# A Fair-Trade Mechanism for Electric Power Dispatch in a Competitive Market

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Abstract

With the development and popularization of qualified facilities (QF), distributed generation, and demand response (DR), the electricity market has been marching toward liberalization and fair competition. An Independent System Operator (ISO) is the operator of an essential electric facility. How to level the playing field for fair participation in the electricity market has a key role to play in the market liberalization process.

Based on Structure-Conduct-Performance (SCP) theory, this study has investigated the fair dispatch rules and the structure of the electricity market. The major findings are that an independent power dispatch mechanism should conform to the following principles: (1) Fairness: the ISO should dispatch electricity to each electricity market participant without discrimination; (2) Justice: the ISO should be just for each of the electricity market stakeholders; (3) Neutrality: the ISO (including directors and internal organization staff) should not invest in any share of the transmission and distribution industries; (4) Transparency: the ISO must be open and transparent for disclosing market information; (5) Consistency: the ISO should maintain the consistency of its dispatch rules, thereby minimizing the risk of market uncertainty; (6) Timeliness: the ISO should try its best to disclose real time information regarding power grid operations; (7) Ring Fencing: the accounting rules of the ISO should be clearly stated and not be cross-subsidized; (8) Synchronization: the ISO should try to conduct synchronized electricity load forecasting with advanced research tools that can deal with the intermittency of renewable energy

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generation problems and enhance the reliability of the power system; (9) Coordination: the ISO should coordinate with all related electricity market stakeholders regarding the disputes related to electricity dispatching incidents.

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