ECONOMIC DISPATCH WITH PIECEWISE QUADRATIC COST FUNCTIONS USING PARTICLE SWARM OPTIMIZATION

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ABSTRACT

This paper presents a technique to solve economic dispatch (ED) with piecewise quadratic cost function (PQCF) by using particle swarm optimization (PSO) technique. Traditionally, each generator is represented by a single cost function. However, it is more realistic to represent the cost function as a piecewise quadratic function when deal with generation units that use multiple fuel sources. In this study, the proposed PSO technique was tested on 10 units system. The results obtained show that the proposed PSO method was indeed capable of obtaining the solutions of PQCF problems.

Keyword-component; economic dispatch; power system and particle swarm optimization.

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