



Load Pockets and Local Market Power

Presented to:

FERC Technical Conference

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February 4, 2004

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Market Objectives in Load Pockets

- For this discussion, I define load pockets as electrical areas where there is limited competition to relieve transmission constraints into the area.
- The market design and market rules must balance two key objectives related to load pockets:
 - ✓ Establishing efficient economic signals in the area that reflect the full value of the resources in the area; and
 - ✓ Mitigating excessive market power that is frequently present in the area.

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Market Objectives in Load Pockets

- Markets should establish transparent price signals that accurately reveal the marginal value of resources in the load pockets.
- These signals are necessary not only to provide incentives for new investment, but also to retain existing generation.
- It is critical to recognize that ***new investment is not always necessary in the load pocket.***
 - ✓ Some load pockets have a surplus of capacity that is owned by a limited number of suppliers (one supplier in some cases).
 - ✓ In this case, the markets should not signal the need for new investment.



Economic Signals in Load Pockets

- The value of resources in load pockets derives from:
 - ✓ Relieving binding transmission constraints – reflected in LMPs; and
 - ✓ Providing capacity needed to maintain reliability in the load pocket.
- Most centralized markets are missing the second component, resulting in incompatible incentives between the suppliers and system operator.
 - ✓ Incompatible incentives are evidenced by: lack of new investment, some existing suppliers not undertaking prudent maintenance, and/or suppliers trying to shut down units.
 - ✓ When this capacity is needed for reliability, RMR contracts become necessary.
 - ✓ To avoid reliance on RMR contracts, the markets must fully reflect the reliability needs satisfied by capacity in the load pocket.



Alternative Sources of Economic Signals in Load Pockets

Alternative market design elements to signal the value of capacity in the load pocket include (in order of desirability):

1. Location-specific operating reserve markets

- ✓ Operators often have capacity requirements for load pockets that are satisfied in the commitment process to maintain reliability.
- ✓ These requirements are generally not market requirements.
- ✓ Making them market requirements would price this service and allow efficient shortage pricing in the load pockets.
 - Shortages exist when the reserve requirements cannot be met – energy prices should reflect the value of the foregone reserves.
 - Generators need not raise their offer prices to achieve efficient shortage pricing in the load pocket.
- ✓ The lack of historical investment in transmission and generation in some of these areas would cause this signal to be overwhelming.

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Alternative Sources of Economic Signals in Load Pockets (cont.)

2. Locational capacity markets

- ✓ Example: locational ICAP requirements in New York City.
- ✓ Serves as a proxy for the locational operating reserve requirements and can be phased-in gradually.
- ✓ The signal resulting from this process is not as potentially volatile as from locational operating reserve markets.
- ✓ With appropriate economic parameters, it can be combined with the locational reserve markets.

3. RTO auction for new capacity in the load pocket, with the clearing price paid in some manner to all existing suppliers in the load pocket.

- ✓ Very similar to the locational spot capacity market (alternative 2), but results in longer-term commitments with new suppliers.
- ✓ If the locational capacity signals are not credible, this option could be superior.

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Alternative Sources of Economic Signals in Load Pockets (cont.)

4. Relatively loose market power mitigation measures
 - ✓ Example: PUSH provisions in New England.
 - ✓ This is less reliable than prior alternatives:
 - Concentrated supply in the load pocket can result in excessive rents when a surplus exists (competitive prices should be low).
 - Competitive conditions in the load pocket can result in insufficient signals when a shortage exists (competitive prices should be high).
5. Unit-specific RMR contracts
 - ✓ This is the least transparent alternative.
 - ✓ It does not establish an efficient economic signal for all capacity in the load pocket, which provide comparable reliability value to the system.
 - ✓ It is the least likely to motivate efficient new investment.



Mitigating Locational Market Power

The first and best form of mitigation is to address the structural characteristics of the market:

- Promote transmission investments to reduce congestion and associated locational market power;
- Remove barriers to investment in new generation;
- Facilitate demand-side participation in the market; and
- Generation Divestiture – reducing concentration of supply ownership.



Mitigating Locational Market Power

- Even with the structural mitigation, market power concerns may still justify “behavioral” mitigation.
- Behavioral mitigation includes measures that restrict a supplier from exercising market power.
- In developing behavioral mitigation measures, policymakers should adhere to the following principles:
 - ✓ Mitigation should not affect participants bidding competitively – including causing suppliers to bid or generate below their marginal cost;
 - ✓ Mitigation should not artificially limit price movements – particularly during times of shortage; and
 - ✓ When possible, mitigation should be applied prospectively.



Mitigating Locational Market Power

- Unit-specific offer caps are the most effective means to mitigate locational market power.
 - ✓ The offer cap restricts suppliers’ ability to economically withhold resources, while allowing the market to clear as usual.
 - ✓ The unit that is mitigated still receives the market clearing price – it is not intended to be punitive.
- Unit-specific offer caps do not hinder efficient arbitrage of prices between adjacent markets.
- Unit-specific offer caps will not prevent efficient scarcity pricing as long as:
 1. High-cost resources are not mitigated below their marginal costs; and
 2. Prices are set by demand or at the value of the operating reserves when the system is in shortage (i.e., reserves requirements cannot be met).



Mitigating Locational Market Power

- The current offer caps vary in how they are triggered.
 - ✓ The offer caps in New York utilize a conduct test to identify withholding and a market impact test to determine when the offer cap is warranted.
 - ✓ The conduct and impact tests minimize unwarranted intervention by requiring substantial evidence of market power abuse prior to mitigation.
 - ✓ Other forms of the offer caps employ less direct criteria to trigger the caps, such as the presence of congestion.
- The primary drawback of the conduct and impact tests is the time required to implement them, although they can be automated.