Microgrid tie line optimization control

Therefore, this paper presents a restructured two-area interconnected microgrid scenario with an improved tie-line power model to perform automatic generation control (AGC) operation. ...

In an active distribution grid, renewable energy sources (RESs) such as photovoltaic (PV) and energy storage systems (e.g., superconducting magnetic energy storage (SMES)) can be ...

Research on priority scheduling strategy for smoothing power fluctuations of microgrid tie-lines based on PER-DDPG algorithm Lun Dong1,2

Table 3 presents the performance metrics for tie-line power control using a PIDF controller in a multi-islanded microgrid system. The data shows an overshoot of 0, indicating that the PIDF controller ...

In order to deal with those problems, it is important to control the power flow of the tie-line that connects each MG to the electrical distribution grid. The tie-line power flow can be controlled by ...

Summary This paper presents an interlink inverter control method for providing a constant tie-line smoothing service in a grid-connected residential microgrid (MG) to mitigate the ...

The variability of renewable energy within microgrids (MGs) necessitates the smoothing of power fluctuations through the effective scheduling of internal power equipment. Otherwise, ...

To solve this problem, a new entity- called a microgrid aggregator has been presented to manage trading power between the MMG and the main grid. In this paper, a bi-level optimization ...

The high penetration of renewable energy in grid-connected microgrids creates the tie-line power fluctuations, which can increase operating costs and even pose security and stability risks. ...

Tie-line Power Flow Control Method for Grid-connected Microgrids with SMES Based on Optimization and Fuzzy Logic June 2020 Journal of Modern Power Systems and Clean Energy DOI: ...

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