UNITED STATES OF AMERICA
FEDERAL TRADE COMMISSION
WASHINGTON, D.C. 20580

Before the Louisiana Public Service Commission
Regarding "Market Structure, Market Power, Reliability, and ISOs"

Docket Number U-21453

Comment of the Staff of the Bureau of Economics of the Federal Trade Commission(1)

I. Introduction and Summary

The staff of the Bureau of Economics of the Federal Trade Commission (FTC) appreciates this opportunity to respond to the invitation to comment of the Louisiana Public Service Commission (PSC) concerning the "Market Structure, Market Power, Reliability, and ISOs" portion of its "investigation into whether electric industry restructuring and competition in the provision of retail electric service is in the public interest."(3)

The FTC is an independent administrative agency responsible for maintaining competition and safeguarding the interests of consumers. The staff of the FTC often analyzes regulatory or legislative proposals that may affect competition or the efficiency of the economy. In the course of this work, as well as in antitrust research, investigation, and litigation, the staff applies established principles and recent developments in economic theory and empirical analysis to competition issues.

The staff of the FTC has a longstanding interest in regulation and competition in energy markets, including proposals to reform regulation of the natural gas and electric power industries. Staff has submitted numerous comments concerning these issues at both the federal and state levels.(4) Moreover, the FTC regularly reviews proposed mergers involving electric and gas utility companies.

The five primary themes of our comment are: 1) both horizontal market power and discrimination against competing suppliers of generation by vertically integrated transmission monopolists may be of concern in the electric industry; 2) there are several appropriate factors to consider in a market power analysis,(5) and the PSC may wish to avail itself of computer simulation models to help evaluate current and prospective horizontal market power; 3) if Louisiana determines that it faces likely market power problems in electric generation markets, addressing them through structural remedies may be preferable to relying exclusively on market power monitoring and mitigation; 4) independent system operators (ISOs) of the transmission network within a defined geographic region are potentially attractive institutions for addressing some of the market power issues in the electric industry, particularly if the formation of the ISO is carried out with awareness of a few key ISO warning signs -- smallness, no contingency plan for generation restructuring, lack of independence, and transmission congestion not dealt with effectively; and 5) properly developed and operated ISOs may also help address reliability concerns.

II. Both Horizontal Market Power and Discriminatory Access to Transmission May Be of Concern in the Electric Industry

There are two expressions of market power that may concern the PSC as it contemplates moving to retail competition: horizontal market power and discriminatory access to transmission. Horizontal market power in this policy context refers to the ability of one or more electric generating firms to raise prices above competitive levels for an extended period of time. Horizontal market power results in higher prices, inefficient allocations of scarce

resources, and distortions of consumer choices. Concerns about horizontal market power in generation during deregulation have been heightened by the pioneering British deregulatory experience. Following the implementation of electric industry restructuring in the United Kingdom, in 1989 and 1990, researchers determined that the two private generating firms that dominated the industry were exercising market power. These findings prompted subsequent orders for divestiture of generation capacity. In addition to horizontal market power, the PSC may want to examine closely the incentives and ability of a vertically integrated transmission monopolist, whose rate of return is regulated, to evade the regulatory constraint in order to earn a higher profit.(6) Its participation in an unregulated market may give it the means to do so, either by discriminating against its competitors in the unregulated market or by shifting costs between the regulated and unregulated markets.(7) Discrimination against competing generation suppliers by a transmission monopolist results in consumers' paying higher prices because more efficient entrants into electric generation and sales have been blocked or face higher transmission costs than would prevail without the discrimination.

The discrimination strategy involves complementary products and takes advantage of difficulties in monitoring discriminatory conduct. The monopolist controls others' access to its regulated product in ways that permit it to earn supracompetitive returns in its own operations involving the unregulated complement. Discrimination could appear as a subtle reduction in quality of service, the effects of which would be more difficult to identify and measure than outright denial of access. For example, an integrated transmission monopolist might afford other generation sources access to its transmission services on terms that raise others' costs and permit the monopolist to protect supracompetitive profits in the generation market.

The cross-subsidization or cost-shifting strategy involves inputs used for both regulated and unregulated products. Costs of the shared inputs, which in the electric power industry might include scheduling and general overhead, are assigned in a biased manner (i.e., with additional costs assigned to the regulated side of the business) so that the regulated entity can justify higher cost-based rates. This biased assignment of costs is often difficult for regulators to detect and remedy. This shifting distorts competition and produces inefficiencies in the unregulated business as well. Controlling the discrimination and cost-shifting strategies of a monopolist with monitoring and regulation is difficult. Both strategies, however, can be defeated most effectively by preventing the regulated monopolist from entering the unregulated business or, in the case of a transmission monopolist with generation assets, by implementing operational unbundling through an ISO, thus eliminating its ability to distort competition in the unregulated market.

Consistent with economic theory regarding potential competition concerns of this nature, numerous independent producers and large industrial users have alleged discriminatory conduct in the operation of transmission facilities.(8) Likewise, this behavior is consistent with the evidence from the Supreme Court's Otter Tail Power decision.(9)

While we have not performed an empirical study of the presence of either horizontal market power or transmission discrimination under the facts presented in Louisiana, we can provide some insights into the process of making such an assessment and developing remedies if market power is a concern. The remainder of the comment summarizes these insights.

III. Several Factors Are Important in Evaluating Horizontal Market Power Issues

Economic analysis of market power includes five primary areas: market definition, market structure, likely competitive effects of the structure or of changing the structure, entry conditions, and efficiencies. A copy of the DOJ/FTC Merger Guidelines that describe these factors is included as part of our attached 1996 Merger Policy Comment filed in connection with FERC's decision to adopt the DOJ/FTC Merger Guidelines in reviewing electric utility mergers.(10)

A. The PSC May Wish to Use Computer Simulation Models to Help It Assess Horizontal Market Power and Structural Remedies for Market Power

Recently, computer simulation models of generation and transmission that may facilitate analysis of market power issues have become more widely recognized and tractable.(11) Our experience in evaluating the PacifiCorp/Peabody merger evidences the potential usefulness of computer simulation models for the analysis of market power and potential structural remedies.(12) For example, by simulating various price increases and their effect on pricing in the relevant market(s), computer models can be used to determine relevant geographic markets in a merger analysis or to ascertain whether an entity is engaging in anticompetitive behavior. Various state regulatory agencies and reliability councils also incorporate computer simulation models in their long-range planning efforts. The PSC may wish to consider making use of such computer simulation models, if it has not already done so, to help it assess existing generation market power and potential structural remedies for such market power.

B. The PSC May Wish to Examine the Sensitivity of Market Power Analysis to Prospective Technical Changes

With rapid technical change, there is an important potential distinction between current market power problems that are transitory and those that are likely to persist despite new technology and new institutions. A good example is the effect of changing technology on entry conditions.(13) Technological and regulatory changes over the past decade have tended to ease entry obstacles in electricity generation markets. Entry analysis of electric generation markets considers two principal forms of entry. The first is new or expanded generating capacity within the existing product and geographic market. The second is enhanced access to existing generating capacity by virtue of new or expanded transmission capacity. Increased transmission capacity that permits additional suppliers to compete frequently enlarges the relevant geographic market, and consequently tends to reduce concentration in the relevant market(s), even if no additional generation capacity is installed. The PSC may wish to distinguish in its analysis of market power between present market power and one or more future market power scenarios.

In summary, if the PSC determines to perform an assessment of existing market power, the DOJ/FTC Merger Guidelines provide an appropriate set of factors to consider, and computer simulation models may facilitate a fuller understanding of existing market power risks. Because the ability of incumbent generating firms to exercise market power may well change over time, the PSC may wish to supplement a market power analysis with an assessment of how likely technical changes will alter the ability of firms to exercise market power in the future. Computer simulations may materially assist in this effort as well. If present market power problems are likely to differ significantly from future market power problems, the PSC may wish to design its remedies to take account of these expected changes.

IV. If the PSC Determines That It Faces Likely Market Power Problems in Generation, Addressing Them Through Structural Remedies May Be Preferable to Relying Exclusively on Market Power Monitoring and Mitigation

Determining how to address an existing market power problem is potentially difficult. Opting to impose new rules and regulations to curtail market power is one potential solution. For reasons articulated in our February 1998 comment to FERC on market power monitoring and mitigation proposals from the New England Power Pool (NEPOOL),(15) Louisiana may wish to avoid relying exclusively on such behavioral rules. We summarize the drawbacks to relying exclusively on a behavioral approach in four points: First, it is likely to be difficult to detect and document the exercise of market power in many instances (NEPOOL Comment at 5). The need to balance supply and demand in electricity markets continuously and precisely makes electricity trades vulnerable to subtle and short-lived anticompetitive actions that are likely to go undetected because monitoring is complex and costly. Second, behavioral rules for market power mitigation will not eliminate incentives to exercise market power (id. at 6). Third, market power monitoring and mitigation rules create a risk that competitive behavior will be misidentified as anticompetitive behavior, thus chilling competition and increasing administrative and litigation costs (id. at 5). Fourth, focusing on behavioral remedies may divert attention from structural remedies that have the potential to address market power with greater certainty and lower costs to consumers (id. at 6). The NEPOOL Comment to FERC is attached.

V. ISOs Are Potentially Attractive Institutions for Addressing Many Market Power Issues in the Electric Industry

Both horizontal market power and transmission discrimination concerns can be addressed by ISOs. ISOs can be organized to reduce potential horizontal market power by including a broad geographic area with many separate generation firms. By eliminating pancaked transmission rates(16) and embracing an enlarged geographic area, ISOs can broaden the effective geographic market and thereby reduce market concentration in generation and consequently the likelihood of generation market power. A broader geographic market will not necessarily solve all the generation market power problems, but it can provide a major step in that direction.

If it is truly independent in its governance and operations, the ISO also eliminates transmission discrimination incentives by removing control of transmission assets from the hands of firms that own generation facilities. In addition, the ISO may have stronger incentives than traditional vertically integrated utilities to address generation market power in load pockets(17) that arise during periods of transmission congestion.(18)

If Louisiana becomes involved in the formation of an ISO, it may wish to consider four danger signs warning of risks to competition in the ISO formation process:(19) (1) the ISO is too small; (2) there is no plan for generation restructuring; (3) the ISO is not sufficiently independent; and (4) the ISO plan does not effectively deal with transmission congestion.

ISO Warning Sign Number One: The ISO is too small. One disadvantage of an ISO with limited geographic scope is that it may not encompass enough generating firms to mitigate generator market dominance problems. (20) With very few, if any, exceptions, a single state is too small for an ISO. An ISO that includes only one utility's service territory warrants even closer scrutiny. In contrast, several participants at FERC's April, 1998 ISO Policy Conference testified that reliability and competition concerns might lead to consolidation into as few as three ISOs to cover all forty-eight contiguous states.

ISO Warning Sign Number Two: There is no plan for generation restructuring even when there is a potential generation market dominance problem. As a general proposition, a market power monitoring office within the ISO may not be a good substitute for up-front divestiture of generation capacity if market power is present. Several states, including California, have confronted the generation market dominance issue directly and required divestitures of key generation capacity in conjunction with forming an ISO. As noted earlier, antitrust may not be an effective policy tool for addressing existing market power created under past regulation. Hence, the PSC, other state public utility commissions, and FERC may be in the best position to address this aspect of restructuring as part of the ISO formation process.(21)

ISO Warning Sign Number Three: The "I" part of the ISO is missing or weak. Independence is a keystone of successfully launching competition through an ISO. For competition to develop, current and prospective industry participants need to have trust in the objectivity of the ISO. If, for example, incumbent vertically integrated utilities can veto expansions of the transmission grid, or limit who may use the grid, the ISO's independence is likely to be at risk.(22)

ISO Warning Sign Number Four: The ISO plan does not effectively deal with transmission congestion.(23) Failure to deal effectively with the transmission congestion problem can threaten system stability, present opportunities for generators to create or protect generation market power, and reduce the overall efficiency of the transmission grid. Other states that have considered this problem have included transmission congestion pricing systems in their restructuring programs.(24)

VI. Properly Developed and Operated ISOs May Also Help Address Reliability Concerns

Although the issues of competition and reliability are commonly discussed separately, there is a major overlap between the two that relates to the appropriate size of the ISO. As discussed above, large ISOs can alleviate generation market dominance concerns by broadening the relevant geographic market and by providing unbiased incentives to add transmission capacity to alleviate transmission bottlenecks. Large ISOs can have a similarly salutary effect on reliability difficulties, by increasing the number and diversity of generation and transmission reserves. A large ISO will have incentives to strengthen transmission links throughout its operating area in order to avoid transmission bottlenecks. This, coincidentally, will enhance the ISO's ability to bring reserve capacity to bear from different areas to meet reliability problems in a particular area.

VII. Conclusion

Horizontal market power and transmission discrimination problems are real sources of concern for the PSC as it considers retail competition. Use of the factors set forth in the DOJ/FTC Merger Guidelines, together with computer models, may allow the PSC to draw appropriate conclusions about the extent of generation market power facing Louisiana customers. In conducting such a market power analysis, the PSC may wish to make a distinction between present market power and likely future market power, since technological and institutional changes may materially alter generation market power (as they have in the past). A carefully formed ISO may be an attractive institution through which to implement retail competition and enhance wholesale competition. One criterion for an effective ISO is likely to be significant geographic size, with numerous generating facilities and firms. A large ISO of this type is apt both to alleviate generation market power and to enhance reliability.

Respectfully submitted,

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May 15, 1998

Endnotes:

1. This comment represents the views of the staff of the Bureau of Economics of the Federal Trade Commission. They are not necessarily the views of the Federal Trade Commission or any individual Commissioner. Inquiries regarding this comment should be directed to John C. Hilke (303-844-3565).

2. [Omitted, Webmaster]

3. The PSC passed its resolution to study retail competition and offer opportunities to comment on a series of electric industry issues during its December 17, 1997, Open Session. The resolution followed submission of the PSC staff's wide-ranging and well-developed report on retail competition.

4. The staff of the FTC has commented on electric power regulation to the Federal Energy Regulatory Commission (FERC) in Docket No. PL98-5-000 (May 1, 1998)("ISO Policy Comment"), Docket Nos. ER97-237-000 and ER97-1079-000 (February 6, 1998)("New England Power Pool (NEPOOL) Comment"), Docket No. RM96-6-000 (May 7, 1996)("Merger Policy Comment"), Docket Nos. RM95-8-000 and RM94-7-001 (August 7, 1995) ("Open Access Comment"), and Docket No. RM85-1-000 (1985); to the California Public Utilities Commission, Docket Nos. R.94-04-031 and I.94-04-032 (August 23, 1995); and to the South Carolina Legislative Audit Council (February 28, 1994). In addition, the staff of the FTC has commented to FERC about natural gas regulation. See comments about pipeline regulation after partial wellhead decontrol (Docket No. RM85-1-000 (1985)); alleged anticompetitive practices of pipeline marketing affiliates (Docket No. RM87-5-000 (1987)); and capacity brokering (Docket No. RM88-13-000 (1988)).

5. These factors are described in the U.S. Department of Justice and Federal Trade Commission, Horizontal Merger Guidelines, issued April 2, 1992, revised April 8, 1997 (DOJ/FTC Merger Guidelines) and provide a sound framework for evaluating horizontal market power issues in a merger context, but the DOJ/FTC Merger Guidelines are not designed to address existing market power that was lawfully acquired, as might well exist in an industry moving from local regulated monopolies to competition.

6. The PSC staff report's discussion of vertical market power corresponds to the issues raised about a transmission monopolist's possible anticompetitive behavior.

7. See Timothy Brennan, Why Regulated Firms Should Be Kept Out of Unregulated Markets: Understanding the Divestiture in United States v. AT&T, 32 Antitrust Bull. 741 (1987), and Cross Subsidization and Cost Misallocation by Regulated Monopolists, 2 J. Reg. Econ. 37 (1990).

8. See, e.g., "Petition for a Rulemaking on Electric Power Industry Structure and Commercial Practices and Motion to Clarify and Reconsider Certain Open-Access Commercial Practices," filed with FERC by Altra Energy Technologies, Inc. and others on March 25, 1998.

9. Otter Tail Power Co. v. United States, 410 U.S. 366 (1973).

10. Although the DOJ/FTC Merger Guidelines provide a firm foundation for analyzing changes in prospective market power resulting from a proposed merger, the analysis does not focus on detecting or measuring market power that may already exist in the market. Further, antitrust enforcement is focused on anticompetitive mergers and unfair forms of competition. From an antitrust perspective, a firm that lawfully acquired market power does not commit an antitrust offense merely by exercising that power, unless, it engages in unfair methods of competition to protect that power. Consequently, antitrust enforcement may not be able to reach such market power as may exist as a market moves from local regulated monopolies to competition. Hence, if it finds that horizontal market power problems exist in the generation market(s), the PSC may wish to look beyond antitrust enforcement by considering structural relief (i.e., divestiture of generation assets by a transmission monopolist). At the same time, however, if the PSC is contemplating structural relief to correct an existing market power problem, an analysis using the factors set forth in the DOJ/FTC Merger Guidelines may be useful.

11. FERC's Inquiry Concerning the Commission's Policy on the Use of Computer Models in Merger Analysis; Notice of Request for Written Comments and Intent to Convene a Technical Conference, 63 Fed. Reg. 20,392 (1998) ("The purpose of this inquiry is to gain further input and insight into whether and how computer models should be used in the analysis of mergers ...").

12. Federal Trade Commission, "Analysis of Proposed Consent Order to Aid Public Comment In the Matter of PacifiCorp et al.," FTC File No. 971-0091, at 4 (February 18, 1998).

13. The competition implications of market concentration are affected significantly by entry conditions. If entry is likely, timely, and sufficient to undermine efforts to exercise market power, then even high concentration may not have adverse implications for consumers.(14)

14. DOJ/FTC Merger Guidelines, Section 3.

15. The concerns expressed in the NEPOOL Comment were generalized in our May 1, 1998 ISO Policy Comment to FERC.

16. Under traditional FERC transmission tariffs, an additional charge is incurred any time the contract transmission path involves more than one firm's transmission system, thus causing rates to be "pancaked."

17. A "load pocket" refers to demand in an area that must be satisfied by generation in that area because transmission congestion prevents utilization of supplies from outside the area.

18. One potential difficulty with the nonprofit status of ISOs is the lack of profit incentives to operate efficiently and to make economically appropriate investment decisions regarding expansion of the transmission grid to address transmission bottlenecks. ISO governing bodies may be able to design the employment contracts of ISO managers to provide such incentives.

19. Additional guidelines on formation of ISOs have been issued by FERC in Order No. 888, F.E.R.C. Stats. & Regs. (CCH) ¶31,036 (April 24, 1996) (Promoting Wholesale Competition Through Open Access Non-Discriminatory Transmission Services by Public Utilities; Recovery of Stranded Costs by Public Utilities and Transmitting Utilities), and Order No. 889, F.E.R.C. Stats. & Regs. (CCH) ¶31,594 (April 24, 1996) (Open Access Same-Time Information System and Standards of Conduct).

20. Another disadvantage may be that it does not provide enough diversity in generation (with respect to number and type of generators) to optimize system reliability. See Section VI below.

21. The Administration's recent proposals respond to this concern by giving FERC authority to require divestiture of generation assets by generating firms that have market power in the context of retail competition. ("Comprehensive Electricity Competition Plan," March 26, 1998 (www.hr.doe.gov/electric/plan.htm).)

22. See James Baker Jr., Bernard Tennebaum, and Fiona Wolf, Governance and Regulation of Power Pools and System Operators: An International Comparison, 382 World Bank Technical Papers (1997) (a report on international comparisons of ISO governance systems written in part by FERC staff).

23. "Transmission congestion" refers to conditions in which transmission lines are being used to full capacity and additional transmission efforts between a generator and load reduce the efficiency of other transmissions on the transmission grid. Transmission congestion is most likely during peak demand (load) periods.

24. A variety of transmission congestion pricing systems have been approved by FERC for use by ISOs, and the PSC may wish to compare the effects of the different systems as more experience is gained. California, for example, opted for a "zonal transmission pricing" approach, albeit with very large zones. The Pennsylvania, [New] Jersey, Maryland (PJM) ISO has chosen to address transmission congestion problems with much more narrowly defined pricing zones. PJM's approach is termed "locational marginal pricing" or "nodal pricing." Locational marginal pricing is a transmission pricing system that attempts to take full account of transmission loop flows. Loop flows are a complication of the physics of electricity (electricity follows the path of least resistance) that results in transmission congestion arising in places and times that are counterintuitive to the traditional view of transmission as a point-to-point delivery of electric energy. Locational marginal pricing assesses congestion charges based on the transmission congestion caused throughout the transmission system by a particular transaction.