

Wholesale Market Operations: Why All Customers Should Care

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Energy Management Services



Wholesale Market Operations

State Issues

- Resource Adequacy
- Renewable Portfolio Standards
- Hybrid Procurement

Little Focus on Cost

Federal Issues

- Transmission Infrastructure
- Legislation
- Market Design

Complexity Dooms Bilateral Markets



Transmission Infrastructure

- According to ISO, Large Percentage of Generators Needed for Local Deliverability
- Local Market Power and Reliability Issues
- Impact: Market Liquidity and Bilateral Market Feasibility

Adequate Transmission is the Solution to Most Problems



Wholesale Market Design Changes MRTU Overview

ISO Market Redesign and Technology Upgrade (MRTU):

- Purpose: Provide Tools for More Reliable Operation of the Grid
- Full Implementation in February 2007
 - Full Network Model
 - Relieve In State Congestion in the Day Ahead
 - Nodal Pricing For Generators
 - Load Aggregation Points (LAPs) for Customer Pricing
 - Full Marginal Losses (SQ: Gens Pay Scaled)
 - Congestion Revenue Rights (CRRs)



MRTU Concerns

- Bilateral Market Complexity
 - All Transactions Pass Through ISO Settlements
- Different Structure than Proposed for Rest of West
- Unintended Consequences (e.g. Phase 1B)
- Congestion Revenue Rights (CRRs)

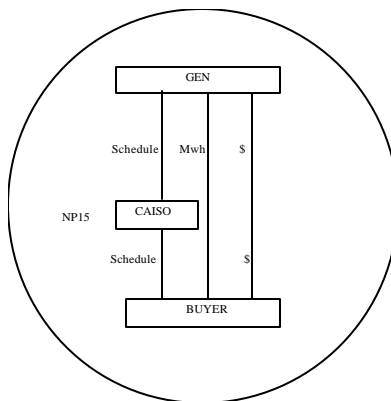
Impact:

- Impairs Market Transparency and Liquidity
- Adds Unnecessary Complexity that Hinders Bilateral Markets

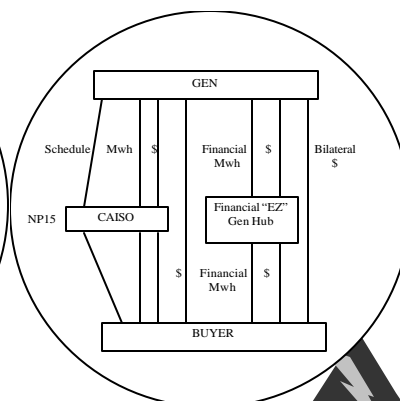


Example of Bilateral Market Complexity

Current Bilateral Agreement Flows



MRTU Bilateral Contract Flows



Congestion Revenue Rights (CRRs)

- Current Design: In State Transmission Not Needed for Load
- Under MRTU Local Transmission Required
- Obligations Versus Options
- “Derivatives”
- Accuracy, Adequacy
- and Allocation
 - Historical use

Possible Solutions:

- Annual Revenue Requirement (ARR) Allocation
- No CRRs Needed from Hub to Load Aggregation Point (LAP)

