

Planning of participation of Microgridis With Regarding frequency control in island mode

Mehdi Rezapour Chenijani*,Dr. Alireza Sahab,

Microgridis one of the key components for the formation of future smart grids, which include low-voltage networks, distributed generation sources and interruptible loads. The grid has the functionality independent of the network. Due to the periodic nature and variability of renewable sources of distributed generation and resource constraints, the problem of balancing the supply and demand of power in a grid is operating in a mode independent of the network. Failure to balance power and lack of sufficient network resources will result in frequent security problems in the grid. The purpose of this dissertation is to solve the problem of planning power generation and consumption in grid using optimization of energy consumption management in the grid. Most energy-based energy management methods are based on the balance between demand and energy production with respect to the constraints associated with units. In this thesis, a method based on modeling the behavior of available resources in a grid based on complex integer programming is proposed, which examines the operation of grid grid in a grid-independent manner. Due to the independent nature of the operation of the grid, in order to provide the grid load independently with restrictions, the operator's goal is to provide grid power to the resources themselves in the grid. In this project, this topic is in the context of the circuit of the units being secured with the addition of new constraints to the frequency response of the system. Incorporating frequency-related constraints in studies of the circuit of the units can improve the frequency dynamics. The added constraints should be considered in order to ensure a safe and economical plan for optimization models. New constraints in this project are added to the formulation in the orbits of security units to limit the total amount of kinetic energy of the remaining online units following any incident. In this thesis, using integer linear programming, a method is proposed for planning the resources available in the grid

for a 24-hour study period for 15-minute intervals.

Keywords : Keywords: Energy Management, Integer Integer Integration, Grid, Grid Frequency, Symmetric Load Sharin

[Islamic Azad University, Rasht Branch - Thesis Database](#)
[دانشگاه آزاد اسلامی واحد رشت - سامانه بانک اطلاعات بایان نامه ها](#)