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

Before the
ARKANSAS PUBLIC SERVICE COMMISSION

In the Matter of a Generic Proceeding to Establish Filing Requirements and Guidelines Applicable to Market Power Analysis	**Docket No. 00-048-R**

Comment of the Staff of the Bureaus of Economics and Competition and of Policy Planning of the Federal Trade Commission(2)

I. Introduction and Summary

The staff of the Bureaus of Economics and Competition and of the Policy Planning office of the Federal Trade Commission (FTC) submits this comment on the Arkansas Public Service Commission's (APSC) initial staff comment proposing requirements to govern how electric utilities operating in Arkansas are to analyze whether they have market power. Arkansas is at the forefront of analyzing market power issues in this context, and this proceeding is helping to ensure that regulatory reforms in the electric power industry bring the benefits of increased competition (lower prices, improved service, and innovation) to its citizens and businesses.

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 electric power and natural gas industries. The staff has submitted numerous comments concerning these issues at both the federal and state levels.(3) Moreover, the FTC has reviewed proposed mergers involving electric power and natural gas utility companies.

The recently enacted Arkansas Electric Consumer Choice Act of 1999 (the Act) requires electric utilities (and their affiliates) to file with the APSC an analysis of market power they may have in each product or service for which competition has been authorized by the APSC (e.g., generation services, metering, billing, etc.).(4) The Act further requires that these "analyses shall be consistent with guidelines, standards, and methods issued or used by the United States Department of Justice or the Federal Trade Commission."(5) The APSC staff has proposed a set of "Market Power Analyses Minimum Filing Requirements" (MPMFRs) that establish the minimum filing requirements for the market power analyses of electric utilities. The MPMFRs embody the analytical principles in the DOJ/FTC Horizontal Merger Guidelines(6) and are likely to provide an accurate picture of existing market power in Arkansas.

This comment first highlights the importance of undertaking an analysis of existing market power in electric power markets. The potential savings and innovations expected from retail electric power competition will not appear unless market power issues are assessed and addressed appropriately. Section III highlights why the analytical principles

contained in the DOJ/FTC Merger Guidelines are appropriate to assess existing market power. Section IV discusses the use of market concentration measurements as a screen for determining whether more detailed analysis is warranted. The comment suggests that also examining market concentration among subsets of generation assets based on their dispatch order may provide a more accurate picture of existing market power. Section V discusses how computer simulation analysis is likely to be the most effective and direct method of assessing existing market power in a strategic analysis if certain market power thresholds are met. Because of the complexities of electric power transmission and the large number of separate market conditions that are of competitive concern, computer simulation analysis also is likely to be the most practicable method of examining existing market power. Finally, the APSC may wish to allow electric utilities to present an efficiencies analysis based on the principles in the DOJ/FTC Merger Guidelines.

II. Addressing Existing Market Power Is Critical to Enjoying the Benefits of Competition

The FTC recently addressed the importance of addressing existing market power in generation and transmission prior to the start of retail electricity competition when it provided views to Chairman Thomas E. Bliley, United States House of Representatives Committee on Commerce, on H.R. 2944, The Electricity Competition and Reliability Act. The Commission noted that:

[T]he starting point for competition in the electric power industry is not the level playing field characteristic of a newly developing market. Instead, vertically integrated, regulated monopolies have controlled the generation, transmission, and distribution of electric power in state-authorized geographic territories. In this context, as regulation is reduced and competition is encouraged, there is a significant potential that these utilities will use their existing market power in generation, transmission and distribution services to deter competition that could benefit consumers. For example, one or a few generating firms might obtain and be able to exploit their market dominance in areas of the country where transmission congestion occasionally creates restricted geographic markets for electric energy (load pockets). This concern is heightened because generation and transmission services often are substitutes: market power in generation services often can be remedied by additional transmission capacity and vice-versa (i.e., a transmission constraint often can be alleviated by securing generation services closer to the ultimate destination). In addition, consumers have not previously had choices of electric power suppliers, and thus consumer protection issues need particular attention. . . .

[M]arket power at the transmission level is likely to give a vertically integrated firm the incentive to exercise that market power. Indeed, the Federal Energy Regulatory Commission (FERC) very recently concluded that, even when vertically integrated utilities have functionally unbundled their generation assets from their transmission assets, they have a continuing opportunity to engage in undue discrimination in access to their transmission facilities and thus to impede competitive markets.(7) In addition to discrimination against competitors seeking access to their transmission facilities, vertically integrated firms may exercise their market power through cross-subsidization in favor of their unregulated affiliates. Both forms of behavior will likely reduce the degree of competition facing the integrated firm's generation assets, although continued regulation of the firm's transmission assets may well prevent the full exercise of transmission market power. These two forms of anticompetitive behavior, plus the costs of regulation, may be significant enough in some circumstances that separating the operation (and/or ownership) of the transmission grid from the ownership of affiliated power marketing interests should be the preferred solution to address horizontal market power at the transmission level. . . .

[O]utside the merger context, concerns with horizontal market power focus on the possibility that one or a few generating firms might obtain and be able to exploit market dominance in areas of the country where transmission congestion occasionally creates restricted geographic markets for electric energy (load pockets). Market concentrations of electric power generation may be high in some areas, in part because state and federal regulators assumed that rate and service regulation would remain in place indefinitely and thus may have assumed there was no need for antitrust scrutiny to restrain the growth of horizontal market power. As regulations are relaxed for

generation and retail trades of electricity, however, existing market power in generation may prevent consumers from realizing the full benefits of competition.

Current antitrust laws are not designed to address the mere possession of market power or the legitimate acquisition of or increase in market power through lawful regulatory processes. Instead, the antitrust laws are designed to address increases in market power brought about by mergers or unfair methods of competition, such as predation, discrimination, and raising rivals' costs.

In light of this potential for harm to consumers due to existing market power at both the generation and transmission level, proceedings designed to assess and address market power prior to the implementation of retail electricity competition are critical to ensure that the benefits of competition enure to consumers.

III. Market Structure Measures Are Appropriate Screens for Additional Analysis

The APSC staff proposes a two-step analysis to assess existing horizontal market power. The first step is a structural analysis using market concentration and market share statistics to determine if a utility possesses market power in various product and service markets. Under the second step, if certain market concentration or market share thresholds are met for any relevant market, the utility is required to submit a more extensive strategic behavior analysis. In addition, each electric utility is required to submit information regarding entry conditions as well as an assessment of what APSC staff refers to as possible "vertical market power."(8)

The staff proposal is a tiered approach to assessing existing horizontal market power that is consistent with the principles in the DOJ/FTC Merger Guidelines. Indeed, the calculation of market concentration statistics is often the screen that leads the FTC to conduct a more sophisticated merger analysis under the DOJ/FTC Merger Guidelines. Although analyzing the competitive effects of a proposed merger and analyzing existing market power are different, the principal elements of the analysis are the same and, therefore, relevant to the assessment of existing market power.(9) The principal elements of horizontal merger analysis identified in the DOJ/FTC Merger Guidelines include market definition (product market and geographic market), market structure (market shares and concentration), competitive effects, entry conditions, and efficiencies. With the inclusion of an efficiencies analysis (as discussed in Section VI infra), the staff proposal will provide a firm foundation, consistent with the guidelines, standards and methods used by the FTC to assess whether electric utilities operating in Arkansas have market power.

IV. The Structural Analysis Could be Improved By Requiring Market Concentration Statistics to Be Provided for Various Classes of Generation Plants.

Under the first step, electric utilities (together with their affiliates) are required to perform a horizontal market power structural analysis for each product or service for which competition has been authorized by the APSC. These analyses are required to include calculations of market share and the Herfindahl-Hirschman Index (HHI). The relevant product markets include various electricity-related products (energy capacity measures and ancillary services) differentiated by time periods within which demand and supply conditions are similar (i.e., super-peak, peak, shoulder, and off-peak periods). The relevant geographic market is defined by the transmission constraints faced by Arkansas wholesale and retail customers. Market share and HHI statistics are required to be based on how the market looks on the eve of retail competition (January 1, 2002).

The DOJ/FTC Merger Guidelines use measures of market structure to assess whether more detailed analysis of a merger is likely to be warranted. This approach also is reasonable in assessing existing market power. The DOJ/FTC Merger Guidelines call particular attention to the market shares of individual firms and an aggregate market concentration measure (*i.e.*, the HHI). Market shares and the HHI are generally applied to all sales or capacity in the market. These measures are appropriate to determine whether a more detailed assessment of existing market power in Arkansas electricity markets is warranted.

The APSC may wish explicitly to require market share and concentration statistics for subsets of generation assets as well. In particular, statistics analyzing concentration of generation plants at the margin may provide a more accurate picture of an electric utility's existing market power in specific time periods (or product markets).(10) For example, when the United Kingdom sought to remedy existing market power, it focused on concentration among mid-merit (or mid-cost) plants because these plants were the price-setting plants under most load conditions.(11) Thus, if the two major U.K. utilities controlled a preponderance of the mid-merit plants, they were able to exercise market power, regardless of their ownership of peaking plants or base load plants.(12)

V. Strategic Analyses Could Include a Range of Likely Scenarios

The staff proposal requires a utility to submit a strategic analysis in a particular product market, if the HHI index for the relevant market exceeds 1000 and the utility's market share for that product exceeds 15 percent. These analyses are required to demonstrate whether any supplier can increase profits by strategic pricing of supplies or strategic withholding of supplies or capacity from the market.

The HHI is an indicator of potential market power associated with coordinated interaction. Various HHI thresholds are presented in the DOJ/FTC Merger Guidelines. Although the numerical divisions suggest greater precision than is possible with the available economic tools and information, HHI's below 1000 are classified as unconcentrated markets HHI's above 1800 are classified as highly concentrated markets. Moreover, the market share of the merged firm is an indicator of potential market dominance by a single firm. According to the DOJ/FTC Guidelines, a merged firm with a high market share may exercise market power. Given that vertically integrated, regulated monopolies have controlled the generation, transmission, and distribution of electric power in state-authorized geographic territories, a threshold that combines these measures is one way for the APSC to determine whether additional information is necessary to determine whether an electric utility possesses existing market power.

If a strategic analysis is required, an electric utility will likely use computer modeling to analyze this behavior. The FTC has employed computer simulation analysis in its merger analyses(13) and FTC staff comments have recommended this methodology in assessing both prospective market power caused by a proposed merger and in assessing existing market power.(14)

The staff proposal suggests the use of alternative cases to test the sensitivity of the market power analyses to different relative fuel prices, different plant retirements, and different environmental regulations. The APSC also may wish to test various scenarios regarding the treatment of native load and transmission pricing.

In simple terms, native load encompasses certain contractual and regulatory obligations of electric utilities to serve existing customers. For instance, if most of the capacities of an electric utility are committed to serve native load customers, an electric utility's market power may have little effect on competition in retail and wholesale electricity markets in the near-term, regulated environment. In the longer term, however, when retail competition is introduced and native load obligations are relaxed, an electric utility's unregulated market power might have a significant effect on wholesale and retail electricity sales. As a result, the APSC may wish to require electric utilities to model an additional scenario that examines market power when the electric utility is no longer constrained by obligations to serve present native load.

In addition, transmission pricing regimes can strongly affect the scope of geographic markets. Transmission pricing regimes may change depending upon how the electric utilities in Arkansas align with regional transmission organizations (RTOs). Differences in transmission pricing regimes may affect suppliers' access to customers within the relevant geographic markets (due, for example, to the pancaking of transmission tariffs and to the availability of discounted tariff rates). For these reasons, the APSC may wish to require an electric utility to model various transmission pricing policy scenarios, varying the number of FERC-approved RTOs that might operate in Arkansas, to identify the degree to which market power depends upon the transmission pricing regime(s).

In light of the many possible combinations and permutations of conditions that are potentially of interest and the costs associated with running multiple simulations, the APSC may wish to provide guidance to affected parties concerning which scenarios it regards as the most important. One approach is to focus on worst, middle, and best scenarios. For example, the worst scenario might include a peak demand period in Arkansas when demand is also high in neighboring areas, pancaked transmission rates remain in place, natural gas prices are higher than expected and new environmental restrictions on coal burning have been issued. Each of these conditions can be relaxed somewhat for a middle case scenario and relaxed further for a best case scenario.

Within each of the scenarios it is appropriate to examine both unilateral and coordinated interaction theories of market power. This is particularly true where the additional analysis is triggered by high HHIs. Because the HHI is itself based on a concern about coordinated interaction, it is logical to examine possible coordinated interaction in markets with high HHIs. In computer simulation modeling, coordinated interaction can be incorporated most simply by assuming that when the leading firm increases prices, one or more other firms also increase their prices.(15) The APSC may wish to include a coordinated interaction theory requirement in the strategic analyses.

VI. Entry Conditions and Efficiencies Are Important Factors in Assessing Existing Market Power and Competition

In addition to horizontal concerns, the APSC staff proposal requires all utilities to analyze vertical control and discrimination issues. Utilities must demonstrate that the functional separation required by the Act, codes of conduct, rules governing affiliate transactions, and interconnection and open access policies and tariffs are or will be structured to assure that all wholesale and retail competitors have access to the competitive markets equal to that of the utility and its affiliates. The APSC staff proposal also requires an entry analysis to include a comprehensive assessment of any and all factors that could adversely affect the ability of new suppliers or alternative suppliers to enter Arkansas wholesale and retail electric markets (which includes assessment of both generation assets as well as transmission and distribution assets).

The DOJ/FTC Merger Guidelines include consideration of entry conditions and efficiencies,(16) that may reveal that market concentration statistics overstate the competitive concern associated with a proposed merger (or in this case, of existing market power). For example, entry conditions may become more important in markets for electric power as costs for smaller-scale generation facilities, with shorter construction periods and fewer siting problems, fall relative to those of large-scale generation facilities. Analysis of entry conditions is an important part of examining existing market power.(17)

The APSC also may wish to allow an electric utility to demonstrate that vertical control of its operations achieves efficiencies by permitting a better utilization of existing assets, enabling it to achieve lower costs in producing a given quantity and quality. Only those efficiencies that are specific to a proposed transaction are relevant to the competition/efficiency policy assessment. Efficiencies should not be allowed to reverse potential harm to consumers if the efficiencies can practicably be obtained through other means. For example, economies of scale might be realized if a regulated utility and one of its unregulated affiliates jointly operated a single billing organization. Such economies would not be specific to this transaction, however, if similar economies could be realized by the regulated utility and the unregulated affiliate through less restrictive means -- for example, by entering into a joint production venture with one or more unaffiliated firms, or by contracting for the service through an independent provider.

In the merger context, the agencies recognize only those merger-specific efficiencies that have been verified and do not arise from anticompetitive reductions in output or service, termed "cognizable efficiencies." Although the following excerpt from the DOJ/FTC Merger Guidelines discusses horizontal mergers, the same analysis is appropriate to evaluate efficiency claims within an existing, vertically integrated utility, because significant competitive problems can arise in either context:

The Agency will consider only those efficiencies likely to be accomplished with the proposed merger and unlikely to be accomplished in the absence of either the proposed merger or another means having comparable anticompetitive

effects. These are termed *merger-specific efficiencies*. Only alternatives that are practical in the business situation faced by the merging firms will be considered in making this determination; the Agency will not insist upon a less restrictive alternative that is merely theoretical.

Efficiencies are difficult to verify and quantify, in part because much of the information relating to efficiencies is uniquely in the possession of the merging firms. Moreover, efficiencies projected reasonably and in good faith by merging firms may not be realized. Therefore, the merging firms must substantiate efficiency claims so that the Agency can verify by reasonable means the likelihood and magnitude of each asserted efficiency, how and when each would be achieved (and any costs of doing so), how each would enhance the merged firm's ability and incentive to compete, and why each would be merger-specific. Efficiency claims will not be considered if they are vague or speculative or otherwise cannot be verified by reasonable means. . . .

The Agency will not challenge a merger if cognizable efficiencies are of a character and magnitude such that the merger is not likely to be anticompetitive in any relevant market. To make the requisite determination, the Agency considers whether cognizable efficiencies likely would be sufficient to reverse the merger's potential to harm consumers in the relevant market, e.g., by preventing price increases in that market.(18)

The APSC may wish to use this analytical framework as the basis for evaluating efficiency claims that an electric utility may make regarding existing market power.

VII. Conclusion

Analysis and remedy of existing market power is an important element of introducing retail competition in Arkansas or any other state. In some relevant markets, initial market share measures may indicate that there is unlikely to be a problem, and no further analyses may be needed. Where these market share measures indicate a potential problem of market dominance by a single utility or coordinated interaction by a group of utilities, additional analysis may be warranted. In conducting such an analysis, the multiplicity of relevant markets and scenarios of future conditions, and the complexities of transmission networks, make computer simulation analysis an attractive method of analysis. By following a sequence from market share statistics to additional assessments of existing market power, the APSC's approach is consistent with the Guidelines and methods employed by the Commission and it is likely to afford its citizens and businesses a better opportunity to enjoy the benefits of retail open access.

Respectfully submitted,

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Endnotes:

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2. This comment represents the views of the staff of the Bureaus of Economics and Competition and of Policy Planning 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).

3. The staff of the FTC has commented to FERC on electric power regulation in Docket No. RM99-2-000 (regional transmission organizations) (Aug. 16, 1999); Docket EL99-57-000 (Entergy transco proposal) (May 27, 1999); Docket RM98-4-000 (Sept. 11, 1998); Docket No. PL98-5-000 (merger filing guidelines) (May 1, 1998) (FERC Merger Filing Guidelines Comment); Docket Nos. ER97-237-000 and ER97-1079-000 (New England ISO) (Feb. 6, 1998); Docket No. RM96-6-000 (merger policy) (May 7, 1996); Docket Nos. RM95-8-000 and RM94-7-001 (open access) (Aug. 7, 1995) (FERC Open Access Comment). The staff of the FTC also has submitted comments to various state agencies, including, for example, New Mexico Public Regulation Commission, Utility Case No. 3106 (affiliate codes of conduct) (Dec. 6, 1999); Public Utilities Commission of the State of California, Docket No. R.98-12-015 (distributed generation) (Mar. 17, 1999); Alabama Public Service Commission, Docket No. 26427 (restructuring in general) (Jan. 11, 1999) (Alabama Competition Comment); Mississippi Public Service Commission, Docket No. 96-UA-389 (Transco proposal) (Aug. 28, 1998); Louisiana Public Service Commission, Docket No. U-21453 (stranded costs) (Aug. 7, 1998); Michigan Public Service Commission, Case No. U-11290 (electric restructuring) (Aug. 7, 1998); Maine Department of the Attorney General and Public Utilities Commission, "Interim Report on Market Power in Electricity" (May 29, 1998) (Maine Entry Comment); and Louisiana Public Service Commission, Docket No. U-21453 (market power) (May 15, 1998). The FTC staff comments are available at: < http://www.ftc.gov/be/advofile.htm >.

4. Ark. Code Ann. §23-19-404(a) (1999 Supp.).

5. *Id.*

6. U.S. Department of Justice and Federal Trade Commission, Horizontal Merger Guidelines, issued April 2, 1992, revised April 8, 1997 (DOJ/FTC Merger Guidelines).

7. FERC Order No. 2000, Regional Transmission Organizations at 35, 70 (Dec. 17, 1999).

8. FTC staff has discussed competitive concerns in this context as encompassing vertical control and discrimination. *See, e.g.*, FERC Open Access Comment, *supra* n. 2.

9. The main difference between analyzing a merger as opposed to assessing existing market power is that in most merger cases, the analysis is prospective. That is, a merger is proposed and the antitrust agencies generally review it looking for prospective anticompetitive effects and efficiencies. In this context, the analysis focuses on incremental market power associated with the merger, not on market power that may exist before the merger.

10. Electricity demand in a particular region at a particular time is met by utilizing or "dispatching" power plants in order of the plants' variable cost of generating electricity (*i.e.*, low-cost plants are dispatched first). The price for all electricity dispatched during a particular time period is based upon the cost of the last plant dispatched. As a consequence of the dispatch order, competition between a small number of plants (*i.e.*, the next plant to be dispatched or a plant at the margin) can be critical in setting the price for all generation services during a particular time period.

11. The U.K. restructured its electric power system in March 1990. *See* Richard J. Green and David M. Newberry, *Competition in the British Spot Market*, 100 J. Pol. Econ. 929 (1992), for a discussion of the extensive data and

detailed statistical analyses used to establish the nature and extent of market power in the U.K. system. In July 1993, the U.K.'s Director General of Electricity Supply indicated that the extent of competition was insufficient to restrain the exercise of market power by the two dominant generators. The remedy required by the Director General was divestiture of mid-merit plants of the two major suppliers. See Statement of the Director General of Electricity Supply, "Proposed Acquisition by Eastern Group PLC of 4,000 MW of Plant from National Power PLC," at 2 (May 9, 1996). Subsequent analysis indicates that this and other measures alleviated, but did not eliminate market power effects in the U.K. system. *See* U.S. Department of Energy, Office of Economics, Electricity and Natural Gas Analysis, "Horizontal Market Power in Restructured Electricity Markets," (Mar. 2000), § 3.

12. Ownership of base load plants could, however, substantially increase the incentive to use control of mid-merit plants to set the price for all generation services.

13. 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 (Feb. 18, 1998). The FTC withdrew from the proposed consent order as of June 30, 1998 because PacifiCorp withdrew from the merger < www.ftc.gov/opa/1998/07/petapp39.98.htm >.

14. *See, e.g.*, FERC Merger Filing Guidelines Comment, *supra* n. 2; Alabama Competition Comment, supra n. 2.

15. In computer simulation models, competitive conditions are often modeled by assuming that bids to supply power from individual power plants are based on the marginal (or variable) costs of operating these plants. It is possible to model possible market power by artificially increasing the costs of plants owned by the utility or utilities attempting to exercise market power. When a utility or group of utilities raises prices in this manner, some of its plants on the margin may no longer be dispatched, but, at the same time, it realizes higher revenues on the plants that are dispatched. If, as a result of increasing prices, the profit of the utility or group of utilities is higher than it would be without the price increase, the utility or group of utilities has existing market power.

16. DOJ/FTC Merger Guidelines, Sections 3 and 4.

17. *See* Maine Entry Competition, *supra* n. 2.

18. *Id.* at Section IV (emphasis in original; footnotes omitted). In addition, the FTC and the Department of Justice recently issued "Antitrust Guidelines for Collaborations Among Competitors" that adopt the same efficiency analysis as appears in the Horizontal Merger Guidelines. Federal Trade Commission and U.S. Department of Justice, "Antitrust Guidelines for Collaborations Among Competitors" (Apr. 2000) (Section 3.36) < http://www.ftc.gov/bc/guidelin.htm >.