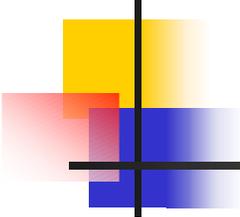


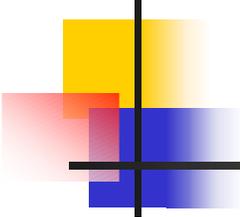
MSC Activities and Opinions

Presented by
Brad Barber
Member
Market Surveillance Committee of CAISO



Forthcoming MSC Opinions

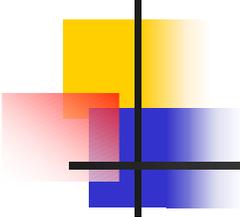
1. Honoring Existing Transmission Contracts (ETCs) under Locational Marginal Pricing (LMP)
2. Alternatives to LMP
 - Transitional Alternative Pricing and Settlement (TAPAS)
3. Market Power Mitigation under LMP



Existing Transmission Contracts (ETCs)

- ETCs are contracts
 - Economists like to honor contract rights
 - Important to well-functioning markets

- LMP changes the rules of the game
 - Question: How should contract rights to transmission across large zones be transferred to an LMP setting

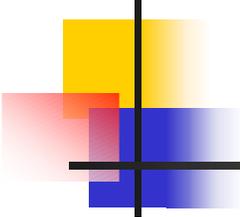


Honoring ETCs under LMP

Option 1:

Reserve full ETC capacity day ahead

- Much more complex than under the current zonal market design
- Could increase phantom congestion
- Could lead to inefficient dispatch

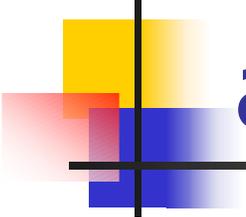


Honoring ETCs under LMP

Option 2

Reserve only scheduled capacity day ahead

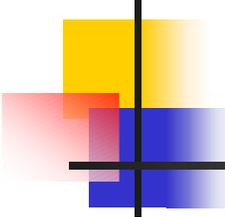
- **ETC have highest priority day-ahead *and* are exempt from day-ahead congestion charges**
- **ETC holders allowed to (preferentially) adjust their schedules in real-time**
- **ETC holders hedged against congestion charges of these adjustments -- "Perfect Hedge"**
- **Full capacity reserved day-ahead on the interties (does not create the same complications as reserving capacity *within* the meshed network)**



Transitional Alternative Pricing and Settlement (TAPAS)

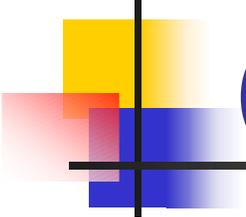
- Locational Marginal Pricing is strongly preferred to TAPAS
 - But we await a solution to problem of the seller's choice contracts

- Interim Solutions
 - Current market design
 - TAPAS
 - "Other" considerations
 - Augment RMR contracts
 - Provide incentive to forward contracting
 - Develop better software to deal with congestion issues



Interim Solutions

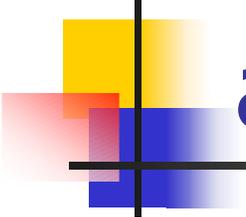
- Current Market Design
 - Creating reliability concerns because of congestion issues (e.g., Miguel)
 - All solutions to these problems will require software upgrades
- TAPAS (with or without CDPs?)
 - Creates incentive problems (by not offering constrained-down payments)
 - But these incentive problems may occur in areas with significant market power and thus bids would be otherwise constrained (hopefully) by effective market power mitigation
 - Efficiency justifications for CDPs are weak given these market power considerations
- Augment any Non-LMP approach with RA and additional RMR units
 - To solve reliability issues {and local market power problems}



Local Market Power Mitigation (LMPM)

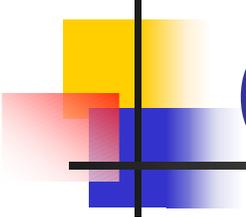
- LMPM is critical to a well-functioning nodal market

- Market Design and LMPM must be internally consistent



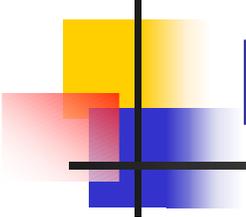
Residual Unit Commitment (RUC) and LMPM

- FERC Rulings
 - Eliminates must-offer requirement
 - Allow units to keep RUC capacity payments if subsequently dispatched for energy
 - Require market-clearing price for RUC capacity, not pay as bid
- Ruling severely undermines effectiveness of current sequential RUC process and LMPM mechanism
- Argues for further integration of RUC process into day-ahead energy and ancillary services market
 - Doing so would eliminate the need for a RUC capacity plus energy payment



Automatic Mitigation Procedures (AMP)

- Sanctions exercise of market power within conduct and impact thresholds
- Makes it costly for suppliers to bid to low prices during competitive periods because of impact on “reference” levels
- Rarely invoked
 - But would avoid “huge” price spikes
- May create many hours with small consumer losses to exercise of market power
- No empirical (or theoretical) evidence that AMP mechanism limits exercise of market power more than it sanctions it



Preferred Solution

- Provide incentives for market participants to hedge their real-time price exposure to limit exercise of system-wide market power
- Design a stringent LMPM mechanism that is integrated into day-ahead energy and ancillary services market
- Follow three step process
 - Identify pivotal generators/times
 - Insert “competitive” bids for these generators
 - Compute market clearing prices
- MSC opinion will provide recommendations on the design of such a mechanism