outage management due to demand response programs in neighborhood energy manegemant systems

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Abstract In this thesis, an optimal management strategy is proposed for load operation periods control and load curtailment management. In order to reduce electricity bill and load curtailment cost based on TOU and IBR information by considering user's preferences. In the first part of this study energy usage optimal management and electricity bill reduction are reported for one household without considering battery decharging cycle carachter(V2H) in curtailnment periods. In the second part, optimal usage management of these load is reported with considering B2H ability in curtailnment time. And in the last part, it is used form a neiborhood structure for energy management. By considering curtailnment management program which is introduce for household user, the best structure of energy management is represented. It is used HLC structure for home energy optimal management determination and information is send to a controller for energy optimal operation management and by considering energy price, loads valueand total cost, household chooses the optimal methed for energy usage in curtailmen times. In optimization problem, a mixed integer programming is represented which it is goals are minimizing of load operation cost and proposed total load curtailment cost Keyword: Neighborhood Energy Management System, Demand Response program, Bilding to home ability to provide outage management system, the cost of network outages.

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