

A Novel Price-based Bidding Strategy for Electric Storage Resources in Electricity Markets

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Abstract: FERC Order 841 requires the ISOs to remove the barriers that prevent electric storage resources (ESRs) to enter energy, ancillary service and capacity markets. During the process, instead of proposing direct managing the state of charge (SoC) of ESRs, several ISOs provide ESRs with the option to manage their own SoC through their economic offers. In this work, we formulate a MILP to bid offer curves to energy, spinning reserve and regulation markets, so that 1) the profit of ESR from arbitraging energy and providing ancillary services is maximized, meanwhile 2) the SoC feasibility of ESR is maintained when dispatched by ISO, who is not aware of ESR's SoC information.

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