Transmission loss allocation in deregulated power system via superposition and proportional tree methods

Abstract

Tracing the loss of electricity becomes an important issue under deregulated transmission system. Due to nonlinear nature of power flow, it is difficult to trace the loss of each transmission line that contributed by which generator. Thus, several algorithms have been proposed to solve this problem. This paper presents a study of transmission loss allocation in deregulated power systems. This paper presents the novelty of two methods namely superposition method and proportional tree method (PTM). A number of simulations are performed based on their assumptions to compare their performance and verify the correctness of each method. Finally, conclusions and recommendations are given.

Author Keywords

Deregulation; Loss tracing; Proportional sharing principle; Proportional tree method; Superposition law