Local Market Power Mitigation

Comments
Technical Conference on
Compensation for Generating Units
Subject to Local Market Power Mitigation In Bid-Based Markets
PJM Interconnection, L.L.C.
Docket Nos. PL04-2-000, EL03-236-000

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These comments are submitted on my own behalf in connection with the Commission's technical conference on compensation and local market power mitigation. I appreciate the Commission's invitation to participate in these discussions. In electricity markets the problems of local market power mitigation can be both complicated and highly dependent on the particular fact situation. Hence, I don't have a comprehensive or easy policy fix. On the other hand, we think we know a good bit about this subject. Since not all of what we think we know seems to be consistent, there is a lot to say and a lot has already been said. For example, and for ease of reference, I have appended a list of papers on my web page where the main topic has been related to the details of market power problems and analysis.

Given the limited time, my goal today is to highlight a few points that might be of help in thinking about policy in this area, and might contribute to further discussion during the day. Market power induced by transmission constraints presents the most likely case for sustained deviation from competitive conditions. However, the issues are typically general and apply beyond the case of local market power. The "top ten" list below reflects my own biases and conclusions, perhaps over simplified here but intended to be clear if not comprehensive.

1. **In balancing imperfect markets and imperfect regulation, lean towards markets.** The goal should be to mitigate egregious market power that has a substantial and sustained effect. Trying to use regulation to force the theoretical limit of perfect competition probably does more harm than good because regulated solutions are also imperfect.
2. **Market power models are useful for stimulating thinking, but don't believe the numbers just yet.** Other things being equal, high concentration increases the potential for the exercise of market power. But high concentration alone is

neither necessary nor sufficient for exercising market power. Likewise, the related focus on "pivotal" firms provides little guidance. Market power may be exercised with no pivotal firms, and a pivotal firm may not have sufficient incentive to exercise market power if there is any demand response. Likewise, formal models of strategic behavior are either too simplified to be useful or too hard to solve in providing realistic simulations of oligopoly behavior. Indirect analysis through comparison of market simulations against real market behavior leaves too many conditions uncontrolled to isolate the effect of market power. This formal modeling is an important research focus, but not yet a straightforward policy tool. Direct analysis of withholding by individual generators is the best diagnostic.

3. **Scarcity pricing is good, withholding is bad.** High prices may be politically unpopular, but absent withholding of generation there is no exercise of monopoly power. Regulators who support markets must face the periodic need for high prices during shortage conditions, at least in the real-time balancing market that sets the incentives for everything else through anticipation and arbitrage.

4. **Electricity markets make control of real time generation, transmission or load essential in exercising market power.** Derivative markets and long term contracts can change the incentives to exercise market power, but at least in organized markets withholding in real time is required to exercise market power. Otherwise, simple financial arbitrage would preclude any sustained exercise of market power.

5. **Improvements in market design under competitive conditions also help address market power problems.** There is no tradeoff in addressing market power that requires major design changes that affect even the operation of competitive firms. Hence, good competitive market design to include demand side participation, locational pricing, simultaneous optimization, opportunity cost pricing, day ahead markets, virtual bidding, financial transmission rights, and so on, helps markets to work and contributes to mitigating market power.

6. **Monopsony is a problem as well as monopoly.** Compensating expensive generators for running when cheaper alternatives are available produces prices that are too low and should be as much a focus of policy concern as withholding to increase prices. Support of markets requires that system operators run the system to reflect the bid-based costs, not to minimize price.

7. **Market power mitigation should default to the competitive outcome when market power is not present or not exercised.** The form of any mitigation policy should be such that a competitive market participant would not be constrained by the mitigation policy. For example, bid caps are better than price caps. Financial vesting contracts for a transition are better than ongoing subsidies with uplift charges. Need for out-of-merit generation should be seen as indicating imperfections in the market rules rather than an inevitable consequence of market power mitigation.

8. **Entry is crucial in long-term mitigation of market power.** Different treatment of entrants in terms of market power mitigation is justified when the non-

economic barriers to entry are low. The lure of extra profits is the incentive for entry, and entry drives down the profits without the need for regulation. Existing plants built under regulation may need mitigation, but new plants could be exempt when non-economic entry barriers are low.

9. **The discipline of markets requires the possibility of losing money, and the exit of money losing generation.** But the exit of generators also needs market power analysis. Exit through closure is like permanent physical withholding if the exiting supplier has other assets in the market that would benefit from any resulting price impacts. Exit through asset sales can improve competitiveness, if operation of the assets is profitable for a competitive supplier.
10. **Market power mitigation policy needs its own exit strategy.** Exempting new investment where entry is possible is an example of policies that avoid incremental expansion of regulatory rules.

The emphasis should be on good market design, expansion of market participation, reducing restrictions at seams and encouraging entry. Local market power mitigation will continue to be necessary, but it should not drive other policies at the risk of defeating the basic purpose of using the discipline of the market rather than discipline of rules.

Hogan et al. Papers on Market Power Topics, available on web page.

"A Hazard Rate Analysis of Mirant's Generating Plant Outages in California," (January 2, 2004). With Scott Harvey and Todd Schatzki.

http://ksghome.harvard.edu/~.whogan.cbg.Ksg/Harvey_Hogan_Schatzki_Toulouse_010204.pdf

"Market Rules and Market Based Rates," (August 18, 2003). Comments co-authored with Scott M. Harvey and submitted to the Federal Energy Regulatory Commission, Docket Nos. EL01-118-000 and EL01-118-001 .

http://ksghome.harvard.edu/~.whogan.cbg.Ksg/Mkt_Rules_Harvey_Hogan_FERC_VanDoc_151487_1_081803.pdf

"Market Power and Market Simulations," (July 16, 2002). Co-authored with Scott M. Harvey.

http://ksghome.harvard.edu/~.whogan.cbg.Ksg/H-H_Market_Power&Simulations_071602.pdf

"Market Power and Electricity Competition," (April 25, 2002) Presentation at ABA Anti-Trust Conference, Washington DC.

http://ksghome.harvard.edu/~.whogan.cbg.Ksg/aba_hogan_042502r.pdf

"Identifying the Exercise of Market Power in California," (December 28, 2001). Co-authored with Scott M. Harvey.

http://ksghome.harvard.edu/~.whogan.cbg.Ksg/Identifying%20the%20Exercise%20of%20Market%20Power%20in%20CA_122801.pdf

"Market Power and Withholding," (December 20, 2001). Co-authored with Scott M. Harvey.

http://ksghome.harvard.edu/~.whogan.cbg.Ksg/Market%20Power%20&%20Withholding%20Harvey-Hogan%2012-20-01.pdf

"Capacity Constrained Supply Function Equilibrium Models of Electricity Markets: Stability, Non-decreasing Constraints, and Function Space Iterations," (December 18, 2001). Co-authored with Ross Baldick. PWP - 089. A Power Working Paper - University of California Energy Institute's Program on Workable Energy Regulation.

http://ksghome.harvard.edu/~.whogan.cbg.Ksg/Baldick_Hogan_12-18-01_Capac_constr_elec_model_pwp089.pdf

"Further Analysis of the Exercise of Market Power in the California Electricity Market," (November 21, 2001). Co-authored with Scott M. Harvey.

http://ksghome.harvard.edu/~.whogan.cbg.Ksg/Further%20Analysis%20of%20Exercise%20of%20Mkt%20Pwr%20in%20CA%2011-21-01.pdf

"On the Exercise of Market Power Through Strategic Withholding in California," (April 24, 2001). Co-authored with Scott M. Harvey.

http://ksghome.harvard.edu/~.whogan.cbg.Ksg/Mkt_Pwr_CA_HH_042401.pdf

"Issues in the Analysis of Market Power in California," (October 27, 2000). Co-authored with Scott M. Harvey.

http://ksghome.harvard.edu/~.whogan.cbg.Ksg/HHMktPwr_1027.pdf

"California Electricity Prices and Forward Market Hedging," (October 17, 2000). Co-authored with Scott M. Harvey.

http://ksghome.harvard.edu/~.whogan.cbg.Ksg/mschedge1017.pdf

"Nodal and Zonal Congestion Management and the Exercise of Market Power," (January 10, 2000). Co-authored with Scott M. Harvey.

http://ksghome.harvard.edu/~.whogan.cbg.Ksg/zonal_jan10.pdf

"A Market Power Model with Strategic Interaction in Electricity Networks," (July 15, 1997).

http://www.ksg.harvard.edu/people/whogan/hiid797b.pdf

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