عنوان مقاله:

Residential Distributed Generation or Conventional Generation: An Economical Comparison

محل انتشار:

بیست و هفتمین کنفرانس بین المللی برق (سال: 1391)

تعداد صفحات اصل مقاله: 9

نویسندگان:

Sajjad Makhdoomi Kaviri - *Department of Electrical and Computer Engineering, Isfahan University of Technology, Isfahan*

G.R Yousefi

خلاصه مقاله:

Distributed power generation, such as wind, solar and fuel cell is taking an increasing part of the extensive energy production in the future of power systems.These types of resources with low marginal prices can be very useful in reducing supply costs, emission and loss reduction in the power systems. On theother hand, uncertainties in the output ofsuch resources and high initial investment are practical bottlenecks for these types of resources. As a result, the system operators have to procure additional reserve capacity to overcome with the mentioned uncertainties. This paper presents the influence of the three most common types of the sources, namely wind, solar and fuel cell on the operational cost of the system.And also, changes on startup, emission and reserve costs caused by replacement of traditional resources with the mentioned distributed sources are calculated,separately. As a novel approach, the impact of three residential distributed resources, namely wind, solar and full cell,on the operational costs is simulated and compared, while uncertainties of their generation, cost of emissions, operation reserve and startup costs are taken into account. The proposed methods have been implemented on IEEE reliability test system (73 buses).

کلمات کلیدی:

power generation scheduling; operating reserve; Residential distributed generation