

## **Study of optimal EG placement in radial distribution system using real coded genetic algorithm**

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### **ABSTRACT**

This paper proposes a study of embedded generation (EG) placement in radial distribution system by utilizing real coded genetic algorithm (RCGA) technique. Several cases of EG models placements are studied in order to minimize the total power losses and to improve voltage profiles of the system. RCGA is a method that uses continuous floating numbers as representation which is different from conventional GA which is using binary numbers. The RCGA is used as a tool, which can determine the optimal location and size of EG in radial system concurrently. This method is developed in MATLAB. The IEEE-69 bus system is utilized as a test case in this study.

### **KEYWORDS:**

embedded generation (EG); load flow study; optimal allocation; real coded genetic algorithm (RCGA)

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