

Transmission Network Expansion Planning in Deregulated Power Systems to Facilitate Competition under Uncertainties

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Abstract : Restructuring and deregulation of power industry have changed the objectives of transmission expansion planning and increased the uncertainties. Due to these changes, new approaches and criteria are needed for transmission planning in deregulated power systems. The objective of this research work is to present a new approach for transmission expansion planning with considering new objectives and uncertainties in deregulated power systems. The approach must take into account the desires of all stakeholders in transmission expansion planning. Market based criteria must be defined to achieve the new objectives. Combination of market based criteria, technical criteria and economical criteria must be used for measuring the goodness of expansion plans to achieve market requirements, technical requirements, and economical requirements altogether.

Keywords : deregulated power systems, transmission network, stakeholder, energy systems

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