

عنوان مقاله:

The value Methodology of a Microgrid Considering Wind Generation

محل انتشار:

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خلاصه مقاله:

In this study, the short-term operation planning of a typical microgrid (MG) with diverse units for achieving the maximum profit, considering technical and economical constraints, for the next 24 hours, using gravitational search algorithm (GSA) with SPSS software is presented and the effect of wind generation in the planning is investigated. The MG consists of a diverse variety of power system components such as wind turbine, microturbine, photovoltaic, fuel cell, Hydrogen storage tank, reformer, a boiler, and electrical and thermal loads. Moreover, MG is connected to an electrical grid for exchange of power. The MG is managed and controlled through a central controller. The system costs include the operational cost, thermal recovery, power trade with the local grid, and hydrogen production costs. Total obtained profit from the MG, considering wind energy is obtained 2.646420×10^3 \$, compared to the profit without considering wind energy in the same time, 2.661109×10^3 \$. Hence, due to value methodology, the systematic and structured approach has been achieved that balance between required energy, performance and scope with the cost ..the results showed wind generation should be one option for use in micro grid

کلمات کلیدی:

Microgrid Planning, Distributed Generation, Energy Management, value Methodology

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