

# **Financial Transactions and Market Power**

**How FERC Should Implement its New  
Market Power Tests to Reflect Sellers'  
Differing Position Management Strategies**

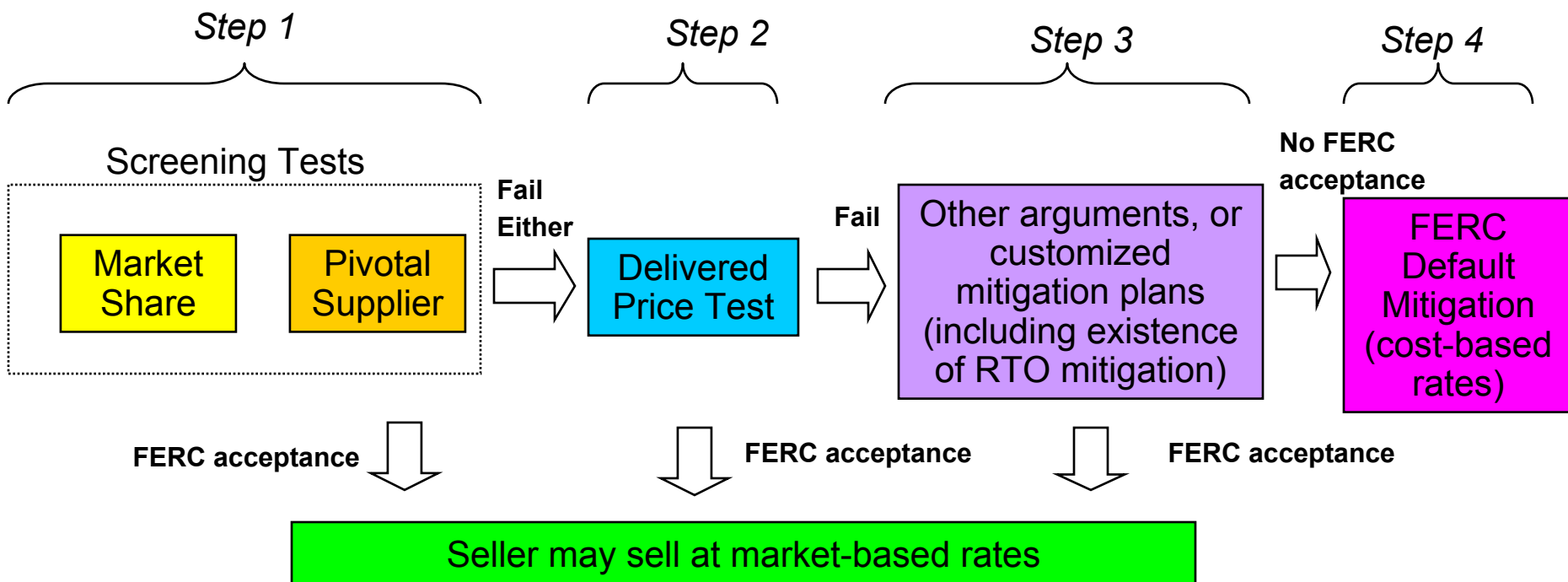
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## **Purpose**

- ✓ Summarize current FERC test for market-based rates (“MBR”) and FERC’s rationale for the test
- ✓ Describe hedging options, including purely financial options, available to non-traditional MBR sellers that want to reduce their exposure to spot price volatility in organized markets like PJM
- ✓ Explain relevance of available hedging options to implementation of FERC’s tests to organized markets (sellers in such markets with effective market monitoring did not have to pass earlier versions of such tests), and offer thoughts on how tests should be implemented

# Horizontal Market Power

## Schematic: FERC Market-Based Rates Test (Order 697-A)



# Uncommitted Market Share Test Screen (MST)

✓ Performed on a seasonal basis for a twelve month period:

$$\frac{\text{Seller's uncommitted capacity}}{\text{Total uncommitted capacity}} < 20\%$$

✓ Uncommitted capacity is:

- Total generation owned,
- Plus total generation controlled through certain types of qualifying purchases,
- Minus operating reserves, native load commitments, seasonal planned outages, and net long-term firm sales commitments
- Plus, uncommitted capacity from a seller's remote generation (generation located in an adjoining balancing authority area deliverable on seller-owned long-term firm transmission), up to the import capability

## **FERC's MST Test**

- ✓ Rationale is simple - a sufficient degree of commitment of resources to load ensures that owners of generation do not have financial incentive to profitably withhold
- ✓ Designed with traditional integrated utilities' business models in mind; as control area operator, utility "commits" generation to serve load, and then may have excess to sell in the competitive market
- ✓ As such, load envisioned is service to "native load" of such utilities, whose capacity exists only to serve load, and whose other transactional activity is not related to any desire or need to commit capacity on a forward basis for hedging purposes

# Position Management - Hedging

- ✓ Limitation of commitment concept by FERC to traditional native load is not aligned with methods for position management employed by most MBR sellers in organized markets like PJM
  - PJM responsible for generation commitment, the objective of which is to match generation with load
  - To the extent PJM commits a party's resources, that party ends up with a position in the pool – net short or net long – which the party may wish to manage to minimize price risk
  - Position management happens in all time buckets – hour-ahead, day-ahead, all the way to four or five years out
  
- ✓ The question for a generator without substantial commitments to native load, and that is therefore is net long in forward periods, is: how much in-the-money generation (generation expected to be paid a price above expected costs) should be exposed to spot prices, and how much should be committed to longer term transactions at known fixed prices?
  
- ✓ Any generator with a position has to make these decisions, and fixed price physical energy sales to native load is only one of many options

## Exelon as an Example

- ✓ Exelon Generation Company (ExGen) is affiliated, but separate from the distribution utilities owned by Exelon Corporation
  - ComEd in the Midwest, PECO in the East
  - Both utilities have retail competition
  
- ✓ Large generation position in PJM in Midwest, but only 35% of current ComEd load because of administratively set limit (transition period is over, many suppliers serve provider-of-last resort, or “POLR,” load)
  
- ✓ Large generation position in the eastern portion of PJM, and PECO’s exclusive supplier of POLR load through 2010
  
- ✓ Hedging requirements, which are publicly available in investor presentations, for prompt year are that ExGen must be 90% hedged (prompt year is first full year after current year)
  
- ✓ “Native” load is not enough to get to 90%, too much still exposed to spot prices...

## **Hedging - What A Generator like Exelon Can Do**

- ✓ Sell traditional physical load following, full requirements product to utilities with auctions for POLR load, or to munis/coops with similar obligations
- ✓ Sell physical fixed MW amounts to other traditional load-serving entities, but also to many other types of entities, including large investment and commercial banks
- ✓ Enter into purely financial transactions that are economically virtually identical to physical sales
- ✓ Enter into “dirty” hedges, which can be physical or financial, in products whose prices correlate well with the price of energy (e.g., natural gas)

## More on Hedging

- ✓ Effect of these different methods is the same – a seller of block power, or a fixed price payor under a swap, or a seller of an equivalent quantity of gas, has the same financial incentive to perform as does a seller of a traditional, physical load following product
  
- ✓ To what degree a particular entity chooses to hedge is a function of many considerations
  - VAR (value at risk) tolerance
  - Cash flow requirements/needs
  - Earnings objectives, and management of volatility of earnings
  - Desired credit rating/size and cost of available credit facilities

# Physical and Financial Equivalence

- ✓ A purely financial transaction is an exchange of payment streams; A agrees to pay B a fixed price, and B agrees to pay A a floating price (PJM West Hub) – *no energy is transferred between B and A in their respective PJM settlement accounts*
- ✓ The equivalent physical transaction in PJM is a sale by B to A at the West Hub – *energy is transferred from B's settlement account to A's settlement account*
- ✓ Economic outcome is the same; primary difference is:
  - Physical – PJM is the clearing house for settlement between the parties
  - Financial – Parties exchange cash flows, with PJM publishing floating price (West Hub) but not acting as clearinghouse
- ✓ There are other differences that can be important – e.g., credit risk, timing of payment

# Example – Physical/ Financial Equivalence

**Transaction:** Party A sells 50MWs of day-ahead energy to Party B for \$75/MWh for one-hour delivered to PJM West Hub. PJM West Hub (WH) day-ahead clearing price is \$60/MWh.

## Physical Energy Transaction

	<u>Party A</u>	<u>Party B</u>
<u>PJM Settlement Account</u>		
MW position	(50) →	50
WH LMP	\$60	\$60
Revenue	(\$3,000)	\$3,000
Party A Invoice to Party B	50 \$75 \$3,750 ←	(\$3,750)
Party B Invoice to Party A	Not Applicable	
<b>Net Revenues</b>	<b>\$750</b>	<b>(\$750)</b>

## Financial Energy Transaction

	<u>Party A</u>	<u>Party B</u>
<u>PJM Settlement Account</u>		
MW position	Not Applicable	
WH LMP	Not Applicable	
Revenue	Not Applicable	
Party A Invoice to Party B	50 \$75 \$3,750 ←	(\$3,750)
Party B Invoice to Party A	(\$3,000) →	50 \$60 \$3,000
<b>Net Revenues</b>	<b>\$750</b>	<b>(\$750)</b>

Note: It is standard practice that the Seller calculates the value of both invoices noted above and only invoices the Buyer for the difference in the two invoices.

## **Utility Procurement Programs Expressly Acknowledge Physical – Financial Equivalence**

- ✓ ComEd RFP for 2008-2009 requested physical block power in different time buckets
- ✓ 2007 Illinois Law provided that ComEd and Ameren would enter into financial swaps to cover much of their baseload requirements
- ✓ Ameren 2008-2009 solicitation was for only financially-settled swaps with the floating price being the spot prices to which Ameren was exposed
- ✓ Failure to consider these financial transactions as commitments to load overstates sellers' uncommitted capacity, and therefore could lead to false positives

## **PJM – Incentives for Generators to Perform**

- ✓ Generators receiving capacity payments
  - Are required to bid into the day-ahead market – which motivates generators to perform in real-time market
  - Payments reduced due to forced outages
  
- ✓ Outages coordinated and approved by PJM
  
- ✓ PJM market monitoring ensures competitive supply at all price levels, and provides for price mitigation when short-term, localized conditions might otherwise result on non-competitive clearing prices

## **Implications for Market Power Tests**

- ✓ FERC should implement the MST in a way that recognizes the different ways that non-traditional entities commit their capacity as part of their hedging strategies
- ✓ FERC should reconsider strict application of MST in organized markets – effective, real-time market monitoring is the best way to ensure the competitiveness of such markets