Abstract

The Economic Load Dispatch problem concerns the determination of the optimal combination of power generators' outputs with the lowest generation cost for a defined level of load. The problem arises from the fact that there are rated limits of generators' power output, fuel costs of power plants are different, energy should be balanced, and plants are not located at the same distance from load centers. This work proposes the use of a novel technique - constrained elitist genetic algorithm (CEGA) in optimizing real power scheduling for the Nigerian power system. The approach was tested and evaluated against related approaches with same test data, where it exhibited superior performance to attempts so far previously reported in the literature.

References

Learning. Addison Wesley, Reading.

Index Terms
Computer Science
Power Systems

Keywords
Economic Load Dispatch
Elitism
Genetic Algorithm
Optimization
Power System