



Thematic Grouping of Markets Stem Projects

February 2017

A) Market Design:

- M-33: Reliability Metrics for Renewable Resources and Self-Reserves (cross listed with b)
- M-31: Markets for Ancillary Services in the Presence of Stochastic Resources
- M-25: The Development and Application of a Distribution Class LMP Index
- M-17: Integrated Financial and Operational Risk Management in Restructured Electricity Markets
- M-15: Tools for Assessment of Bidding into Electricity Auctions
- M-13: Agent Modeling for Integrated Power Systems
- M-12: Reliability, Electric Power, and Public vs. Private Goods: A New Look at the Role of Markets
- M-11: Evaluation of Alternative Market Structure and Compensation Schemes for Incenting Transmission Reliability and Adequacy Related Investments (cross listed with b)
- M-9: Market Structures to Reduce Seams and Enhance Investment (cross listed with b)
- M-7: Structuring Electricity Markets for Demand Responsiveness: Experiments on Efficiency and Operational Consequences (cross listed with c)
- M-5: Software Agents for Market Design and Analysis
- M-4: Market Redesign: Incorporating the Lessons Learned for Enhancing Market Design
- M-3: Interval Analysis for Unknown Dependencies and Genetic Algorithm Emulation of Markets: Market Interactions and Market Power
- M-2: Market Mechanisms for Competitive Electricity
- M-1: Reactive Power Support Services in Electricity Markets

B) Investment Planning and Reliability: Importance for Market Environments

- M-37: Development of expansion planning methods and tools for handling uncertainty
- M-33: Reliability Metrics for Renewable Resources and Self-Reserves (cross listed with a)
- M-30: A Framework for Transmission Planning Under Uncertainty
- M-18: Improved Investment and Market Performance Resulting from Proper Integrated System Planning
- M-16: Planning, Markets and Investment in the Electric Supply Industry
- M-14: Economic Impact Assessment of Transmission Enhancement Projects
- M-11: Evaluation of Alternative Market Structure and Compensation Schemes for Incenting Transmission Reliability and Adequacy Related Investments (cross listed with a)
- M-10: Uncertain Power Flows and Transmission Planning
- M-9: Market Structures to Reduce Seams and Enhance Investment (cross listed with a)

M-8: Reliability Assessment Incorporating Operational Considerations and Economic Aspects for Large Interconnected Grids (cross listed with e)

M-6: Modeling Market Signals for Transmission Adequacy Issues: Valuation of Transmission Facilities and Load Participation Contracts in Restructured Electric Power Systems

C) Market Structure for Demand Response and distributed resources:

M-35: Robust and Decentralized Operations for Managing Renewable Generation and Demand Response in Large-Scale Distribution Systems (cross listed with e).M-26: Quantifying Benefits of Demand Response and Look-ahead Dispatch in Systems with Variable Resources (cross listed with e)

M-23: Design and Valuation of Demand Response Mechanisms and Instruments for Integrating Renewable Generation Resources in a Smart Grid Environment

M-22: Coupling Wind Generation with Controllable Load and Storage: A Time-Series Application of the SuperOPF (cross listed with e)

M-7: Structuring Electricity Markets for Demand Responsiveness: Experiments on Efficiency and Operational Consequences (cross listed with c)

D) Markets, Climate Change, Environmental Impacts:

M-28: Analytical Methods for the Study of Investment Strategies in Compliance with Environmental Policy Requirements

M-24: Interactions of Multiple Market-Based Energy and Environmental Policies in a Transmission-Constrained Competitive National Electricity Market

M-21: Technical and Economic Implications of Greenhouse Gas Regulation in a Transmission Constrained Restructured Electricity Market.

M-20: Facilitating Environmental Initiatives While Maintaining Efficient Markets and Electric System Reliability

M-19: The Electric Power Industry and Climate Change: Power Systems Research Possibilities

E) Markets and Operational Issues:

M-38: Coordination Mechanisms for Seamless Operation of Interconnected Power Systems

M-36: Analysis of Power System Operational Uncertainty from Gas System Dependence

M-35: Robust and Decentralized Operations for Managing Renewable Generation and Demand Response in Large-Scale Distribution Systems (cross listed with c).

M-34: Risk Assessment of Constraint Relaxation Practices

M-32: New Operation Tools for Improving Flexibility and Reliability of Systems with Variable Resources and Storage DevicesM-29: Constraint Relaxations: Analyzing the Impacts on System Reliability, Dynamics, and Markets

M-27: Impacts of Bad Data and Cyber Attacks on Electricity Market Operations

M-26: Quantifying Benefits of Demand Response and Look-ahead Dispatch in Systems with Variable Resources (cross listed with c)

M-22: Coupling Wind Generation with Controllable Load and Storage: A Time-Series Application of the SuperOPF (cross listed with c)

M-8: Reliability Assessment Incorporating Operational Considerations and Economic Aspects for Large Interconnected Grids (cross listed with b)