

**Before the Alabama Public Service Commission
Docket No. 26427
Restructuring in the Electric Utility Industry**

**Comment of the Staff of the
Bureau of Economics
of the Federal Trade Commission ***

January 8, 1999

* 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.

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I. Introduction and Summary

The staff of the Bureau of Economics of the Federal Trade Commission (FTC) appreciates this opportunity to present its views to the Alabama Public Service Commission (APSC) concerning restructuring in the electric utility industry. Alabama is among a large number of states considering regulatory reforms to bring more of the benefits of competition (lower prices, improved service, and innovation) in the electric industry 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

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).

issues at both the federal and state levels.² Moreover, the FTC has reviewed proposed mergers involving electric and gas utility companies.

The APSC requests comment on a wide range of competition issues grouped under twelve categories. This comment focuses on the first six of these categories: "(A) Public Interest," "(B) Regulation," "(C) Stranded Costs," "(D) Market Structure" (including affiliated relationships) , "(E) Market Power" (including horizontal market power, discrimination in access to transmission, and independent regional transmission entities), and "(F) Reliability."

In Section II, we discuss a cost/benefit framework for analyzing the public interest in regulatory reform in the electric industry and note that previous regulatory

² The staff of the FTC has commented to the Federal Energy Regulatory Commission (FERC) on electric power regulation in Docket RM98-4-000 (Sept. 11, 1998); Docket No. PL98-5-000 (May 1, 1998); Docket Nos. ER97-237-000 and ER97-1079-000 (Feb. 6, 1998) (NEPOOL Comment); Docket No. RM96-6-000 (May 7, 1996); Docket Nos. RM95-8-000 and RM94-7-001 (Aug. 7, 1995) (Open Access Comment). The staff of the FTC also has submitted comments to various state agencies, which are included on the FTC's website <www.ftc.gov/be/advofile.htm>, including the Louisiana Public Service Commission, Docket No. U-21453 (affiliate transactions) (Oct. 30, 1998); Public Utility Commission of Nevada, PUCN Docket No. 97-5034 (affiliate transactions) (Sept. 22, 1998); 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); West Virginia Public Service Commission, Case No. 98-0452-E-GI (electric restructuring) (July 15, 1998); Commonwealth of Virginia, Joint Subcommittee Studying Electric Industry Restructuring, SJR-91 (July 9, 1998); Public Utility Commission of Texas, Project Number 17549 (affiliate transactions) (June 19, 1998); Maine Department of the Attorney General and Public Utilities Commission, "Interim Report on Market Power in Electricity" (May 29, 1998); Louisiana Public Service Commission, Docket No. U-21453 (market power) (May 15, 1998); California Public Utilities Commission, Docket Nos. R.94-04-031 and I.94-04-032 (electric industry restructuring) (Aug. 23, 1995); and South Carolina Legislative Audit Council (section on foreign experience in electric industry restructuring) (Feb. 28, 1994).

reforms in the United States and abroad often have provided substantial net benefits. These benefits have gone beyond lower prices and lower costs to include technological advances and increased variety of products and services. In this section we also discuss how a state with low-cost generation may preserve low prices for its electricity customers during the transition to competition.

Section III of the comment addresses the narrow issue of how to avoid a possible unintended anticompetitive consequence that could flow from certain methods of stranded cost recovery. If the APSC chooses to implement stranded cost recovery, the staff recommends that it do so in a way that discourages anticompetitive conduct by vertically-integrated incumbent electric utilities and reduces distortions in future electricity purchase decisions of consumers and businesses.

The comment focuses on market structure in Section IV. We observe that traditional regulation may remain appropriate for transmission and distribution assets, while most other aspects of the industry should be candidates for competition.

Section V defines the term market power and presents costs and benefits of open-access rules and independent systems operators (ISOs). This section also provides economic insights on utility affiliate rules and compares the role of states in evaluating and remedying market power in the retail competition and merger contexts.

In Section VI, we observe that large, regional ISOs or other independent transmission entities may be attractive from a reliability perspective as well as from a competitive perspective.

II. Public Interest and Regulation

From an economic perspective, evaluation of the public interest in prospective electric industry regulatory reform is best carried out through an assessment of the costs and benefits relative to what the APSC calls “our current low cost status under a regulated environment.”³ The concern is that competition at the wholesale and retail levels could result in high electricity prices in Alabama. As Alabama producers divert low-cost power produced in Alabama to sell it in higher-price areas, prices for electric power may equilibrate across several southern states at a higher level than presently prevails in Alabama. In reality, transmission costs and constraints are likely to preserve lower prices in low-cost areas such as Alabama, although the degree of advantage may narrow in the future if state and local transmission siting rules are relaxed or existing transmission lines are upgraded to handle additional capacity.⁴

³ APSC, Scheduling Order, Docket 26427 at 3 (June 16, 1998). We have not attempted to identify sources of Alabama’s relatively low electricity prices compared to nearby areas of Florida and Arkansas. We note that lower rates prevail in sections of other states within the South and South Central regions, including Mississippi, Kentucky, Virginia, and Oklahoma. Ronald J. Binz, Thomas Feiler, and Michael J. McFadden, Navigating a Course to Competition: A Consumer Perspective on Electric Restructuring 36-39 (1997).

⁴ Exports of electric power from generators located in Alabama would compete on the basis of the net delivered price that would include transmission use, transmission congestion, and distribution charges. Consequently, even with increased exports of electric power from Alabama, electricity prices in Alabama would likely remain below those in areas with higher-cost generation for some time to come. See, e.g., Frank Felder, Greg Hopper, and Jay Lukens, Benefits of Retail Electricity Competition in Low-Cost States: Expectations for an Evolving Industry 11 *Elect. J.* 75-81 (Aug./Sept. 1998). Only in the longer run, with relaxed state and local transmission siting rules and extensive transmission investment, would electricity prices (energy charges plus transmission and distribution charges) be expected to equalize across areas. Major new transmission lines have been subject to extended delays or cancellations in many areas of the country due to environmental, safety, and aesthetic concerns.

In light of this concern about the price effects of diversion, the experience in other industries undergoing deregulation may be instructive. In many of these industries a major portion of the benefits has come from new products and services. In the telecommunications industry, for example, local telephone companies undergoing deregulation have begun to offer a range of new products, including voice mail, caller identification, call forwarding, and many others. Similarly, recent technological and organizational changes may have a large impact on projections of future price levels for electricity. Until recently, two historical characteristics of electric industry technology provided justification for treating the industry as a natural monopoly: economies of scale and economies of vertical integration.⁵

Until the 1980s, both scale economies and economies of vertical integration were seen as characteristic of the entire industry.⁶ Recent technological advances, however, have undermined the natural monopoly rationale for regulation, particularly with respect to generation. The most important of these developments has been the combined-cycle gas turbine. This technology can be competitive with coal and traditional natural gas generating plants, but at a much smaller scale. Efficient-scale,

⁵ Economies of scale are present if, when all inputs are adjusted optimally, average costs decline as output increases within a firm. Economies of vertical integration occur when a single firm's performance of activities at two or more stages of production yields lower average costs. See Jean Tirole, The Theory of Industrial Organization 16-21, 288 (1989).

⁶ See, e.g., John E. Kwoka, Power Structure: Ownership, Integration, and Competition in the U.S. Electric Industry (1996); Paul L. Joskow and Richard Schmalensee, Markets for Power, An Analysis of Electric Utility Deregulation (1983).

combined-cycle gas plants may be less than one quarter the size of efficient coal or nuclear plants.⁷ Deregulation of natural gas and the resulting decline in natural gas prices relative to other fuels has spurred this new technology. At the same time, new institutional arrangements, particularly ISOs, are expected to be able to capture many of the benefits of vertical integration without many of the costs.⁸ Thus, much of the genesis of regulatory reform in the electric industry has been technological innovation in generation and organizational innovation in transmission.

In a variety of industries, extensive economic research on the actual effects of regulatory reform has revealed a general pattern of strong net benefits of several types, including cost savings, technological advancements, and increased variety of products

⁷ See Timothy Brennan et al., A Shock to the System 16-19 (1996); FERC Order No. 888 (Promoting Wholesale Competition Through Open Access Non-Discriminatory Transmission Services by Public Utilities; Recovery of Stranded Costs by Public Utilities and Transmitting Utilities), 61 Fed. Reg. 21539, 21544 (May 10, 1996) (Order No. 888). Advances in microturbine and other distributed generation technologies may further extend this trend in the future. See, e.g., Brian O'Reilly, Transforming the Power Business, Fortune (May 11, 1998); Joanne Von Alroth, Generating Interest, Current Events: Microturbines Tout Cheaper, More Reliable Power, Crain's Chicago Business (Apr. 13, 1998); Thomas R. Casten, Electricity Generation: Smaller Is Better, 8 Elect. J. 65-72 (1995); Clyde Wayne Crews, Jr., Electric Utility Reform: The Free Market Alternative to Mandatory Open Access, Competitive Enterprise Institute <www.electricity-online.com/crews.html> (1998).

⁸ One potential difficulty with the nonprofit status of ISOs is the lack of incentives to operate efficiently and make economically appropriate investment decisions regarding expansion of the transmission grid. ISO governing bodies typically provide incentives for managers to operate the grid efficiently and to diminish transmission bottlenecks by arranging for appropriate additions to transmission capacity.

and services.⁹ The gains typically take several years to be realized. Importantly, these likely benefits are realized by all consumers even if some buyers benefit more than other buyers from regulation. Alabama may find significant benefits from increased competition, even if relatively low-cost producers presently serve its consumers.¹⁰ Innovation effects at the generation and distribution levels may be particularly important.

For example, increased availability of time-of-day metering for residential customers may result from regulatory reform. With retail competition, some suppliers may elect to compete by offering time-of-day metering. Consumers may be attracted to such metering because it offers them an opportunity to reduce their electric bills by

⁹ Surveys of this literature include: Clifford Winston, U.S. Industry Adjustment to Economic Deregulation, 12 J. Econ. Persp. 89-110 (Summer 1998), and Economic Deregulation: Days of Reckoning for Micro-economists, 31 J. Econ. Lit. 1263-1289 (Sept. 1993); John C. Hilke, Competition in Government-Financed Services (1992); Paul L. Joskow and Nancy L. Rose, The Effects of Economic Regulation, in Richard Schmalensee and Robert D. Willig (eds.), Handbook of Industrial Organization Vol. II (1989).

¹⁰ To the extent that low prices in Alabama stem from access to federal electric generating facilities such as those of Tennessee Valley Authority, which may be subsidized by the federal government, the APSC may wish to include in its deliberations the possibility that such subsidies, if any, may be reduced or terminated in the future regardless of whether the APSC deregulates its electricity. For related discussion, see Matthew C. Cordaro, What Future for Public Power?, 10 Elect. J. 72-77 (Nov. 1997).

shifting their use of electricity to off-peak periods,¹¹ when electricity is likely to cost less to produce and, therefore, can be priced at a lower level.¹²

Finally, Alabama, like other states with low-cost generation,¹³ may find it possible to preserve lower electric bills for consumers in the state as part of an assessment and recovery of stranded costs and stranded benefits.¹⁴ In a low-cost state,

¹¹ Some shifts in demand away from peak periods may be easy to accommodate without any incremental investment on the part of customers (i.e., operating household appliances during off-peak hours). Other shifts may be facilitated by investments in computer technology (e.g., "smart" metering that automatically adjusts energy usage in response to price changes), energy storage devices (e.g., air conditioning systems that chill water in off-peak periods to use for cooling during peak electricity demand periods), use of alternative energy sources (e.g., use of gas heat rather than electric heat during peaks in electricity demand), or distributed generation (e.g., microturbines).

¹² In addition to being economically attractive to some consumers, time-of-day metering may have very attractive efficiency effects on the electric system generally. For example, when consumers face higher prices during peak demand periods, they are likely to reduce their demand. (With present pricing systems, consumers receive no incentive to use less during high-cost periods.) Reducing demand peaks can reduce generation costs and reduce the need to invest in high-cost peaking units. Reducing peak demand through pricing also can relieve transmission congestion (a condition 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), thereby reducing load pockets (demand that can only be satisfied by generation in that area because of transmission congestion) and the corresponding risks of generation market power.

¹³ In this discussion, we assume that Alabama's lower electricity rates do not stem from the APSC's suppression of rates below those required for long-term viability of suppliers.

¹⁴ In some states, the expected revenue stream under regulation may be smaller than the revenue stream under competition. If so, the difference is termed a "stranded benefit." Typically, stranded benefits and stranded costs are combined to create a net total. When there are net stranded benefits, the market value of a utility's generation assets is likely to be greater than the book value of those assets. A 1996 state-by-state estimate lists net stranded costs of \$735 million in Alabama. See Ronald J. Binz, Thomas Feiler, and Michael J. McFadden, Navigating a Course to Competition: A Consumer Perspective on Electric (continued...)

stranded benefits may exceed stranded costs because the market price of electric power may be higher than the regulated price, even if potential market power problems in generation have been addressed. The APSC may wish to consider requiring that incumbent suppliers return net stranded benefits to customers, just as customers would have been responsible for paying net stranded costs had stranded costs exceeded stranded benefits.¹⁵ For example, the APSC could require that net stranded benefits be returned to customers in proportion to historic electricity use, effectively reducing electricity bills for customers.¹⁶

In summary, low-cost states may be concerned that retail competition will create incentives for Alabama producers to divert electricity to areas with higher prices. This concern may be overstated in that transmission conditions are likely to preserve a cost advantage for power produced and consumed in Alabama. Further, the APSC may recapture some of the benefits of diversion for Alabama customers through recovery of

¹⁴(...continued)

Restructuring 38-39 (1997). Since these estimates were made, estimates of net stranded costs have generally declined because auctions of generating assets in various parts of the country have generally received bids considerably in excess of the book value of the assets. If this pattern holds true for Alabama, part or all of the state may well have net stranded benefits.

¹⁵ Some states also have relied on rate caps to assure that consumers not pay higher prices during the transition to competition.

¹⁶ Presentation of Commissioner Richard H. Cowart, Chair, Vermont Public Service Board, Sixth DOE-NARUC National Electricity Forum, Houston, Texas, Sept. 17, 1998. To avoid distorting consumption decisions between electricity and other forms of energy, the APSC may wish to avoid using net stranded benefits to directly reduce generation charges. As discussed in Section III.D., a lump sum, fixed payment based on past electricity use may be more attractive.

net stranded benefits. Finally, retail competition is likely to provide other benefits in the form of new services and lower costs that will offset any price effects of diversion.

III. Stranded Cost and Benefit Recovery: Potential Distortions

Alabama is among a number of states examining public interest issues surrounding recovery of stranded electric utility costs and benefits. The staff takes no position as to whether stranded cost and benefit recovery is in the public interest -- a determination best made by state and local regulators with knowledge of unique local circumstances. Whether and how to implement stranded cost and benefit recovery raises many complex policy issues that reach far beyond the scope of this comment. Instead, we address the narrow issue of how to remedy an unintended anticompetitive consequence that could flow from certain methods of stranded cost or benefit recovery in the event the APSC decides to permit vertically-integrated, incumbent electric utilities to recover net stranded costs or to permit customers to recover net stranded benefits.

Certain net stranded cost recovery systems may create artificial incentives for incumbent utilities to set prices that deter entry and harm competition. If the APSC finds that there are net stranded costs in an area and chooses to implement stranded cost recovery, we recommend that it do so in a way that discourages such anticompetitive conduct by incumbent firms.

In addition, we briefly discuss (1) potential market distortions and inefficiencies that may accompany stranded cost and benefit recovery and ways to minimize such inefficiencies, and (2) mitigation of the level of stranded costs. These two issues were

examined in the attached Open Access Comment to the Federal Energy Regulatory Commission.

A. A Possible Unintended Consequence: Stranded Cost Recovery May Create Artificial Incentives to Deter Entry

One potential unintended consequence of stranded cost recovery is that incumbent firms may be able to use the stranded cost recovery system to deter potentially more efficient and innovative entry¹⁷ and thereby delay or harm competition.¹⁸ If that occurred, electricity customers (municipalities, businesses, and consumers) would lose not only the benefits of price competition but also those flowing from the product and service improvements and increased product variety that competition brings. They would likely pay more than they otherwise would during the period after the stranded cost recovery period ended. The APSC could safeguard against these unintended consequences, however, by adopting, in conjunction with any stranded cost recovery system, one of three possible remedies discussed in Section III.C, infra.

Consumers could be harmed by the exclusion of efficient entrants during the stranded cost recovery period. The harm could result because of a connection between the way stranded costs are defined and a decision by state regulators to provide

¹⁷ Entry in generation could take the form of new generation facilities, or it could consist of improved transmission capacity that makes distant generation sources more effective competitors to local generation sources.

¹⁸ This discussion is developed in the context of retail competition and retail stranded costs. Similar concerns may arise concerning wholesale competition and stranded costs.

incumbent utilities with recovery of most or all of their stranded costs through surcharges on electricity use.¹⁹ Stranded costs are often defined by calculating the difference between the (larger) net present value of future income under traditional regulation using a rate-of-return concept and the (smaller) net present value of future income under regulatory reform. That is, the net present value of the income from a particular generation asset in a competitive environment is expected to be less than the income regulators would allow from a particular asset in a regulated environment.

When stranded costs are defined in this manner, the level of stranded cost recovery is inversely related to how far prices for electric power (energy charges) fall as the result of competition.²⁰ From the incumbent's perspective, there is an increase in revenue from stranded cost recovery for every revenue decline due to lower energy charges. With 100 percent stranded cost recovery, as some regulators have chosen, the offset is dollar-for-dollar. By contrast, the potential generation entrant has no stranded cost recovery revenue to offset lower energy charges. Thus, it could be disadvantaged

¹⁹ Recent publications that discuss specific instances and present a similar discussion of the issues include Richard Pierce, Conceptual Issues Raised by the PECO/Enron Dispute, 11 *Elect. J.* 26-38 (Apr. 1998); and Jeffrey D. Watkiss, Retail Competition: Preliminary Results, Electric Utility Consultants' Transmission Pricing Conference, Denver, Colorado (June 26-27, 1998).

²⁰ Under traditional regulation, the price of electricity is a bundled price that includes generation and transmission/distribution components blended together. Under most competitive scenarios, the individual components are unbundled and reported separately. Here we refer to the generation component of traditional rates as the "energy charge" and the transmission/distribution components as the "lines charge."

by such a stranded cost recovery system because it may need to match the incumbent's lower energy charges in order to compete, but may lack the wherewithal to do so.

As competition in generation is about to begin, the vertically-integrated incumbent must decide what price (energy charge) to set for the electricity it generates. If it establishes an artificially low energy charge,²¹ entry would be less likely to take place and competition from entrants may be less likely to reduce the incumbent's future profits.²² Stranded cost recovery revenue effectively could subsidize such artificially low energy charges, without proportionately reducing the total charges to consumers.

Customers that leave a vertically-integrated incumbent and choose a new electricity supplier will typically be required to pay an energy charge, a lines charge, and a stranded cost recovery surcharge as part of their monthly electricity bill during the stranded cost recovery period.²³ Because many stranded cost recovery proposals incorporate an equalization-type formula -- such that stranded cost is defined as the

²¹ The level of the incumbent's energy charge necessary to deter entry depends, in part, on the costs faced by prospective entrants. Establishing a very low energy charge -- one that is below the expected variable costs of potential entrants, for example -- is quite likely to deter entry.

²² In theory, if a state determines not to permit 100 percent stranded cost recovery, the utility's incentive to engage in entry-detering pricing of energy charges will be weakened, depending upon the amount not recovered. Although the aggregate stranded cost recovery amount is lower, which should result in a lower total price for electricity to consumers and increased output by producers, the actual effect on output may be slight because electricity demand is commonly thought to be relatively inelastic, at least in the short run.

²³ Although the new supplier would bill and collect these three charges, it would remit the stranded cost recovery surcharge to the vertically-integrated incumbent.

remainder after subtracting energy and lines charges from the sum of the total charges projected under traditional rate-of-return regulation -- a decrease in the energy charge prompts an offsetting increase in the stranded cost surcharge. In this circumstance, a decrease in energy charges may not be associated with any change in the total charges (price) for consumers and, thus, would be unlikely to result in increased output. Such a system also would provide less incentive for the incumbent firm to produce efficiently or to mitigate stranded costs.

Under this scenario, stranded cost recovery might become a license to block or eliminate entry, even if the entrants would be more efficient and innovative. As addressed in Section III.C infra, however, at least three alternative remedies (including a structural remedy) may be effective to prevent this from occurring.

B. Why Vertically-Integrated Incumbents May Wish to Deter Entry

From the incumbent firm's perspective, deterring entry may be attractive if delays in entry (1) increase costs for entrants, or (2) slow establishment of a competitive market. An incentive to deter entry may arise, for example, if the initial opening of competition by the state represents a unique window of opportunity for entrants to attract attention from potential customers at lower marketing costs than they otherwise would incur in a competitive market. In other words, the "kick-off" of retail competition is likely to be accompanied by publicity (news coverage) and government-authorized consumer education materials that are designed to raise consumer awareness of the opportunity to "shop" for power. Later entrants may face higher costs in establishing the same consumer awareness and interest in switching providers

because their efforts will receive no spillover benefits from government-financed consumer information campaigns and publicity. In addition, a degree of consumer inertia may make consumers less amenable to "power shopping." If such is the case, the incumbent's ability to deter entry during this critical period of consumer interest and awareness may raise entrants' marketing costs above what they otherwise would be, over both the short and the long run.

A second incentive to deter entry may arise if there are lags in undertaking new generation and transmission investments that are needed to establish a competitive market. Delays in new investment sufficient to create a gap between the end of the stranded cost recovery period and establishment of a competitive market could stem from matters such as higher marketing costs associated with inducing customers to switch before the new supplier is ready to start supplying the market.²⁴ By delaying entry, the incumbent firm might slow the development of a competitive market, and thus be able to exercise generation market power between the end of the stranded cost recovery period and the birth of the competitive market. If entry can be timed

²⁴ If there is uncertainty about the viability and reliability of new suppliers, as is likely, customers may be reluctant to undertake the costs of search and of switching to alternative suppliers until such suppliers are operating.

perfectly, however, the transition period may be brief,²⁵ and such competitive problems would not arise due to this incentive.

C. Possible Remedies to Prevent Consumer Harm if Stranded Cost Recovery Is Allowed

If the stranded cost recovery mechanism allowed incumbent firms to act in the above-described manner, consumers could find total prices (including stranded cost recovery) to be no lower in the short run and higher in the long run. In addition, other benefits derived from early entry could be lost. These could include, for example, product improvements from new technology, lower-cost production methods, service innovations, and increased product variety. The APSC may consider the following three policy alternatives to avoid this possible harm to consumers and competition if it determines that stranded cost recovery is appropriate.²⁶

²⁵ Similarly, if entry takes longer than the period allowed for stranded cost recovery, artificially low energy charges during the recovery period may not affect the timing of entry or the length of the transition between the end of the stranded cost recovery period and entry. Assuming that entry is motivated by prospective profit at the time the entry takes place, artificially low prices during the interim are unlikely to change the potential entrant's evaluation of the attractiveness of entry so long as entry takes longer than the stranded cost recovery period.

²⁶ A policy of fixing the level of stranded costs at the onset may solve the problem in principle because it makes it impossible for the incumbent firm to influence the level of stranded cost recovery by lowering the energy charge during the recovery period. This may not be a sufficient remedy in practice, however, because it may motivate incumbent firms to overstate stranded costs (understate the competitive level of energy charges) and to understate their ability to reduce stranded costs, in ways that deter entry and are difficult for regulators to detect.

1) Require that incumbent, vertically-integrated firms sell (divest) their generation capacity.²⁷ Vertical divestiture is likely to eliminate the incentive and ability to impose higher electricity prices after stranded costs are recovered, because the incumbent firms will not be selling electricity at that time. Although vertical divestiture could result in a loss of economies of vertical integration, institutions such as an independent grid operator may preserve these economies if they precede or accompany divestiture. This structural remedy may be attractive because it changes the incentives of incumbent firms and should require no additional regulatory action.²⁸

²⁷ Massachusetts, for example, has required that generation capacity be divested as a condition for stranded cost recovery. Edison Electric Institute, Retail Wheeling & Restructuring Report, A Quarterly Report 65 (Mar. 1998). New York State similarly has required divestiture of most generating facilities. Edison Electric Institute, Retail Wheeling & Restructuring Report, A Quarterly Report 91 (June 1998). This approach also provides certainty about the magnitude of stranded costs by defining stranded costs as the gap, if any, between the sale price of the plants and their regulated (book) value. California has required divestiture of a large portion (50 percent) of generation assets. California, Brubacker & Associates Electric Industry Restructuring Newsletter 1 (Oct. 1998). To date, all divestiture sales have occurred at prices above the book value of the generating facilities. The premiums over book values range from 19 percent to 253 percent for completed transactions. One pending transaction involves a premium over book value of 485 percent. Electric Utility Plant Divestitures: Transaction Summary, Brubacker & Associates' Electric Industry Restructuring Newsletter, insert (Oct. 1998). A variant on divestiture is to require dominant firms to sell portions of their capacities as entitlement contracts that buyers can bid into the market in competition with the incumbents. As FERC's recent order in the Duquesne/Allegheny merger indicates, such contractual arrangements may not be a good substitute for divestiture, particularly when contracts are of short duration, the incumbent makes facilities operations decisions "for" competitors, and minimum prices for "successful" contract bids are set by the incumbent. Allegheny Energy Inc. and DQE, Inc., FERC Docket Nos. EC97-46-000, ER97-4050-000, ER97-4051-000 (Sept. 16, 1998).

²⁸ Vertical divestiture may also help address existing market power problems in generation, but only if the divestiture is handled as an arm's-length transaction in the (continued...)

2) Establish minimum energy charges for the incumbent utility that reflect at least its fuel costs. If the incumbent utility is required to set its energy charges at least at the variable costs of fuel, alternative suppliers with lower fuel costs may find sufficient incentives to enter.²⁹ The regulator's tasks of collecting data, monitoring compliance, and determining variable costs (assuming variable costs can even be determined) under this type of rule, however, would require significant resources. Although this approach may discourage entry-detering prices, it also risks discouraging competitive price reductions aimed at, for example, promoting the sampling of new products, enhancing the demand for complementary products, or learning more about demand elasticity.

3) Establish caps on electricity prices during a transition period that extends for a fixed interval beyond the stranded cost recovery period. The price cap would reduce the ability of the incumbent utility to take advantage of the lack of entry during the recovery period by raising rates immediately thereafter. One drawback of this

²⁸(...continued)

event the seller's affiliate(s) are allowed to bid. Divestiture to a single entity will not generally address existing generation market power. Divestiture to more than one entity is likely to increase competition in the relevant market(s).

²⁹ Fuel costs (including transportation costs for fuel) typically represent a substantial proportion of total generation costs, and differences in fuel costs typically represent a large portion of the difference in the relative costs (both total and variable) of various generating facilities. Hence, a minimum energy charge set at fuel costs represents both a substantial difference from a near-zero energy charge, and a sufficient inducement to entrants to invest either in new generation with low fuel costs or in new transmission providing access to low-cost generation.

approach is that the long-term use of pricing caps may harm competition by muting important economic signals for additional transmission or generation capacity.

D. Potential Inefficiencies and Distortions from Stranded Cost and Benefit Recovery

Different methods of recovering net stranded costs or net stranded benefits could have significantly different economic effects. The likely differences are explored in the public finance literature about different forms of taxation and subsidization. For example, a proposal to recover stranded costs through an additional charge on transmission services for departing customers is analogous to a sales or excise tax, with the charge paid varying in relation to the amount purchased in the future, thus possibly distorting future electricity consumption decisions.³⁰ Its effects can be contrasted with the effects of a lump sum, fixed charge based on past electricity use, which would not create the same possible distortions of future electricity consumption decisions. Section V.A. of the attached Open Access Comment to FERC presents a discussion of these aspects of stranded cost recovery.

E. Incentives to Mitigate Stranded Costs

Suppliers generally have strong incentives to respond to changing demands by undertaking product and service innovations that make the best use of their capacity. As regulation in the electric industry is reformed, suppliers of electric power could

³⁰ Net stranded benefit recovery implemented with lower energy charges would have the reverse effect, but would equally distort choices about electricity use. By contrast, payments of net stranded benefits to customers based on past consumption would avoid this type of distortion.

have similar incentives to innovate in order to mitigate threatened losses, such as those that are labeled here as “stranded costs.” But requiring that all mitigation savings be passed through to the departing customers would effectively impose a 100 percent tax on mitigation savings, thereby discouraging additional efforts to mitigate stranded costs.³¹ Other treatments of mitigation savings may not discourage mitigation of stranded costs to the same degree. Stranded cost mitigation incentives are discussed in Section V.B. of our Open Access Comment.

IV. Market Structure: Functions that Can Be Competitively Supplied

To date, technological and organizational innovations allowing competition have centered on generation and marketing of electric power. Additional opportunities for unbundling, such as competition in metering and billing services, appear to warrant serious consideration either as elements of marketing or as separate enterprises. At the same time, there is a considerable degree of consensus that transmission and distribution assets should remain under rate and service regulation for the present³² because economies of scale continue to be a primary consideration for investment in

³¹ In the case of net stranded benefits, full recovery for customers may similarly discourage firms from obtaining such benefits by effectively taxing them at 100 percent.

³² Rate and service regulation of transmission and distribution assets can be consistent with competition to supply energy conveyed over these lines by unbundling transmission and distribution from energy sales.

these assets.³³ The APSC may wish, therefore, to consider establishing competition in all facets of the industry except control of transmission and distribution assets.

V. Market Power

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

Market power is typically defined as the ability of a firm (or a coordinated group of firms) to profitably price above the competitive level for an extended period of time. There are two expressions of market power that may concern the APSC as it contemplates moving to retail competition: horizontal market power and discriminatory access to transmission. Horizontal market power in this 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

³³ Illustrative figures developed by Oak Ridge National Laboratory show that a 765 kV transmission line costs at least 30 percent less than a 500 kV line and at least 85 percent less than a 138 kV line, on a cost per MW-mile basis. FERC Transmission Task Force, Staff Report, pp. 215-16 (1989). As indicated in note 7 *supra*, at some future date, various forms of distributed generation (*e.g.*, microturbines and fuel cells) may allow this element of rate and service regulation to be relaxed as well.

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 APSC 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. 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.³⁴

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.³⁵ The FTC staff's

³⁴ 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).

³⁵ 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. Aside from the question of compliance with FERC Order 888, there is a question about the breadth of its application. While FERC orders generally apply broadly to all energy sales involving interstate commerce, Order 888 does not apply to transmission by traditional vertically integrated utilities to accommodate "native" load. Transmission to accommodate native load accounts for a large portion of total transmission. Order No. (continued...)

Open Access Comment to FERC in 1995 emphasized the limitations of behavioral rules in addressing vertical discrimination in access to transmission. The comment discussed continued incentives to discriminate under open access rules and difficulties in detecting and documenting violations of such rules. Likewise, discriminatory behavior is consistent with the evidence from the Supreme Court’s Otter Tail Power decision.³⁶ Although we have not performed an empirical study of the presence of either horizontal market power or transmission discrimination in Alabama, we can provide some insights into the process of making such an assessment and developing remedies if market power is a concern.

B. 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.³⁷

³⁵(...continued)
888, 61 Fed. Reg. at 21552.

³⁶ Otter Tail Power Co. v. United States, 410 U.S. 366 (1973).

³⁷ 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 methods 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
(continued...)

1. Remedies

The APSC 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.³⁸ 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.³⁹ 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 APSC may wish to consider employing such

³⁷(...continued)

power problems exist in the generation market(s), the APSC 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 APSC 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 helpful.

³⁸FERC'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 ...").

³⁹ 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/9807/petapp39.98.htm>.

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.

2. The APSC 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.⁴⁰ Technological and regulatory changes over the past decade have tended to ease entry obstacles in electricity generation markets. In the comment to the Maine Department of the Attorney General and the Public Utilities Commission, the FTC staff observed that future entry conditions in possible load pockets⁴¹ in Maine may be eased considerably by installation of new natural gas pipelines that can supply fuel to new, smaller gas generators.⁴² New and existing natural gas distribution lines may make entry of new, smaller-scale electric generators quicker and easier in Alabama as well, particularly given the proximity of Alabama's load centers to extensive natural gas fields.

⁴⁰ 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. (See the DOJ/FTC Merger Guidelines, Section 3, for a discussion.)

⁴¹ 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.

⁴² <www.ftc.gov/be/advofile.htm (V980011)>

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 APSC 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 APSC 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 APSC 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 APSC may wish to design its remedies to take account of these expected changes.

C. If the APSC 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),⁴³ Alabama 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

⁴³ The concerns expressed in the NEPOOL Comment were generalized in our May 1, 1998 ISO Policy Comment to FERC. The NEPOOL Comment focused on potential drawbacks to the market power mitigation proposals made by NEPOOL to FERC. It did not address the empirical issue of the presence or magnitude of existing generation market power in New England <www.ftc.gov/be/advofile.htm (V980007)>. For a review and analysis of the ISO New England's market rules, see Peter Cramton and Robert Wilson, A Review of ISO New England's Proposed Market Rules (Sept. 1998). The authors recommend switching to a multi-settlement system, introducing demand-side bidding, adopting location-based transmission congestion pricing, and fixing the pricing of ten-minute spinning reserves.

potential to address market power with greater certainty and lower costs to consumers (*id.* at 6).⁴⁴

D. 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 ISOs⁴⁵ or other regional transmission entities.⁴⁶ 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 rates⁴⁷ and embracing an enlarged geographic area, ISOs can broaden the effective geographic

⁴⁴ Potential structural reforms in the electric industry include a wide variety of alternatives. For a review of alternative market designs for wholesale trades in electricity markets, see Robert Wilson, Report to the Competition Bureau of Industry Canada, Efficiency Considerations in Designing Electricity Markets (Mar. 30, 1998).

⁴⁵ The APSC may also be asked to consider alternatives to a regional ISO, such as a transmission company (a "Transco"). If so, the APSC may wish to consider potential competition and efficiency issues related to Transcos that are identified in the recent FTC staff comment to the Mississippi Public Service Commission <[www.ftc.gov/be/advofile \(v980024\)](http://www.ftc.gov/be/advofile(v980024)>)>.

⁴⁶ Under authority granted to FERC by the Department of Energy, FERC is now undertaking consultation with the states on establishing contours for transmission reliability regions to cover the entire nation. FERC, News Release, Docket No. RM99-2-000 (Nov. 24, 1998). This is the next step in an on-going process at FERC to assess whether independent regional transmission entities should be established in all areas of the country to facilitate reliability, efficiency, and competition. Alleged deficiencies in the implementation and scope of FERC Orders 888 and 889 have helped prompt this policy review.

⁴⁷ 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."

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 that arise during periods of transmission congestion.⁴⁸

If Alabama 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:⁴⁹ (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.

⁴⁸ 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.

⁴⁹ FERC issued additional guidelines on formation of ISOs in Order No. 888 and Order No. 889, FERC Stats. & Regs. (CCH) ¶131,594 (Apr. 24, 1996) (Open Access Same-Time Information System and Standards of Conduct).

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.⁵⁰ 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. Divestiture that simply replaces one dominant generating firm with another is unlikely to address market power problems in generation. Divestiture to multiple buyers is likely to be necessary. In evaluating divestiture proposals, it is important to address potential biases in the divestiture process as well as partial cross-ownerships of generating plants that may thwart

⁵⁰ 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 infra.

competition. As noted earlier, antitrust may not be an effective policy tool for addressing existing market power created under past regulation. Hence, the APSC, 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.⁵¹

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.⁵²

ISO Warning Sign Number Four: The ISO plan does not effectively deal with transmission congestion.⁵³ Failure to deal effectively with the transmission congestion

⁵¹ The Administration's recent proposals respond to this concern by recommending that Congress give FERC (in consultation with the FTC and DOJ) authority to require divestiture of generation assets by generating firms that have market power in the context of retail competition. "Comprehensive Electricity Competition Plan" (Mar. 26, 1998) <www.hr.doe.gov/electric/plan.htm>.

⁵² 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); Alex Henley, Contrasts in Restructuring Wholesale Electric Markets: England/Wales, California, and the PJM, 11 Elect. J. 24 (Aug./Sept. 1998).

⁵³ "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.

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.⁵⁴

In addition to these four warning signs,⁵⁵ future ISO designs may be able to take advantage of insights gained from experiences with existing ISOs. For example, California has experienced significant price anomalies with its market for ancillary services that may reflect market power.⁵⁶ Similarly, the design of California's power

⁵⁴ A variety of transmission congestion pricing systems have been approved by FERC for use by ISOs, and the APSC 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 counter to the intuitive, 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.

⁵⁵ Public attention to this warning sign has been accentuated by the British experience. The British government's decision to privatize with only two major private suppliers resulted in a market structure that fostered market power in generation. See Alex Henley, supra n. 52.

⁵⁶ Roger E. Bohn, Alvin K. Klevorick, Charles G. Stalon, Report on Market Issues in the California Power Exchange Energy Markets (Aug. 17, 1998). Relaxing restrictions on supply of such services by firms outside the ISO boundaries may help alleviate this market power. Anjali Sheffrin, Review of Ancillary Service Market (Aug. 27, 1998).

pool arrangement (which operates in tandem with the ISO) might be improved to encourage greater reliability in pricing offers earlier.⁵⁷

E. Rules Governing Transactions Between Utilities and Their Affiliates

Formation of public policy concerning affiliate transactions involves many of the same issues discussed above in Section V.A. concerning discrimination in access to transmission.⁵⁸ These concerns are increasing as states implement regulatory reform in the electric industry by requiring vertically integrated monopolies to unbundle various services. The basic policy issue concerns how to balance the expected benefits and costs of separating regulated utilities from their unregulated affiliates. The Public Utility Commission of Texas has noted that this tradeoff should be analyzed with a recognition of utilities' continuing incentives:

⁵⁷ Robert Wilson, PX Activity Rules (Feb. 1997) and Activity Rules for the Power Exchange (Mar. 1997). For a more general discussion of market design considerations, see Robert Wilson, Report to the Competition Bureau of Industry Canada: Efficiency Considerations in Designing Electricity Markets (Mar. 1998).

⁵⁸ Under fully implemented retail competition, it is expected that both generation and final sales to end users (such as residential consumers, businesses, schools, etc.) will operate competitively with no price regulation. Meanwhile, distribution and transmission services are likely to remain regulated, given current technology. The formerly regulated local monopoly suppliers generally will be required to unbundle their services when retail competition is initiated. (An exception may occur if the state designates the traditional vertically integrated utility as the "supplier of last resort" to serve customers who do not select a competitive supplier.) To accomplish this unbundling, a traditional utility that is allowed by law or regulation to retain ownership of all its previous assets could, for example, elect to establish separate affiliates that would compete in (1) generating electricity (competing with other generators) and (2) selling electricity to consumers (competing with power marketers, independent power producers, utilities from nearby geographic areas, or the electricity supply pool associated with an ISO). The utility also could establish unregulated affiliates in other industries or in other geographic markets in the electric industry.

[T]here is a strong likelihood that a utility will favor its affiliates where these affiliates are providing services in competition with other, non-affiliated entities. . . . [In addition,] there is a strong incentive for regulated utilities or their holding companies to subsidize their competitive activity with revenues or intangible benefits derived from their regulated monopoly businesses. . . . Finally, . . . current regulations . . . are not adequate to prevent or discourage [this] anticompetitive behavior. . . . However, the Commission is aware that efficient competition is fostered by encouraging the participation of many qualified participants, including unregulated affiliates.⁵⁹

The potential benefits to consumers from preventing discriminatory transactions and cross-subsidization between regulated distribution utilities and their unregulated affiliates can take several forms. First, discrimination and cross-subsidization may artificially increase the costs of the regulated utility as costs incurred for the benefit of the affiliate are shifted to the regulated firm. Under a rate-of-return regulatory regime, higher costs will result in increased prices in the regulated market. Second, such conduct may increase costs in unregulated markets by displacing innovative, lower-cost suppliers and entrants with a higher-cost affiliate of the local regulated distribution utility. Third, this displacement also may eliminate or reduce the process and product innovations that the displaced firms would have provided to consumers.

On the other hand, unbundling can impose costs on consumers in the form of lost economies of vertical integration and forgone economies of scale or scope. These lost economies translate into higher costs and higher prices in either the regulated or

⁵⁹ Public Utility Commission of Texas, 23 Tex. Reg. 5294 (May 22, 1998).

unregulated markets. In addition, participation by affiliates may in itself increase competition in relevant markets.

In weighing the trade-offs between preventing discrimination and fostering economies of vertical integration, it is important to keep in mind that these questions arise in a broader context of introducing competition into a very large industry with widespread effects on local economies as well as the national economy. For competition to take hold quickly and effectively in these formerly regulated markets, it may be particularly important to dispel potential entrants' perceptions that the incumbent distribution firms will manipulate rules and mislead regulators to the disadvantage of new competitors.

This perception issue gains urgency to the extent that entry may be less costly when competition is initially being introduced in the electricity industry, when consumers and businesses are likely to be more aware of and interested in new choices. Conversely, entry may be more costly and less likely in the long run if an incumbent retains incentives to increase the risks of entrants into markets served by the incumbent's affiliates. These broader concerns about entry are not as relevant to state regulators when an affiliate is operating in competitive markets that are less closely related to the markets supplied by the regulated incumbent. Accordingly, the need to address (and reduce) the perception of potential discrimination and cross-subsidization may be greatest when competition is just getting underway.

1. Initial Assessment of Vertical Efficiencies

The APSC may wish to assess whether significant existing or prospective economies of vertical integration will be lost if it allows incumbent utilities to establish affiliates to offer unregulated services. Such an assessment could alleviate some uncertainty about the costs and benefits of different policy options. If economies of vertical integration are minimal, divestiture at the outset of regulatory reform may be more appropriate than the proposed behavioral rules. Conversely, if economies of vertical integration are substantial, the APSC may wish to consider whether any type of separation of a utility from its affiliates is likely to yield net benefits. Recent empirical evidence suggests that economies of vertical integration in the electric industry may be material, but that they vary considerably in different circumstances and may be realized through alternative organizational arrangements.⁶⁰ Given this evidence, it seems reasonable to assume initially that vertical integration produces at least modest economies.

2. Limits on Transactions Between Utilities and Their Affiliates

The APSC has questioned whether behavioral rules are sufficient to discourage discrimination in transactions between regulated utilities and their unregulated affiliates. As discussed above, we have significant reservations about the effectiveness of relying exclusively on behavioral rules. If the scale, scope, or vertical integration economies of affiliation are substantial and can be realized even in the presence of functional unbundling, the APSC may wish to strengthen its approach by requiring the

⁶⁰ See John E. Kwoka, Jr., Power Structure: Ownership, Integration, and Competition in the U.S. Electricity Industry (1996).

affiliates to operate independently, on a bid-based, arm's-length basis. For example, the APSC may wish to require that the bulk of regulated utility purchases from unregulated affiliates be restricted to contracts won through an objective bidding process in which a third party evaluates the bids.

A critical element of workable bidding systems is the perceived and actual objectivity of the bid evaluation process. The system must be perceived as objective in order to attract bidders. Potential bidders, other than affiliates, may be unwilling to incur the costs of making a bid if the system is perceived as biased in favor of affiliates. The system must also be objective in fact in order to avoid raising costs for customers of the regulated utility. The use of third-party evaluations of the bids is one technique for achieving such objectivity.⁶¹

In addition, the APSC may wish to consider restrictions on asset transfers from the parent distribution utility to an affiliate. Some states are considering making such transfers subject to particular price bounds to assure that ratepayers do not unfairly subsidize the activities of the affiliate.⁶² This proposal raises issues similar to determining the value of assets in assessing stranded costs. Just as some states, such as

⁶¹ For example, Phoenix, Arizona has implemented a system of competitive bidding in which outside contractors compete against government departments for contracts to provide various city services. Before a city agency can submit a bid, however, the Office of the Comptroller, which is an independent entity, must certify that the bid is realistic. John C. Hilke, Competition in Government-Financed Services 16, 67-68 (1992). The city continues to save substantially through this bidding process. (Communication with Lera Riley, Assistant Public Works Director, City of Phoenix, Oct. 1998.)

⁶² See e.g., Public Utilities Commission of Nevada, Proposed Regulations Governing Affiliates of Distribution Companies, Sec. 22.

Massachusetts, have determined that the market is the best gauge by which to determine the value of generating assets in a stranded cost assessment,⁶³ the APSC may wish to use actual market values, rather than a band of prices, for asset transfers. The arm's-length bid process discussed above is an example of a method to establish actual market values. Application of an arm's-length bid process should help avoid bias both in the one-time sale of generation assets⁶⁴ and in repeated transactions between regulated firms and their unregulated affiliates.

3. Benefits and Costs of Allowing Affiliates to Use the Parent Distribution Firm's Logo⁶⁵

The APSC may wish to compare the benefits and costs of allowing affiliates of regulated distribution firms to use the corporate logo of the distribution firm.⁶⁶ One

⁶³ Edison Electric Institute, 4 Retail Wheeling & Restructuring Report 65 (March 1998).

⁶⁴ One deficiency in sales of stranded assets may be the role of investment bankers and affiliates in the sale. For example, if the sale is managed by an investment banker who works for the selling utility, a serious principal-agent problem may be created because the residual claimants for the revenue from the sale are the ratepayers, whereas the incentive for the investment banker is to structure a deal that benefits the transacting parties (possibly including a buyer who is the customer of the investment banker in other jurisdictions). If the sale is managed by an investment banker working for the selling utility and an affiliate is the prospective buyer, self-dealing may be an issue. Because ratepayers are the residual claimants in sales of stranded assets, it is likely to be appropriate for the investment banker handling the sale to be retained by state regulators representing consumers (rather than having an investment banker that represents the selling utility).

⁶⁵ We use the term "logo" here to include the logo, name, and other elements used to identify the regulated utility.

⁶⁶ Initial evidence from the Pennsylvania retail competition experiment suggests that consumers may rely on the use of the logo to select an electricity provider. Customers (continued...)

benefit of such use may be to reduce prices in the competitive markets served by affiliates. With access to the parent company's logo, the affiliate is likely to lower the marketing costs that it passes along to consumers in a competitive market.⁶⁷ The lower prices of the affiliate may encourage other firms serving this market to charge lower prices as well, resulting in lower prices for the market as a whole.⁶⁸ If consumers' perceptions of the implications of an affiliate's use of the parent utility's logo are accurate,⁶⁹ a second prospective benefit may be reduced search costs for consumers.

On the cost side, we have identified two potential concerns about the use of logos by affiliates: deception of consumers and cross-subsidization.

(1) Potential Deception: Alabama is concerned about the effects on consumers and competition of unrestricted use by unregulated affiliates of the logo of the regulated distribution firm. Harm to consumers and competition may occur if elements of the reputation of the regulated firm are not applicable to the unregulated affiliate, but consumers believe that they are applicable when the unregulated affiliate uses the

⁶⁶(...continued)

reportedly favored an affiliate that used the logo of its parent distribution utility over an affiliate of the same parent firm that did not use the logo. Energy Daily (June 23, 1998).

⁶⁷ The incremental (marginal) cost of marketing to additional customers is likely to be lower if consumers are already familiar with the logo employed in the marketing effort, since little effort will be required to establish familiarity.

⁶⁸ If the competing firms do not respond with lower prices, the affiliate likely will gain market share. If so, the average price in the market will be lower, even if competitors do not reduce their prices when the affiliate lowers prices, because of its lower marginal costs.

⁶⁹ Consumers could view use of the parent utility's logo as a guarantee that the affiliate firm is not a fraudulent operator.

parent utility's logo. For example, an element of a parent firm's reputation might be the credibility of its pledges of high-quality service that are backed by the parent's financial stability as a government-franchised monopoly. If a consumer imputed this same credibility to an affiliate's promises of high-quality service because of its use of the parent's logo, when in fact the affiliate did not have access to the revenues of the monopoly franchise, the consumer could be injured if the affiliate was unable to fulfill its promises in the way the consumer expected. Under such circumstances, the use of the logo by the unregulated affiliate could harm consumers and competition in much the same way as deceptive advertising.

False or deceptive advertising is prohibited under Section 5 of the Federal Trade Commission Act.⁷⁰ In determining whether an advertising representation is deceptive, the FTC generally relies on the principle that if at least a substantial minority of consumers takes a particular message from an advertisement, and if that message is likely to mislead consumers to their detriment, then the advertisement is deceptive.⁷¹

Thus, when considering the effect of an affiliate's use of the parent utility's logo, the FTC would consider consumers' impressions about the relationship between the utility and the affiliate and whether those impressions would be likely to affect purchase decisions. If use of the utility's logo implies to consumers that the

⁷⁰ 15 U.S.C. § 45.

⁷¹ See Federal Trade Commission's Policy Statement on Deception, letter to Hon. John D. Dingell, Chairman, Subcommittee on Oversight and Investigations, Committee on Energy and Commerce, U.S. House of Representatives (Oct. 14, 1983), appended to Cliffdale Associates, 103 F.T.C. 110 (1984).

relationship between the utility and the affiliate is different from what it really is -- an attribute that consumers care about -- such use of the logo could be considered deceptive. If this deception results in harm to consumers or competition, the APSC may wish to restrict or regulate how the affiliate uses the parent's logo.⁷²

(2) Potential Cross-subsidization and the Use of the Parent Utility's Logo:

Although some forms of cross-subsidization may be effectively addressed by transfer pricing rules,⁷³ other forms may be more difficult to assess. Cross-subsidization could take the form of cost-shifting among inputs used for both regulated and unregulated products, such as the use of a corporate logo in marketing the affiliate's products and services as well as the regulated parent utility's products and services. Costs of shared inputs could be 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 rates. This biased assignment of costs, which is often difficult for regulators to detect and remedy, distorts competition and produces inefficiencies in the unregulated business as well.

The risk of failing to detect anticompetitive cross-subsidization is heightened if (1) the reputation of the regulated parent utility is effectively embodied or represented by its logo; (2) the regulated parent firm can improve its reputation by incurring costs

⁷² Harm to consumers or competition could arise if, for example, the affiliate failed to provide the anticipated level of service reliability, forcing consumers to incur costs of obtaining access to alternative sources of supply.

⁷³ Transfer pricing rules typically forbid transactions between an unregulated affiliate and its regulated parent utility at prices that fall outside of specified limits. Commonly used boundaries include market prices, embedded costs, and book value.

of the type that regulators would traditionally include in the rate base of the regulated firm; and (3) the unregulated affiliate can enhance its own reputation among consumers by using the logo of the regulated parent firm, even if elements of the regulated firm's reputation do not apply to the affiliate. When these factors are present, a regulated incumbent will have a heightened incentive to overinvest in reputation-building because it can expect to incorporate a greater share of these investments into its rate base than if the assets were not shared with the affiliate. Moreover, the affiliate would realize additional profits from its increased sales in the unregulated market. The principal obstacle to deterring this conduct is that it may be extraordinarily difficult to distinguish competitive from anticompetitive levels of investment in reputation-building. Harm to competition and consumers may result from such overinvestment and subsequent cross-subsidization.

Harm to competition may occur because the unregulated affiliate's access to the logo of its regulated parent gives it a cost advantage through potential cross-subsidization that otherwise equally efficient competitors cannot match. The anticompetitive results may include (1) higher-than-necessary average operating (i.e., non-logo-related) costs for the industry and higher prices for consumers due to the continued operation of the affiliate, which can survive with higher-than-necessary costs due to the cross-subsidization; (2) greater market concentration and less competition than would occur absent the cross-subsidization;⁷⁴ and (3) discouragement of potential

⁷⁴ If entry is difficult or delayed, market share gained through cross-subsidization also
(continued...)

entry that likely would have occurred absent the cross-subsidization, including entry involving innovative products and production processes.

If the APSC upon more detailed study determines that there are substantial economies of vertical integration that cannot be realized without allowing affiliates to use the logos of their respective regulated parent utilities, the APSC may wish to consider two policy alternatives that are designed to obtain some of the potential benefits of affiliate use of the parent distribution firm's logo without incurring the costs. First, some states are considering allowing the use of the logo by affiliates, contingent upon use of a disclaimer that avoids consumer deception. The APSC may wish to evaluate this alternative by examining the impression that consumers are likely to have with the use of the logo accompanied by a disclaimer, and whether that impression would be accurate.⁷⁵ Consumer research designed to investigate the effects of several alternative policies on consumers may be the most effective approach.⁷⁶ A disclaimer that suffices to avoid consumer deception also may suffice to discourage cross-subsidization in the form of excessive investment in reliability.

⁷⁴(...continued)

may have persistent effects even after the cross-subsidization has been discontinued.

⁷⁵ Although use of a disclaimer may be a remedy worth considering, it may be difficult to develop disclaimers that are simultaneously sufficient to avoid deception and succinct enough to make affiliate use of the regulated parent utility's logo practical.

⁷⁶ Private parties may submit such evidence from privately funded research. The APSC, however, should be wary of testing performed on behalf of special interests, and should take steps to ensure that the results represent useful indications of likely consumer impressions and behavior.

An alternative means of transferring the rights to use the parent firm's logo is to require that the affiliate (and any other firms granted the right to use the logo⁷⁷) pay the parent for the right to use the logo.⁷⁸ Because the logo is an asset, use of the logo by other firms, including affiliates, represents an asset transfer from the parent firm, and the APSC may wish to treat it like other asset transfers. In order to avoid cross-subsidization in such a transaction, the use of the parent logo must be fairly evaluated.⁷⁹

⁷⁷ In some situations, firms may sell the right to use a logo to independent entities, contingent upon conditions and restrictions placed on use of the logo.

⁷⁸ Payments to the regulated distribution firm for use of its logo could reduce prices for distribution services by substituting payments from an affiliate for what the firm otherwise would be authorized by the APSC to collect through distribution charges.

⁷⁹ The Maine Public Utilities Commission has established rules requiring affiliates to pay the incumbent utility for use of the goodwill reflected in the utility's name. The payment is determined according to how soon the utility succeeds in earning its authorized return on equity. Maine Public Utilities Commission, Docket No. 98-077 (July 7, 1998). The rules provide a three-year initial payment period followed by a reassessment, with up to three additional years of payments if necessary to bring down the value of the goodwill asset to zero. Corporate Goodwill, Public Utilities Fortnightly 16 (Oct. 15, 1998).

F. State Roles in Mergers and Existing Market Power

Assessment of market power is necessary both in the handling of mergers and in the transition to retail competition. State review may be the only regulatory review in two situations. First, while mergers between utilities may affect both wholesale and retail competition,⁸⁰ FERC presently focuses only on effects and remedies at the wholesale level.⁸¹ States, therefore, have the primary responsibility for reviewing the competitive effects of mergers at the retail level. Second, when a state allows retail competition, there may or may not be existing market power in generation.⁸² Federal antitrust laws, however, do not focus on existing market power revealed through relaxation of rate regulation, unless the market power was gained or preserved by means of unfair methods of competition. Similarly, FERC does not routinely assess existing market power at the retail level.⁸³ States, therefore, have the primary

⁸⁰ Federal antitrust review may consider the retail effects of electricity mergers, but traditionally antitrust remedies do not focus on alleviating existing (i.e., premerger) market power held by the merging parties.

⁸¹ FERC Order 888, 61 Fed. Reg. at 21555 (May 10, 1996).

⁸² For decades, mergers in the electric industry were permitted under the assumption that rate-of-return regulation would continue indefinitely and eliminate antitrust concerns about increased prices and decreased quality of service caused by increased market power.

⁸³ The Comprehensive Electricity Competition Act (Section 403) proposed by the Department of Energy contains provisions to give FERC authority (in consultation with the Federal Trade Commission and the Antitrust Division of the Department of Justice) to remedy existing generation market power at the retail level if a state requests that FERC exercise this authority. Many state utility commissioners perceive that they lack authority to order structural remedies to address existing generation market power. National Association of Regulatory Utility Commissioners, Executive Dialogue on Market Power, (continued...)

responsibility for review of generation market power (if any) at the retail level. The APSC may wish to focus its analytical resources on these two important situations where it has the primary role in assessing market power and developing appropriate remedies.⁸⁴

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 or other independent regional transmission entity. As discussed above, large

⁸³(...continued)

Minneapolis, Minnesota, July 8-9, 1998. Subsequent to this Executive Dialogue, NARUC passed a resolution urging states that are considering retail competition to obtain authority to remedy existing market power at the retail level. Despite the lack of restructuring authority, some states (e.g., California) have induced divestiture of generation assets by large franchised utilities by requiring such divestiture as a condition for recovery of stranded costs.

⁸⁴ Some states have determined to assess retail market power with the aid of computer simulation models. The APSC may wish to consider this approach as well. Staff of the Utah Public Service Commission released a draft Market Power Report to that state's Electrical Deregulation and Customer Choice Task Force on August 14, 1998. This report contains an extensive section on computer simulation modeling. Computer simulation modeling of retail market power in Colorado was performed for the Colorado Public Utilities Commission and reported in an article entitled Measuring Market Power in a State with a Dominant Supplier: A Case Study, 11 *Elect. J.* 61 (July 1998). Because subtle modeling parameters may have very significant effects on results, the APSC may wish to avoid relying exclusively on incumbent firms to perform this type of analysis.

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

Public Interest and Regulation: In assessing the public interest regarding electric industry regulatory reform, the APSC will be weighing the prospective benefits and costs of moving toward competition primarily in generation and marketing. The effects of regulatory reform on electricity prices may be overstated despite the fact that Alabama already enjoys lower costs than many other states for electric power and diversion of power to higher-cost states may follow retail competition. The APSC may wish to take into consideration extensive evidence from other industries that increased competition can benefit jurisdictions with relatively low costs by delivering additional cost savings as well as technical innovation and a broader variety of products and services.

Stranded Costs and Benefits: If the APSC determines that recovery of stranded costs and benefits is appropriate, potential harm to consumers may be reduced by designing a recovery method that avoids distorting future electricity purchases, by

including incentives to mitigate stranded costs (and increase benefits), and by taking steps to avoid strategic use of stranded cost recovery revenues by traditional vertically-integrated electric utilities to block or eliminate entry. If Alabama determines to allow recovery of stranded costs and benefits, and if areas of Alabama have net stranded benefits rather than net stranded costs, the APSC may wish to consider recovering these benefits for electricity customers in these areas in a competitively neutral manner.

Market Structure, Market Power and Reliability: Horizontal market power and transmission discrimination problems are real sources of concern for the APSC as it considers retail competition. Use of the factors set forth in the DOJ/FTC Merger Guidelines, together with computer models, may allow the APSC to draw appropriate conclusions about the extent of generation market power facing Alabama customers. In conducting such a market power analysis, the APSC 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. In addressing potential market power in transactions between regulated utilities and their unregulated affiliates, it is necessary to strike a balance between preventing discriminatory conduct by utilities and their affiliates and

preserving possible economies of vertical integration. Bidding rules and other policies appear to constitute a reasonable initial approach to this trade-off. If such rules are adopted, the APSC may wish to set a date to reevaluate the adequacy of the rules, with a view to moving to full divestiture if the rules have not prevented discrimination or have proven very costly to enforce. In the area of consumer protection, the APSC may wish to adopt rules on advertising by affiliates that are consistent with FTC law on deceptive advertising. Finally, the APSC may wish to maintain the confidentiality of commercially sensitive information on winning bids in order to avoid aiding coordinated interaction between competitors.

We again thank the APSC for inviting comments as part of its wide-ranging inquiry concerning prospective electric industry regulatory reform and restructuring.

Respectfully submitted,

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