. The model includes the effect of the Coefficient of Performance (COP) of the air conditioners on the total cost. The solution for this problem is obtained by using lambda iteration method which is developed and solved in MATLAB. The proposed method is tested on a two generation unit system and the results showed that the idea of installing an adjusted load with the addition of wind power can reduce the operating cost and also contribute in reducing the load power.

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