

**Energy Markets at the Crossroads**  
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## **Wholesale Market Design -- Where are We and Where are We Headed?**

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## **Federal Energy Regulatory Commission's Proposed "Standard Market Design"**

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- FERC issued a Notice of Proposed Rulemaking (NOPR) on July 31, 2002
- FERC says we need SMD because the inconsistent rules that exist across the country
  - ▶ raise costs to customers
  - ▶ hamper investment in infrastructure
  - ▶ allow discrimination by transmission owners
  - ▶ allow market manipulation

## Major Elements of FERC's SMD Proposal

- Independent Transmission Providers (ITP)
- Transmission pricing reforms
- Congestion management through LMP
- Tradable Congestion Revenue Rights (CRRs)
- Energy spot markets (real-time & day-ahead)
- Market power mitigation and monitoring
- Resource adequacy requirement

## General questions on the need for market standardization

- Should one standard design be required for all regions?
- FERC may allow regional variation with an approved RTO (approved RTOs require SMD?)
- How can regional variation be allowed and still meet the goals of SMD?
- Is SMD necessary when a state or region does not have retail access?

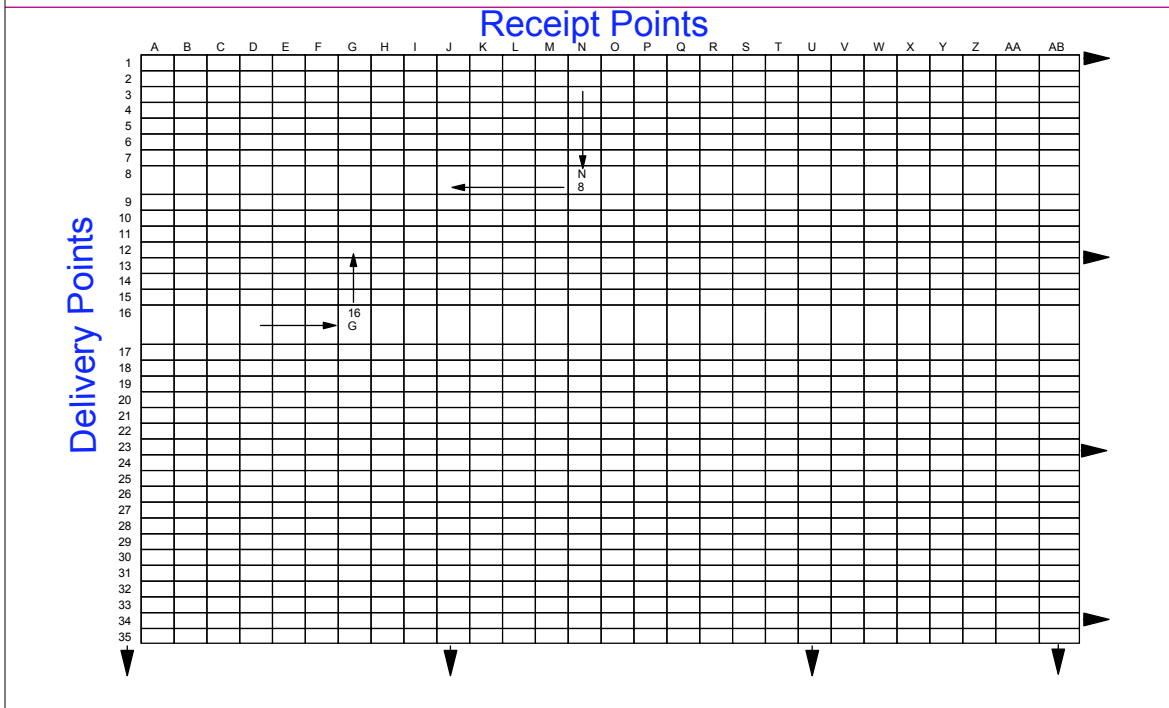
## **General questions on the need for market standardization (*continued*)**

- States will lose jurisdiction over the bundled transmission component of retail rates
- Low-cost states are concerned by the loss of control of lower-cost generation for native load

## **Congestion Revenue Rights -- Overview of FERC's Proposal**

- With LMP congestion management:
  - customers pay the LMP price, including any congestion charge
  - sellers are paid the nodal marginal price, but not congestion charges
- Congestion Revenue Rights (CRRs) are designed to allow customers an opportunity to hedge against the possibility of paying a congestion charge
- Holders of CRRs would be entitled to receive congestion revenues from transmission congestion for each hour of the day-ahead market
- Independent Transmission Providers (ITPs) would be required to create CRRs for all of the transmission transfer capability on the grid

# Receipt Point-to-Delivery Point CRRs Example



## Allocation of CRRs

- Phase I -- initial allocation -- direct assignment based on historical use of the system
  - for all existing long-term customers using transmission service
- FERC is proposing to give each region a choice between an initial allocation or an auction of CRRs
- Customers with short-term or non-firm service under existing pro forma tariffs would not receive CRRs (even though they pay an access charge)

## **Allocation of CRRs (*continued*)**

- Move to an auction within four years of adoption of SMD (Phase II)
  - CRRs will be auctioned rather than allocated
  - any entity can acquire CRRs through the auction -- with no requirement to pay an access charge to get them
  - auction revenues would be returned to those customers paying the embedded costs of the system through an access charge
- FERC has a preference for the auction, but will allow up to a four year transition period

## **Auctions for CRRs**

- FERC wants an active secondary market for the buying and selling of CRRs
- Resale of CRRs will be allowed
  - either bilaterally -- arranged between buyers and sellers -- or through periodic auctions conducted by the ITP
- The auction, FERC argues, would provide
  - greater price transparency than bilateral transactions
  - an ability to reconfigure CRRs into different receipt and delivery points or into different types of CRRs (obligations, options, flowgate), when they switch suppliers, for example

## Auctions for CRRs (*continued*)

- According to FERC's proposal, buyers and sellers would submit bids that specify the type of CRRs desired to be bought or sold, the location, term and price
- ITP would select the combination of bids that "maximizes the economic value of the transactions for the participants"
- The ITP would establish market-clearing prices for each CRR bought and sold
- CRRs sold in the auction would be for a month or longer

## Some Potential Problems with FERC's CRR Proposal\*

- CRRs are not tied to actually moving power and can be held by anybody -- including speculators -- driving up some CRR prices
  - presumably, no one will pay more than the expected value of the congestion charge, but higher power prices could result
- "Thin" markets for CRRs could drive up prices in some cases and result in uncertain or unstable prices in others
  - market *may* be transparent, but not provide much useful price information to participants

\*See paper by Robert J. Graniere, "Congestion Revenue Rights: Implications for State Public Utility Commissions," on the NRRRI web site at [www.nrrri.ohio-state.edu](http://www.nrrri.ohio-state.edu).

## **Some Potential Problems (continued)**

- Facilitating and information costs will be high for the ITP, especially for conducting the auction
- Transactions cost for buyers and sellers will also be high
- Considerable uncertainty in the value of CRRs and congestion charges -- particularly at the beginning
- The CRRs are not homogeneous, so establishing market-clearing prices in an auction for each CRR bought and sold will be difficult
  - appears to be more like brokering or facilitating than auctioning

## **FERC's Principles and Objectives for Market Mitigation and Monitoring**

- "At this stage of the industry's evolution, wholesale electric markets are not yet structurally competitive in all respects."
- This is due to:
  - a lack of price-responsive demand
  - generation concentration causing location-specific and time dependent problems (e.g., transmission-constrained load pockets)
- Cannot rely on the interaction of supply and demand to ensure competitive prices
- FERC to use "regulatory tools" to produce just and reasonable results

## Market Power Mitigation Measures

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- Under certain conditions identified by the market monitor, when generators are in concentrated geographic markets because of transmission congestion or reliability needs, the units will have "localized market power."
  - their energy and ancillary services bids would be capped
  - their must-offer obligation and bid cap specifications would be in the *participating generator agreements* with the ITP

## Market Power Mitigation Measures (continued)

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- A "safety-net bid cap" (e.g., \$1000/MWh) to set an "outer bound" on possible supplier economic withholding
- Resource adequacy requirement -- to expand resource alternatives -- that should make it difficult to use either physical or economic withholding
- Limit bids in the day-ahead and real-time spot markets if those bids are found to be high due to withholding -- rather than scarcity (would be voluntary)



## Market Monitoring

- Monitoring by a market monitoring unit that is autonomous of the ITP's management and market participants
- *Reports* directly to FERC and the independent governing board of the ITP
- "Although the market monitor will be *accountable* only to the Commission and the governing board, it should *share* its analyses and reports with the management of the [ITP] and the Regional State Advisory Committee" (emphasis added)

## Market Information Transparency: Data Availability and Quality

- Data on market prices and other trading activities are becoming less available and are of lower quality than what was available under regulation
- Competitive market participants are reluctant to share proprietary information with competitors
- National security concerns are also limiting market information
- Misreporting by some energy companies has damaged the credibility of the information collected

## Will Standard Market Design Improve Market Performance and Fix the Industry's Problems?

- FERC believes that SMD will increase efficiency within RTOs and also across RTOs
  - however, additional benefits (benefits - costs) from larger RTOs may be modest and are uncertain
  - some inefficiencies are due to physical constraints, not because of market design flaws
  - LMP may increase efficiency, but it may also increase the potential for suppliers to exercise market power
- Unlikely that SMD will fix the current industry credit problems and it could make them worse

## The Industry "Credit Crunch"

- "Indeed, there are still 26 to 27 states that remain untouched by deregulation, or where any such impulses have quickly retreated. Standard & Poor's sees a solid investment-grade picture among the utilities operating in these jurisdictions."

Standard & Poor's Utilities, November 20, 2002, "U.S. Power and Energy Sector Credit Slide to Continue."

- The rating agency notes that in the third quarter of 2002 there were 57 downgrades among utility holding companies and operating subsidiaries, compared to just eight upgrades. For the same period in 2001, there were nine downgrades and five upgrades.

Standard & Poor's Utilities & Perspectives, October 14, 2002, at 2.

- "it is highly probable that regulation in general will once again play the pivotal . . . role in determining credit quality in the utility sector."

Credit analyst Craig Hauret, Standard & Poor's

## Are We Relearning What Our Ancestors Had Already Learned?

- The old "public utility concept" (the old regulatory paradigm) would predict the last couple years
- If it holds, the next step will either be consolidation and increased concentration of the industry (will be portrayed as a way to improve the financial health of the industry) or "ruinous" competition
- Will be followed by either higher prices, lower quality service, and price discrimination or continued financial hardship for suppliers
- Followed by calls for re-regulation? -- It happened before, but in different political times
- The NSTAAFL rule still holds -- No Such Thing As a Free Lunch

## Competition versus Regulation?

- Free "market fundamentalism" (Joe Stiglitz's term for some World Bank and IMF policies) gets in the way of designing markets with reasonable constraints
  - we have framed the problem where regulation is seen as the opposite of competitive markets
  - government ownership is the opposite
  - regulation used to be seen as a way to have private ownership and protect consumers *and* regulated firms from market failures
  - have to minimize costs of market failure (from imperfect markets) and those of government failure (from imperfect regulation) -- or maximize benefits . . .