

Optimal Scheduling for Energy Storage System Considering Reliability Constraints

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Abstract : This paper propose the method for optimal scheduling for battery energy storage system with reliability constraint of energy storage system in reliability aspect. The optimal scheduling problem is solved by dynamic programming with proposed transition matrix. Proposed optimal scheduling method guarantees the minimum fuel cost within specific reliability constraint. For evaluating proposed method, the timely capacity outage probability table (COPT) is used that is calculated by convolution of probability mass function of each generator. This study shows the result of optimal schedule of energy storage system.

Keywords : energy storage system (ESS), optimal scheduling, dynamic programming, reliability constraints

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