

ARTICLE

THE ROLE OF ENERGY REGULATION IN ADDRESSING GENERATION MARKET POWER

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I. INTRODUCTION

Wholesale electricity markets are perhaps unlike any other market. It is common in electricity markets for a single generation supplier to be required to run in order to maintain system balance and voltage. This “must-run” situation creates

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market power. Moreover, this situation can arise instantaneously, even at points on the grid where competition between hundreds of generators is the norm. This type of market power is not addressed by antitrust law or commodity regulation. Even if it were, the ex post penalty approach that is used in enforcement proceedings to mitigate market power is disruptive and unwieldy. Should suppliers in this situation have market-based rate authority from the Federal Energy Regulatory Commission (FERC)? Is “de-regulation” appropriate given this common structural condition? Are the changes in law and regulation in the last decade deregulation? The Federal Power Act (FPA) still requires that sales for resale in interstate commerce be “just, reasonable, and not unduly discriminatory.”¹ Market power mitigation has developed to address such circumstances. This mitigation is not unlike “regulation,” and has similar goals of preventing excessive rates while maintaining them at a level high enough to attract and retain needed infrastructure. Thus “de-regulation” has not really occurred; rather, regulation has been lightened only in the circumstances where sufficient competition is found to exist. FERC policy has attempted to preserve protections in times and places where sufficient competition does not exist while creating minimal market distortion and maximizing efficiency.

II. DEVELOPMENT OF COMPETITIVE WHOLESALE ENERGY MARKETS

The last two major pieces of legislation affecting the electric industry, the Public Utilities Regulatory Policy Act of 1978² and the Energy Policy Act of 1992,³ opened the door to competition and promoted structural reforms to facilitate competition.⁴ Regulations promulgated by FERC through multiple bipartisan sets of commissioners have consistently furthered the goal of developing competitive electricity markets. Academics and policy reformers promoted competition in the industry following the successful introduction of competitive forces into the trucking, airline, telecommunications, and natural gas industries. These

1. Federal Power Act of 1935, 16 U.S.C. § 824d (2005).

2. Public Utilities Regulatory Policy Act of 1978, Pub. L. No. 95-617, 92 Stat. 3117 (2006) (codified as amended in scattered sections of 16 U.S.C. (2006)).

3. Energy Policy Act of 1992, Pub. L. No. 102-486, 106 Stat. 2776 (2002) (codified as amended in scattered sections of 16 U.S.C., 25 U.S.C., 26 U.S.C., 30 U.S.C., and 42 U.S.C. (2006)).

4. Recovery of Stranded Costs by Public Utilities and Transmitting Utilities, 61 Fed. Reg. 21,540 (Apr. 24, 1996) [hereinafter Order 888] (codified at 18 C.F.R. pts. 35 & 385).

reforms have steadily changed the historical structure of separate service territories operated by companies that controlled generation, transmission, and distribution on an integrated basis.

Generally, the generation sector of the industry has the structural conditions necessary to allow competition to discipline prices. Barriers to entry are generally low, as there are many sites available to locate and interconnect a new generator. Since FERC Order 888, customers have had transmission access to distant supplies to the extent capacity was available, and the rules sufficiently mitigated the vertical market power of the transmission provider. The efficient scale of generators has fallen over recent decades such that smaller decentralized investments are more economic. Trade is increasing significantly every year, and independent entry now accounts for more than forty percent of the nation's operating generation capacity.⁵

Electric markets are not fully competitive at all times and places. There are unique structural features of the industry that limit competition. For example, demand responds little to price over short and medium term time horizons. In addition, very few end-use customers receive price information, have rates that reward efficient voluntary demand response, or have the ability to be remotely curtailed in response to market conditions. This inelastic demand directly increases market power.

Another noncompetitive condition in the industry is inherited generation concentration. Utilities have historically controlled most of the generation in their areas. Transmission between areas was limited to the amount necessary to share capacity reserves, which is much less than what would be required to support fully contestable markets in neighboring areas. A subset of this phenomenon is "load pockets" where transmission constraints limit the ability to import supply into urban centers. Supply choices for customers located in these areas are limited to the generators also located inside the constrained facilities. Most cities have this problem to some degree. The dominant supplier position that results is obtained perfectly legitimately as an inheritance from the industry's former monopoly structure.

Inelastic demand and dominant suppliers combine to create "pivotal supplier" conditions which are an extreme form of market power. This means that if customers exhaust all

5. U.S. DEPT OF ENERGY, ANNUAL ENERGY OUTLOOK 2004 WITH PROJECTIONS TO 2025 (Jan. 2004), available at <http://www.eia.doe.gov/oiaf/archive/aeo04/electricity.html#egcap>.

alternative supply options without satisfying demand, then there is at least one remaining supplier whose supply must be taken to avoid a blackout. The supplier typically knows this and can raise prices at will. Pivotal suppliers commonly exist in two areas, utility service territories and load pockets. Pivotal supplier situations can also be created by sudden shortfalls in supply. To make the situation even trickier, the electric grid is so dynamic that pivotal supplier conditions can appear and disappear instantaneously, and often do.

Dynamic pivotal supply conditions merit close policy scrutiny. They challenge the conventional assumption that a sector falls clearly in the category of monopolistic and requiring “regulation,” or competitive and qualifying for “deregulation.” To follow the FPA and make electric competition work for customers, these situations must be addressed.

III. THE ROLE OF ANTITRUST

Antitrust law is as applicable to electricity markets as it is to any other industry. The Supreme Court found in *Otter Tail Power v. United States* that there is no protection or exemption from antitrust law by virtue of the fact that the industry is regulated.⁶ The Department of Justice (DOJ) and the Federal Trade Commission (FTC) have been involved in electric industry mergers, both electric-electric and electric-gas combinations. The allocation of merger review between FERC and antitrust agencies is under discussion in Congress, and it may be that merger review will fall more on the shoulders of the antitrust agencies in the future.

Antitrust law does not apply to inherited market power.

The offense of monopoly under Section 2 of the Sherman Act has two elements: (1) the possession of monopoly power in the relevant market and (2) the willful acquisition or maintenance of that power as distinguished from growth or development as a consequence of a superior product, business acumen, or historic accident.⁷

Inheriting monopoly power from an era of government-sanctioned monopolies might be considered an historic accident and therefore is not likely to trigger antitrust review. Because antitrust law does not apply to inherited monopoly power, it does not address typical pivotal supplier conditions.

The remedies available to antitrust authorities are not well-

6. *Otter Tail Power Co. v. United States*, 410 U.S. 366, 373–74 (1973).

7. *United States v. Grinnell Corp.*, 384 U.S. 563, 570–71 (1966).

suites to these chronic, dynamic pivotal supplier conditions. The remedies include denial of, or restrictions on, mergers and acquisitions or ex post penalties. However, as noted above, pivotal suppliers that inherited their position rather than acquired it would not be subject to merger review. Likewise, penalties are not well-suited because they would need to be administered on a regular basis. Divestiture would be quite effective in some circumstances, but it is not available if the law does not apply to inherited monopoly positions. In other circumstances, like load pockets where single plants are “must-run,” even divestiture would not increase competition.

IV. THE ROLE OF COMMODITY REGULATION

Commodity regulation also applies to the electric industry as it does to other industries. The electric industry is only recently experiencing a significant amount of financial trading that is under the Commodity Futures Trading Commission’s (CFTC) jurisdiction. However, there has been some financial trading in the last five years and the CFTC has been very active in enforcing regulations on market manipulation through false reporting. This review includes an evaluation of whether there was an artificial price, whether the party in question caused the artificial price, and whether the party intended to create such an artificial price.

While these commodity regulations have their place in the industry, they have little relevance to pivotal suppliers. A pivotal supplier can fully comply with commodities regulations while exercising market power.

The remedies available to commodities regulators are not well-suited to chronic structural conditions. The ex post penalties are intended to be used in exceptional events, not as a routine day-to-day measure. I do not believe Congress or the CFTC Commissioners intended the agency to regulate prices on a routine basis.

V. THE ROLE OF ENERGY REGULATION

The Federal Power Act of 1935 (FPA) provides that rates, terms, and conditions of wholesale power sales must be just, reasonable, and not unduly discriminatory.⁸ Unlike antitrust law, FPA does not require that monopoly power be willfully acquired.⁹

8. Federal Power Act, *supra* note 1.

9. Walker v. U-Haul Co. of Miss., 734 F.2d 1068, 1074 (5th Cir. 1984) (holding that the mere possession of monopoly power, absent evidence that such power was willfully

Unlike the Commodity Exchange Act (CEA), FPA does not require that prices be artificial, that they be set with an intent to manipulate, or that any deception be involved.¹⁰ Rather, FPA is completely silent on what may cause rates to be unjust and unreasonable. It places an obligation on FERC to ensure that rates are just and reasonable.

The courts have allowed FERC some flexibility in how these rates are set.¹¹ In particular, the courts have affirmed FERC's policy to replace cost-based rates with market-based rate authority. The court has found "when there is a competitive market[,] FERC may rely upon market-based rates in lieu of cost-of-service regulation to assure a 'just and reasonable' result."¹² The courts have found that rates resulting from a market can be just and reasonable;

"[I]n a competitive market, where neither buyer nor seller has significant market power, it is rational to assume that the terms of their voluntary exchange are reasonable, and specifically to infer that the price is close to marginal cost, such that the seller makes only a normal return on its investment."¹³

However, as the *Elizabethtown* quote implies, there are certain conditions. FERC must make a finding that there is sufficient competition to replace regulation disciplining prices.¹⁴ Simply relying on the market has not passed muster. In *FPC v. Texaco, Inc.*, the court remanded an order exempting small gas producers from regulation under section 4 of the Natural Gas Act (NGA)¹⁵ and said "the prevailing price in the marketplace cannot be the final measure of 'just and reasonable' rates mandated by the [NGA]."¹⁶ Similarly, in *Farmers Union Central Exchange v. FERC*, the court remanded an order allowing high rates for oil pipelines because FERC "had failed to demonstrate that market

acquired or maintained, does not violate antitrust laws found in 15 U.S.C. § 2).

10. *Transnor (Berm.) Ltd. v. BP N. Am. Petrol.*, 738 F. Supp. 1472, 1493 (S.D.N.Y. 1990) (holding that a claim of manipulation under the Commodities Exchange Act requires: (1) manipulative conduct; (2) a specific intent to create an artificial price; (3) a causal relationship between the defendant's manipulative conduct and the resulting price; and (4) an artificial price).

11. *Bluefield Water Works & Improvement Co. v. Pub. Ser. Comm'n*, 262 U.S. 679, 692 (1923); *Fed. Power Comm'n v. Hope Natural Gas*, 320 U.S. 591, 603 (1944); *Elizabethtown Gas Co. v. FERC*, 10 F.3d 866, 870 (D.C. Cir. 1993). *Farmer's Union Cent. Exch., Inc. v. FERC*, 734 F.2d 1486, 1501 (D.C. Cir. 1984);

12. *Elizabethtown*, 10 F.3d at 870.

13. *Tejas Power Corp. v. FERC*, 908 F.2d 998, 1004 (D.C. Cir. 1990).

14. *Elizabethtown*, 10 F.3d at 870.

15. Natural Gas Act § 4, 15 U.S.C. § 717 (2006).

16. *Fed. Power Comm'n v. Texaco, Inc.*, 417 U.S. 380, 397 (1974).

forces could be relied upon to keep prices at reasonable levels throughout the oil pipeline industry.”¹⁷

While market-based rate authority has been rejected where there was no finding of sufficient competition, it has been accepted where such a review and finding were made. In *Elizabethtown*, the court said FERC had “specifically found that ‘Transcontinental’s markets [were] sufficiently competitive to preclude it from exercising significant market power in its merchant function”¹⁸ Thus, one condition for authorizing market-based rate authority is to make an explicit evaluation and finding that sufficient competition exists.

Another condition was established in *Environmental Action v. FERC* where the D.C. Circuit affirmed a FERC order to rely on competition and relied in part on the transaction reporting requirements and FERC’s ability to remedy market power abuses under section 206 of the FPA.¹⁹ The recent Ninth Circuit case, *California ex rel. Lockyer v. FERC*, also relied on transaction reporting in addition to the finding of no market power.²⁰

These cases clarify that FERC can rely on market-based rates, but only if (1) FERC has determined that a supplier lacks, or has adequately mitigated, market power through its authority under section 205 of the FPA; and (2) FERC monitors the market through reporting requirements and actively oversees and remedies any abuses of market power that are found under section 206 of the FPA.

Pivotal supplier conditions are clearly subject to FERC review under sections 205 and 206 of the FPA. If the supplier has significant market power, it does not qualify as having demonstrated that it lacks market power. Note that it does not matter if the position is acquired or if there is any market deception or manipulation. The seller can only retain market-based rate authority if it adequately mitigates market power. Mitigation can take many forms such as behavior restrictions, “must-run” contracts, other long term contracts that are subject to FERC review, and divestiture. The next section will evaluate these options.

The FPA, in section 203,²¹ also provides for FERC review to ensure that dispositions of facilities, such as mergers and acquisitions, are consistent with the public interest. FERC has

17. Farmer’s Union, 734 F.2d at 1510.

18. *Elizabethtown*, 10 F.3d at 870–71.

19. *Env’tl. Action v. FERC*, 996 F.2d 401, 410–11 (D.C. Cir. 1993).

20. *Cal. ex rel. Lockyer v. FERC*, 383 F.3d 1006 (9th Cir. 2004).

21. Federal Power Act, 16 U.S.C. § 824b(a) (2005).

interpreted this authority to apply to the effect on rates, regulation, and competition.²² Typically, it is the effect on competition which is the most difficult showing to make. Harm to competition by pivotal suppliers is only found if the merger increases market power. Similar to the DOJ and FTC, this review does not address pre-existing conditions.²³

FERC recently issued market behavior rules that apply to market manipulation in trading that are being incorporated into the market-based rate tariffs of all sellers.²⁴ These rules are similar to CFTC regulations, as they address false reporting and other forms of deception. The rules prevent, “transactions without a legitimate business purpose and that are intended to or foreseeably could manipulate market prices.”²⁵ The rules also include prohibitions on physical and economic withholding which are the two primary means of exercising market power in spot energy markets.²⁶ However, the remedies available under these rules are *ex post*.²⁷ Therefore, they are not relied on nearly as much as the automatic bidding rules described below.

VI. COMMON APPROACH TO GENERATION MARKET POWER MITIGATION

FERC has two primary means of addressing pivotal supplier conditions. To qualify for market-based rate authority, a seller must demonstrate on a triennial basis that it lacks market power or has adequately mitigated its market power.²⁸ To aid in this assessment, FERC uses generation market power screens to separate the hundreds of companies that clearly pass from the small number of companies that require close scrutiny. The screens include a wholesale market share measure and a pivotal supplier measure. Mitigation forms that may qualify are unlimited and may include either structural measures such as divestiture or long term contracts, or behavioral measures such

22. Thomas M. Lenard, *FERC's New Regulatory Agenda*, REGULATION, Fall 2002, at 36.

23. Federal Power Act, *supra* note 1.

24. Investigation of Terms and Conditions of Public Utility Market-Based Rate Authorizations, 105 F.E.R.C. ¶ 61,218 (Nov. 17, 2003) (referencing the order amending market-based rate tariff and authorizations).

25. *Id.* ¶ 61,147.

26. *Id.* ¶ 62,148 (noting that FERC's prohibition against market manipulation is not the only tool to rely upon to ensure competitive markets).

27. *Id.* ¶ 62,145 (referencing that the order will aid FERC in ensuring that the rates, terms and conditions remain just and reasonable).

28. Standards of Conduct for Transmission Providers, 107 F.E.R.C. ¶ 61,032, (proposed Apr. 16, 2004) (to be codified at 18 C.F.R. pt. 358).

as cost-based rates.

Along with the triennial review, FERC requires mitigation of market power in load pockets.²⁹ Pivotal suppliers in these areas are considered to have market-based rate authority, however, the mitigation that is applied means it is not unlike being subject to cost-based regulation. One measure that has been used is “Reliability Must-Run Contracts” (RMR). These long term cost-of-service contracts require the supplier to supply energy when called in return for a payment covering the energy costs and a reasonable return on investment.³⁰ Another approach has been the use of bidding rules. They might be cost plus an adder in cases where a unit is must-run as in the case of *PJM Interconnection*, or a conduct-and-impact test which replaces bids above a threshold from units in a load pocket with bids that have been made by the unit in more competitive conditions.³¹ These policies are very dynamic, and can mitigate market power at grid’s hours and nodes when pivotal supplier conditions exist, but allow more freedom in more competitive conditions. These policies are immediately effective and allow prices to be set without delay and settlements to be finalized, reducing regulatory risk and uncertainty. This feature stands in contrast to enforcement approaches and the use of ex post penalties. In addition, these policies can be used sparingly, and FERC has typically rejected the use of mitigation where there is not a well-defined structural problem.

In response to concerns that must-run mitigation may set prices too low for units to recover their investment or to attract needed new investment,³² FERC recently issued guidelines on market design in load pockets.³³ Part of this policy is to set the mitigation at the right levels and apply it to the right conditions. Another part is to make sure the mitigation works with the rest of the market design, creating the right price signals to attract and retain needed investment. Market design features that can work to create good price signals include:

locational changes such as locational installed capacity,
locational operating reserves, locational pricing for energy

29. Devon Power LLC, et al., Order Accepting, in Part, Requests for Reliability Must-Run Contracts and Directing Temporary Bidding Rules, 68 Fed. Reg. 23,448 (May 2003).

30. PJM Interconnection, L.L.C., 107 F.E.R.C. ¶ 61,112 (2004).

31. *Id.*

32. Eric Lerner, *What’s Wrong with the Electricity Grid?*, INDUS. PHYSICIST, Nov. 2003, at 8, available at <http://eceserv0.ece.wisc.edu/~dobson/PAPERS/industrialphysicistNov03.pdf> (last visited June 6, 2005).

33. PJM Interconnection, L.L.C., *supra* note 30.

in times of local operating reserves scarcity; higher bid caps or relaxed mitigation for otherwise mitigated units needed for reliability (increased reference prices; proxy unit based approaches; increased offer caps in unit-based cost capping regimes); or other approaches that are designed to solve the Reliability Compensation Issues while also taking into account appropriate protections against the unwarranted exercise of market power.³⁴

VII. PROMOTING COMPETITION IN THE LONG RUN

The section above explained FERC's primary market power mitigation tools. The FPA requires either mitigation or no market-based rate authority. However, such measures are not necessarily the best long run solutions. It would likely be more efficient in the long run to create a competitive structure through structural reform and allow markets to operate without such significant behavioral restrictions.

Transmission investment is one effective structural change. If ways could be found to build transmission into load pockets, that would alleviate the congestion and allow customers to access a broader geographic market. Investment to strengthen the connections between isolated utility service territories would also broaden markets and alleviate pivotal supplier conditions. Transmission investment is sometimes stymied by the conflicting incentives of the transmission owners. The effect of their investment in transmission may turn out to be an increase in competition with their electric generators, having the wrong effect on their bottom line. This problem is solved by independent transmission companies who focus only on the transmission business. Siting issues can also be a barrier to transmission. A more complete discussion of the many issues affecting transmission investment is beyond the scope of this paper.

More open transmission access can also broaden geographic markets. Competition and trade expanded significantly after Order No. 888 in 1996.³⁵ Many wholesale customers argue that Order No. 888 did not go far enough to create comparable transmission service.³⁶ Extending Order No. 888 rules and transmission planning obligations could broaden geographic

34. *Id.*

35. Pat Wood, III, Chairman, Fed. Energy Regulatory Comm'n, Testimony Before the Government Reform Subcommittee on Energy and Resources, United States House of Representatives (June 8, 2005), available at <http://www.ferc.gov/eventcalendar/Files/20050608124932-testimony-wood.pdf>.

36. *See, e.g.*, Transmission Access Policy Study Group v. FERC, 225 F.3d 667, 692 (C.A.D.C. 2000); New York v. FERC, 535 U.S. 1, 15 (2002).

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markets.

Divestiture would be an effective structural remedy to increase competition. The problem is that FERC has little authority to require divestiture. It could be a condition to market-based rate authority, but it is not likely to be a preferable option from the seller's perspective over other mitigation options available to them.

VIII.CONCLUSION

The electric industry has unique structural features such that significant competition in generation exists at some times but not at others. Neither antitrust nor commodity laws apply to the common situation of an inherited chronic dominant supplier position. The Federal Power Act requires an explicit finding that no market power exists before FERC can authorize market-based rates. Thus, the job falls on FERC to ensure that the rules address market power in a way that results in just and reasonable rates.