

**AN ASSESSMENT OF  
RETAIL COMPETITION IN KANSAS' ELECTRIC POWER INDUSTRY**

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**EXECUTIVE SUMMARY**

Electric power industry restructuring has become a world-wide phenomenon. Whether because of the increasing perception that governmental intervention has caused serious economic distortions or because of technological advances, reforms in the electric power industry have proliferated in recent years. These reforms reflect the political acceptance throughout the world of the merits of markets in driving the behavior of industry participants.

In the United States, restructuring activities have grown by leaps and bounds. Significant is the recent passage of legislation in Montana and Oklahoma, each of which from a national perspective has below-average electricity prices. Prior to these events, one common belief was that restructuring efforts were concentrated in only those areas with high electricity prices such as California and the Northeast. This view now has little credibility as restructuring sweeps across the country.

Reform proposals in the U.S. electric power industry have primarily, and not surprisingly, come from special interests who stand to benefit the most from a more open electricity marketplace. Another source revolves around the public-interest-type concern that regulation of utility monopolists has not benefited consumers. Regulation was established under the premise that it would keep electricity prices below what they otherwise would be. Although, throughout much of its history regulation arguably achieved this, it has failed to do so in recent years. Technological advances in the electric power industry have now made it possible and desirable to expose at least parts of the industry to competition. Restructuring activities reveal, perhaps more than anything, the growing political and economic costs of the *status quo* where utilities hold wide-ranging monopoly power controlled by regulatory statutes and rules.

Kansas has joined the circle of states currently contemplating what path to follow for their electric power industries. Their policy on industry restructuring hinges largely on their position on retail competition, which is synonymous with the concepts "retail wheeling" and "customer choice." These terms all refer to allowing retail electricity consumers, namely residential, commercial and industrial customers, to have the right to purchase unbundled electric services from other than the local franchised electric utility. Currently, virtually all retail consumers in Kansas purchase what can be called "bundled sales service" from the local utility, whether an investor-owned utility, rural electric cooperative or municipality. Bundled sales service combines different components or subservices -- electric energy, transmission, distribution, metering, billing, and so forth -- to retail consumers in the form of "packaged" electric service. Retail customers pay one price for this service.

Consumers who take bundled sales service currently have no choice but to buy all of the subservices from the local utility. Under retail competition, consumers would have the right to buy one or more of these subservices from a third party. As retail competition evolves over time, consumers may only purchase distribution service from the local utility with other subservices supplied under competitive conditions. In that environment, subservices may be rebundled but, unlike existing bundled sales service, retail consumers could choose among different combinations of electric services offered by available providers.

The pertinent questions for Kansas with regard to retail competition are: "*How and when?*" Some interest groups in the state may believe, or want to believe, that other states could follow the path of retail competition while Kansas does nothing. It seems implausible that this would happen. First, common sense dictates that the U.S. electric power industry will not be bifurcated, where some states will have open retail markets while others will not. Second, past experiences in other restructured-deregulated industries, such as natural gas and telecommunications, have shown the common pattern of competitive forces, once initiated, dispersing to all parts of the industry. Believing, for example, that competition in the electric power industry will stop at wholesale markets runs contrary to both economic theory and the recent history of other industries undergoing restructuring.

Having made an argument that retail competition is inevitable for Kansas, the question then shifts to: "*What effect will it have?*" Specifically, would retail competition be good for the state or would it essentially result in wealth transfers where some citizens would be better off while others would be worse off? First, viewing retail competition from a long-term perspective, it should produce positive benefits for Kansas. After adjustments by all parties, namely consumers, utilities and the Kansas Corporation Commission (KCC), retail competition should effectuate a more customer-responsive, efficient electric power industry in Kansas. Consumers should see lower prices and the availability of additional electric services, partially because of the greater incentive of Kansas utilities to restructure their costs and service offerings in accordance with consumer demands. Just as increased efficiencies in the growing of wheat in Kansas benefit the state as a whole, an improved-performing electric power industry should have the same result.

In the short term or transition period, efficiency gains would be made but wealth transfers may fall out. Some of the benefits to consumers would result from cost reductions by utilities, but other benefits may also be gained from allocating existing utility surpluses to consumers. Electricity prices should fall farthest in those areas of the state where the differences between the current (embedded) price of wholesale or generated power and the market price are the greatest. How the resultant uneconomical sunk costs are treated would significantly influence the short-term effects on

consumers and utilities. For example, allowing utilities to fully recover these sunk costs would not only diminish gains to consumers, it would also discourage new entrants from accessing the marketplace and, in the process, stifle the development of competition in retail electricity markets.

The major findings of this report, conducted for the Kansas Corporation Commission, can be summarized as follows:

(1) *Retail competition represents a natural and expected outgrowth of current reforms in the electric power industry.* Competition in wholesale electricity markets alone will not go far enough to appease consumers, generators and marketers, and to maximize benefits to consumers.

(2) *The pertinent questions attending retail competition are not "if" but "how" and "when."* These are the real questions that Kansas should be addressing. Increasingly, other states are debating these questions.

(3) *Good public policy requires positive benefits to society at large.* While distributional effects should be taken into account, they should not drive policy. Too often we observe public policy being shaped by the political muscle of interest groups who stand to benefit at the expense of the general public. Kansas should not fall into the trap of protecting certain interests, whomever they may be, if the general public would suffer as a result. Primary consideration should be given to how retail competition would affect electricity consumers in the state.

(4) *Realization of the potential benefits of retail competition requires well-founded ground rules for creating equal opportunities for incumbents and new entrants, and true competition in retail electricity markets.* Anticompetitive practices shifting the potential benefits of an open retail market from consumers to producers should be avoided.

(5) *The long-term benefits of retail competition are inherently difficult to measure.* How utilities, new entrants and consumers would fully adjust to the new regime falls beyond anyone's comprehension, let alone precise calculation. Policymakers must resort to less stringent standards in determining the expected outcomes of retail competition.

(6) *Kansas electric utilities are already preparing for the day when retail competition will arrive.* Recent activities by utilities, including mergers, the open-access proposal by Midwest Energy, and the offering of discount rates to large customers, all reflect efforts to improve the competitiveness of these utilities in tomorrow's electric power marketplace.

(7) *Kansas cannot be characterized as a low-cost state for which, under open markets, electricity prices would rise toward the regional average.* Electricity prices in Kansas are currently above those in surrounding states. If the "regional average" theory has any validity, it would predict that electricity prices in Kansas would fall relative to those in the surrounding states.

(8) *Retail competition in Kansas does not mean complete deregulation of the electric power industry.* Prices of distribution services, at least for the foreseeable future, would still be subject to regulation. The KCC may also have to assume the new role of "antitrust" enforcer to help assure the avoidance of anticompetitive practices. Finally, at least during the transition period, the Commission may want to require or encourage customer education.

(9) *Kansas policy on the trading of electric energy should be similar to its policy on wheat.* Both electric energy and wheat can be characterized as commodities, that is, homogenous economic goods that can best be transacted in competitive markets. Kansas should look at the export of both commodities in the same light: both are good for in-state producers and for the state as a whole.

(10) *Retail competition would contribute toward the efficient and equitable pricing of electricity in the state.* The unbundling of electric service should make prices more transparent to consumers. Market pressures would elicit changes in existing rate designs to mitigate against subsidies and to move prices toward marginal-cost principles. Prices would be more equitable in that the price of electric service would correspond more closely to its true cost.

(11) *Several intricate issues surround the implementation of retail competition.* Those addressed in this report include the funding of stranded costs by what is called "securitization," FERC-state commission jurisdictional matters, anticompetitive practices, pilot programs, the meaning of "bypass" in the context of retail competition, and taxes. The complexities of these issues point to the concerted effort that would be required by various parties in the state to reach consensus.

(12) *The recent Docking Institute study paints an overly gloomy picture of the effects of retail competition on rural areas.* In fact, the evidence seems to point in the direction of rural areas in Kansas benefiting the most from retail competition: cooperatives' current prices seem to be most out-of-line with market prices. Incorrectly, the Docking Institute study depicts retail competition as taking wealth away from rural areas and redistributing it to urban areas. More likely, the real losers would be those utilities in the state who are unable to accommodate the demands of consumers.

The empirical analysis done for this report indicates that, for the major investor-owned plants in Kansas, one company may face the possibility of having a small amount of stranded cost. Western Resources and a combined company of Western Resources and Kansas City Power & Light would have no stranded costs, only a net benefit from competition. Under the lower market price scenario used in the analysis, Kansas City Power & Light could incur a loss when the net book value is subtracted from the net present value of the projected cash flow. No loss occurs for the company in the higher market price scenario, however, and the company is projected to have a positive cash flow in each year of the forecasted period for both price scenarios. Only one power plant in Kansas, the Wolf Creek nuclear power plant, faces the possibility of a loss in a competitive market because of the plant's investment costs. This loss is offset by the net gain of the owners' other plants. Wolf Creek's relatively low variable cost makes it one of the country's most efficient plants to operate. Consequently, the plant should be profitable for the owning companies under either scenario. In both forecasted price scenarios, all customer classes in Kansas would see lower prices from a competitive market.

Taking everything into account, the best strategy for Kansas would be, in the shortest time possible, to pass legislation that would open up the state's retail markets to competition. Legislation should specify (1) a date by which full-scale retail competition would be in place, and (2) guidelines for implementing retail competition. The KCC could be given the authority to interpret and execute the guidelines and other pertinent provisions in the new legislation. In carrying out these responsibilities, the Commission could hold a forum encouraging interested parties to reach consensus on those major issues accompanying retail competition. The forum could also be used by the Commission to acquire information on the outcomes of retail competition in other states and of any in-state pilot programs.

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## INTRODUCTION

Kansas, like the other states around the country, is at the crossroads in deciding whether or not to advance the scope of competition of the electric power industry to the retail sector. Unlike wholesale market reforms, which fall under the purview of the federal government, restructuring of retail power markets will be heavily influenced by state actions. Even if federal legislation is passed requiring the opening of retail markets to competition, the states will play a vital role in deciding how retail competition will be structured and implemented.

In this report, the term "retail competition" is used instead of retail wheeling.<sup>(1)</sup> It refers to the situation where retail customers have been given the right to buy electric energy or other unbundled services from entities other than the local franchised utility.<sup>(2)</sup> Under retail competition, for example, end-use customers would have the option to buy electric energy directly from power generators or from intermediaries, such as load aggregators, power marketers, or energy service companies.<sup>(3)</sup> In a more fully-developed form of retail competition, customers would be able to choose from a wide range of services, such as metering, billing, energy management, and risk management, priced separately and opened to alternative suppliers. Under retail competition, customers could continue to purchase bundled sales service from the local utility,<sup>(4)</sup> purchase their electric energy from a power exchange, with or without what are called "contracts for differences," or bilaterally with a power generator. Customers may have special meters to take advantage of real-time pricing.<sup>(5)</sup>

Kansas faces three choices: (1) suspend consideration of retail competition for an indefinite period, (2) initiate steps to phase-in retail competition, or (3) move immediately toward full-scale comprehensive retail competition. The first choice seems increasingly unlikely in view of the accelerated actions of other states around the country in endorsing the idea of retail competition and the political tenor in Washington, D.C. to restructure the electric power industry.<sup>(6)</sup>

The second choice, which can be characterized as a "moving-deliberatively approach," typifies the activities of several states. In these states, retail competition is being phased-in over a number of years, in many instances with pilot or experimental programs.

The third choice, immediate movement toward full-scale retail competition, is being carried out by a few states, notably California. These states generally have high electricity prices relative to the rest of the country, and anticipate large short-term benefits for consumers.

With retail competition unfolding across the country, it seems inevitable that Kansas will have to face the reality that doing nothing today only postpones having to do something tomorrow. If one believes this to be true, then the choice for Kansas narrows to how fast should retail competition be initiated and what ground rules should apply. The analysis performed for this report suggests that the longer Kansas waits to open up retail markets, the longer Kansas electricity

consumers will have to wait to enjoy the full benefits of competition in the wholesale power market.

Good public policy demands that a governmental action should produce positive benefits for society. In the context of retail competition in the electric power industry, this means essentially that electricity consumers in the long term should benefit from being allowed to choose among alternative suppliers for the purchase of different electric services. The benefits will accrue gradually over a number of years, with longer-term gains resulting from innovations and efficiencies in new investments and new services tailored to meet customers' needs.<sup>(7)</sup>

Although the growing consensus among analysts is that consumers would benefit under retail competition, proper institutional mechanisms would be required. A big concern of some interest groups is that the transition period may bring costs to certain consumers and utilities.<sup>(8)</sup> A major policy question for Kansas is: *Should Kansas proceed with retail competition even if some utilities or consumers expect to be worse off during the transition period?* This "equity" issue should be an integral part of the debate over retail competition. If, for example, some groups would be seriously injured, then, at least for political purposes, some transitory mechanisms may be required to mitigate this problem.<sup>(9)</sup>

This report examines the fundamental question of how retail competition will affect the electric power industry in Kansas. As a benchmark, it assumes that the wholesale power market will continue to develop in the same direction that it has over the past several years. That is to say, wholesale power transactions will increasingly be consummated under competitive conditions. We designate this scenario as the *status quo* against which retail competition will be assessed.

The empirical analysis performed for this study attempts to estimate the potential changes in electricity prices to retail customers and the attendant "stranded costs" when these customers are able to directly purchase electric energy in wholesale markets. Increasingly, electric utilities are taking advantage of attractive prices in wholesale markets and are passing cost savings to their customers. One may then ask: *How can retail customers benefit any more than they are currently when they, instead of the local utility, purchase low-cost wholesale power?* The simple answer is that much of the power sold by utilities, whether located in Kansas or elsewhere, to their retail customers is priced above the current market level. The price for this power, net of transportation and distribution costs, is based on historical embedded costs that commonly lie far above the price of power currently available in a competitive wholesale marketplace.<sup>(10)</sup>

This report also discusses the problem of forming a judgment on retail competition when its effects are inherently difficult to measure in any precise sense. This high degree of uncertainty has important implications for the Kansas Legislature. Specifically, the Legislature may not want to move immediately in implementing full-scale retail competition, in effect minimizing the costs of error if events turn out unfavorably.<sup>(11)</sup> What this implies in the context of retail competition is that an optimal strategy for Kansas may consist of pilot programs and phase-ins over a specified time period. By following this course of action, Kansas would be able to observe more of the experiences of other states (e.g., California and Pennsylvania) and retail customers would be given more time to become educated about their role in the new regime. Retail customers must become informed consumers if retail competition is to be successful. This will take time and some effort to achieve.

This report presents some general guidelines for executing retail competition in Kansas. These guidelines will help to assure that customer choice will improve the economic performance of the electric power industry in Kansas and the well-being of Kansans as a whole.

Finally, this report addresses specific issues pertaining to retail competition. They include the funding of stranded costs by "securitization," taxes, pilot programs, anticompetitive practices, jurisdiction over distribution assets, and the meaning of "bypass" in the context of retail competition.

## **BACKGROUND AND RELEVANT STATISTICS**

Recent actions by Kansas electric utilities reflect ongoing changes occurring in the U.S. electric power industry. It should be expected that utilities in Kansas will continue to undergo restructuring and reform irrespective of the status of retail competition in the state. The electric power industry in Kansas will evolve on a course toward restructuring in line with emerging technological, political, and economic realities. As argued elsewhere in this report, the pertinent question for Kansas at this point in time is not whether retail competition will come, but *when* and *how*. A valuable lesson can be learned from the natural gas industry where competition, starting in the wellhead sector, has shifted to the other sectors of the industry.<sup>(12)</sup> For any industry it is difficult to bottle up competition once initiated. The spread of competition from wholesale to retail markets seems inevitable, as it is a natural outgrowth of economic pressures exerted by market participants who want to receive the full benefits of an open marketplace.

In many ways recent actions in Kansas exemplify those in other states. Mergers, consideration of revamping the activities and structure of power pools, pressures to transmit low-cost wholesale power to end-use consumers, formation of marketing companies, cost restructuring by electric utilities, the offering of special discount rates to large customers all reflect the movement in the electric power industry toward competition.

The Southwest Power Pool (SPP), of which Kansas utilities are members, is considering whether to form an independent system operator (ISO) that would be approved by the Federal Energy Regulatory Commission (FERC).<sup>(13)</sup> In recent years the SPP has expanded its membership to accommodate the increased number of suppliers in the region's wholesale power market. In response to open transmission access, in 1996 the SPP established a security plan that calls for the exchange of real-time operating information and around-the-clock security coordination performed by SPP staff. Also initiated in 1996 was a next-hour energy exchange system that allows for real-time trading of electric power.

Kansas has also seen a recent merger proposal between Western Resources, Inc. and Kansas City Power and Light.<sup>(14)</sup> Western Resources, which is now the thirty-third largest electric utility in the U.S. in terms of sales, distributes both electricity and natural gas, owns a security company and has natural gas interests in Oklahoma.<sup>(15)</sup> Western Resources is also actively developing power plants in China and other areas of the Far East.<sup>(16)</sup>

UtiliCorp, which operates in Kansas, has recently launched a new marketing company, Energy One, in partnership with PECO Energy. The new company will market electricity and natural gas services, as well as AT&T residential communication services and ADT home and business electronic security services. Energy One will initially function as a retail distributor; participating utilities will later serve as retail distributors or products, drawing on Energy One's national marketing identity and support. Energy One will receive revenues from franchise royalty and transaction fees from participating distributors and suppliers.

On April 30 of this year, Midwest Energy, a cooperative electric and natural gas utility and propane distributor located in Hayes, announced an experimental plan to provide customers with a choice of electric and natural gas supplies.<sup>(17)</sup> The program, called Open Access, would provide retail customers with different service options starting in early 1998 differentiated by price, risk to consumers and other terms and conditions.<sup>(18)</sup> The plan still requires the approval of the Kansas Corporation Commission (KCC).

Kansas utilities have, for some time, offered special discount rates to large customers.<sup>(19)</sup> The rates are generally applicable to the incremental load of existing firms or to a new firm's entire load. These rates are frequently contained in a special contract negotiated between a utility and individual customers. Over the last several years, special discount rates have resulted in electricity prices to large customers falling relative to prices charged to smaller customers.

Table 1 shows that since 1985 industrial prices charged by Kansas investor-owned utilities have slightly fallen while prices to residential and commercial customers have slightly increased.<sup>(20)</sup> This probably in part reflects the offering of special discount rates during the period to large customers. This pattern of electricity prices reflects a national trend (although to a lesser degree) where over the last ten years industrial prices have declined by 6.6 percent, while residential and commercial prices have risen

<p>TABLE 1 ELECTRICITY PRICES BY CLASS OF CUSTOMER</p>
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FOR KANSAS INVESTOR-OWNED UTILITIES, 1985, 1990, 1995			
	Residential	Commercial	Industrial
1985	7.34	6.30	4.96
1990	7.77	6.45	4.93
1995	7.69	6.44	4.73

Source: Edison Electric Institute, *Statistical Yearbook of the Electric Utility Industry*, selected issues 1985-1995.

by 13.1 percent and 6.6 percent, respectively.<sup>(21)</sup> One possible outcome of retail competition would be to reverse this trend of electricity prices rising for small customers relative to large customers.

A recent article reported on the relative efficiencies of ninety-four investor-owned utilities, including three that serve Kansas.<sup>(22)</sup> Operational efficiencies were estimated for the period 1990-1995 using statistical techniques. Out of the ninety-four utilities, Kansas Power and Light was twenty-first, Kansas City Power and Light was thirty-fourth, and UtiliCorp United was fifty-seventh. Overall, the utilities in the study serving Kansas scored reasonably well. As the authors pointed out, high efficiency is essential for a utility to be competitive in commodity markets.

One argument heard in opposition to retail competition is that electricity prices would rise in the short term in states and regions where prices are currently low. This

position has been particularly advanced in the Pacific Northwest and the Southeast, where electricity prices are below the national average. The contention is that regional electricity prices would gravitate toward some level that exceeds the current prices in low-cost states. This belief comports with what can be called the "regional average" hypothesis. One study done for the SCANA Corporation, the corporate parent of South Carolina Electric and Gas, agrees with the concept:

Geographic aggregation. . . masks the fact that the effects of retail competition will not be distributed evenly across the country. States with low-cost generation can expect their utilities to export to higher-cost regions out of state with the possibility prices in low-price states could increase while those in high-price states could fall. . . . A low-price state that goes first is simply inviting its utility to export power up to the point where the price in-state rises to the price out-of-state (p. 61).<sup>(23)</sup>

The legitimacy of this belief in terms of conforming to economic principles can be disputed.<sup>(24)</sup> More reliable is the prediction that those states and regions that currently have the highest electricity prices will, in the short term, benefit the most from retail competition. This is because the gap between existing prices and market-based prices, which can be used to measure the potential benefits of retail competition, is larger in those states or regions with higher electricity prices. This underlies the reason why the early interest in retail competition occurred mainly in those states with the highest electricity prices.

The question to be posed here is: *Is Kansas a low-cost state for which retail competition would likely have a minimal or even adverse effect on electricity prices?*<sup>(25)</sup> When comparing electricity prices in Kansas relative to those in neighboring states, the answer seems to be, no. In 1995, for example, (see Table 2), electricity prices in Kansas, as a whole, were higher than in any of the surrounding states (Oklahoma, Nebraska, Missouri, Colorado, Iowa, and Arkansas).

TABLE 2  
COMPARISON OF ELECTRICITY PRICES  
IN KANSAS AND  
NEIGHBORING STATES BY CLASS OF UTILITY FOR 1995  
(cents per kWh)

	Investor-Owned	Publicly-Owned	Rural Cooperative	All Classes
Kansas	6.37¢	6.02¢	8.85¢	6.56¢
Oklahoma	5.23	5.95	7.14	5.57
Nebraska	--	5.40	7.19	5.40
Missouri	6.40	5.62	6.12	6.25
Colorado	6.13	5.28	6.86	6.12
Iowa	5.90	5.47	7.88	6.03
Arkansas	6.72	5.47	5.50	6.27
U.S.	7.15	6.02	6.92	6.89

Source: Energy Information Administration, *Electric Sales and Revenues 1995* (Washington, D.C.: Energy Information Administration, December 1996).

Particularly conspicuous are the higher prices charged by Kansas rural electric cooperatives (co-ops). Taking the (unweighted) average price for the six surrounding states, the average price charged by Kansas co-ops was over 30 percent higher. Compared to the national average price for co-op electricity, the Kansas co-op average price was about 28 percent higher. Although this evidence may not be conclusive, it suggests that the customers of Kansas co-ops stand to benefit more than their counterparts in the other states from retail competition.

Another indicator that this outcome seems plausible is the large gap between the average wholesale price being paid by co-op distributors and the market-based price for wholesale power. For example, in 1996 Sunflower Electric Power Cooperative charged its all-requirements customers an average price of 6.4 cents per kilowatt-hour (kWh) (includes transmission costs); in contrast, Sunflower's price for nonfirm power averaged only 1.7 cents per kWh.<sup>(26)</sup> In 1996, Kansas Electric Power Cooperative charged its firm wholesale customers (most of whom were associated co-op distributors) an average price of over 5 cents per kWh, while its price for nonfirm power to investor-owned utilities averaged less than 1 cent per kWh.<sup>(27)</sup> With the apparent availability of low-cost, wholesale power, the evidence points clearly to the fact that the citizens of rural Kansas are not paying low prices for electricity. In fact, the evidence shows that they are paying high prices relative to other consumers in the state and their rural counterparts in surrounding states.

With respect to investor-owned utilities, electricity prices in Kansas are more in line with those in surrounding states (see Table 2). Oklahoma, which earlier this year passed retail-wheeling legislation, has the lowest prices (about 18 percent lower than in Kansas). Kansas Gas and Electric has the highest prices of any investor-owned utility in Kansas.<sup>(28)</sup> In 1995, the utility had an average residential price of 9.29 cents per kWh, almost 20 percent higher than the price of any of the other investor-owned utilities in the state. Kansas Gas and Electric's commercial prices were also the highest. Its industrial prices were more in line with the other utilities, leading to the speculation that it has been offering special discount rates to large customers and, in the process, allocating some of its costs to small customers.<sup>(29)</sup>

In sum, it would be wrong to characterize Kansas as a low-cost state. In 1995 Kansas had the twenty-ninth lowest electricity prices in the country among the fifty states and the District of Columbia; the average U.S. electricity price

was 6.9 cents per kWh while the average price in Kansas was 6.6 cents per kWh.<sup>(30)</sup> Within the state of Kansas, electricity prices vary widely with rural electric cooperatives having the highest average price and the municipalities the lowest average price.

Prices charged by Kansas investor-owned utilities as a group lie below the national average but above the regional averages. Kansas utilities such as Kansas Power and Light and Southwestern Public Service (which serves few customers in the state), have prices that are more compatible to other utilities in the region.

The above statistics suggest that under retail competition Kansas' electricity prices would not rise, according to the questionable "regional average" hypothesis, while surrounding states' prices would fall. Instead, it seems more probable that over time Kansas' electricity prices would fall relative to those in surrounding states. Such an outcome would enhance the competitiveness of Kansas' business sector and, consequently, would contribute to the state's economic development.

Sales to ultimate customers in Kansas are pretty much split among residential, commercial and industrial customers (see Table 3). Industrial customers in Kansas consume a higher percentage of statewide electricity than in Oklahoma, Nebraska, Missouri, and Colorado, but a lower percentage than in Iowa and Arkansas and for the country as a whole. This suggests that the average price of electricity in Kansas is not biased upward because of a lower mix of industrial customers (which generally pay the lowest prices).

TABLE 3  
ELECTRICITY SALES TO DIFFERENT CLASSES OF CUSTOMER  
AS PERCENT OF TOTAL SALES FOR 1995

	Residential	Commercial	Industrial	Other
Kansas	34.1%	33.8%	30.8%	1.2%*
Oklahoma	39.4	26.9	28.3	5.4
Nebraska	36.4	28.7	27.8	7.2
Missouri	40.8	34.7	23.0	1.5
Colorado	32.0	38.0	27.5	2.5
Iowa	33.9	22.2	40.1	3.7
Arkansas	35.8	20.6	41.8	1.8
U.S.	34.6	28.6	33.6	3.2

\* Total may not add to 100 percent because of rounding error.

Source: Energy Information, *Electric Sales and Revenues 1995*.

Investor-owned utilities in Kansas make over 73 percent of the total sales to ultimate customers in the state (see Table

4). This is similar to the regional as well as national average (excluding Nebraska). Publicly-owned utilities and rural electric cooperatives in Kansas deliver about 17 percent and 10 percent of the total state's sales to ultimate customers, respectively. Rural electric cooperatives deliver a higher percentage of the total electricity consumed in Oklahoma, Missouri, Colorado, and Arkansas, each of which has noticeably lower prices than their Kansas counterparts.

TABLE 4  
SALES TO ULTIMATE CUSTOMERS  
BY CLASS OF UTILITY  
AS PERCENT OF TOTAL SALES FOR 1995

	Investor-Owned	Publicly-Owned	Rural Cooperative
Kansas	73.2%	16.8%	9.9%*
Oklahoma	76.6	9.3	14.1
Nebraska	--	96.6	2.3
Missouri	70.5	13.3	16.2
Colorado	62.4	17.3	20.1
Iowa	77.9	12.5	9.5
Arkansas	63.6	12.5	23.9
U.S.	76.1	14.3	8.0

\* Total may not add to 100 percent because of rounding error and federal entities selling electricity to ultimate customers.

Source: Energy Information Administration, *Electric Sales and Revenues 1995*.

## THE GROWING MOVEMENT TO RETAIL COMPETITION

### Pressure for Change

Pressure for expanding competition in the United State electric power industry has proliferated in recent years. This phenomenon is an outgrowth of competition in the generation sector of the industry. One lesson that we have learned from the deregulation-restructuring experiences of other industries, such as natural gas and telecommunications, is that competition, once begun, becomes difficult to contain. In the natural gas industry, for example, competition in the wellhead sector exerted great pressure to open up the pipeline and distribution sectors.<sup>(31)</sup> Currently, a major activity is the liberalization of retail gas markets for all customers including residential and small commercial.

Increasingly, utilities and other market participants acknowledge the reality of competition in the electric power industry extending to retail markets. Most serious analysts and other observers of the industry agree that this movement is irreversible. Utilities have begun to develop rates and terms and conditions for individual retail services. Even utilities currently not required to offer unbundled retail services see the "handwriting on the wall." They want to be ready to compete when retail competition starts. <sup>(32)</sup>

The push for retail competition originates from various interest groups. Independent and utility-affiliated generators want to expand their markets to include a greater number of potential buyers. Marketers want the opportunity to put deals together involving different services for retail customers. Some vertically-integrated utilities also favor retail competition. They see opportunities to sell their generation and other services outside their franchise area, while at the same time feeling confident that they can fend off competition within their service area. Last, but certainly not least, industrial customers want lower-priced electricity now being sold in wholesale bulk markets.

In sum, the movement to retail competition across the country appears robust, as different interest groups see large benefits from a restructured and more competitive electric power industry. These reforms are being driven by market forces and technological changes that ultimately will unravel existing industry and regulatory practices.

The issues and problems surrounding the implementation of retail competition in the electric power industry are well-documented and, except for the later section, "Discussion of Specific Issues," will not be examined in any detail in this report. We should note, however, that retail competition will radically change the *modus operandi* of industry operation, pricing and planning, and of public utility regulation itself. An endorsement of retail competition in Kansas would be a significant event that should not be taken lightly. It will lead to new institutions and major adaptations of current ones. Because the retail power sector has been so highly monopolistic and regulated, shifting to an environment where competition becomes a dominant feature would require time and considerable readjustment by everyone. The transition to an "equilibrium" competitive marketplace may cause difficulties for some and take several years to complete. <sup>(33)</sup> One argument can be made that the sooner the transition begins

and ends, the sooner the long-term benefits of retail competition will arrive. If the Kansas Legislature, for example, endorses the concept of retail competition, it would be good policy to "get the ball rolling" in the shortest time possible. This means more than just studying retail competition; it means developing ground rules to implement retail competition in a fashion that maximizes benefits to customers by some specified date.

Kansas may be affected by federal legislation regarding restructuring of the electric power industry. Five comprehensive restructuring bills have so far been introduced; three of them contain "date certain" provisions, one gives states the discretion to determine whether or not they want to implement retail competition, and one lifts constraints on states desiring to implement retail competition. <sup>(34)</sup> The major issues surrounding the current debate encompass jurisdictional authority, the "date certain" issue, universal service, and renewable energy.

In recent months, pressure for federal legislation has somewhat subsided in

view of the fact that states are moving faster than expected toward retail competition. Especially significant is the recent passage of legislation in Montana and Oklahoma, where electricity rates are below the national average. <sup>(35)</sup>

The consensus now is that it is highly unlikely that federal legislation will be passed this year, and that the chances are not good that Congress will agree on legislation for submission to the president before adjournment of the 105<sup>th</sup> Congress in the fall of 1998. <sup>(36)</sup> The National Association of Regulatory Utility Commissioners (NARUC) has recently issued a strategic plan predicting that federal legislation will likely not be passed before the year 2000.

Momentum in Congress has shifted toward giving states more discretion. Under this middle-of-the-road approach, states would be allowed to set dates for implementation of retail competition, with federal guidelines and standards enacted to ensure fair competition and consumer protection. Another "permissive" approach would be to remove potential federal barriers to state action along with encouraging states to consider retail competition. <sup>(37)</sup>

Although federal legislation may not pass during the next year, federal legislation seems inevitable. There is wide

agreement in Washington that, as a concept, consumer choice is in the public interest, and it will eventually arrive. The current debate is over how and when to get there.

One possible advantage of Kansas passing legislation before the federal government does is that Kansas legislation may be "grandfathered" by any federal action.<sup>(38)</sup> If so, Kansas could have more discretion over how and when retail competition should take place. By waiting until after federal legislation passes, retail competition in Kansas may less reflect what would otherwise be the consensus reached by the various interest groups in the state.

### Critics of Retail Competition

Vocal critics of retail competition have included incumbent electric utilities who fear the loss of profits or surplus. Some investor-owned utilities have argued that revenue losses would diminish the returns from their existing assets.<sup>(39)</sup> Municipalities worry that the loss of surpluses earned from utility operations will jeopardize their fiscal integrity or force a cutback on municipal services.<sup>(40)</sup> Electric cooperatives fear that expanded competition in the electric power industry may result in the loss of customers and, consequently, their ability to pay back outstanding debts. In a competitive environment, firms which are able to restructure their costs and provide services that consumers want stand to gain. Inefficient firms either drop-out or merge with firms that see the opportunity to increase the earnings from the inefficient firm's assets.<sup>(41)</sup>

Kansas needs to confront the question of whether it is willing to have consumers pay higher prices for electricity in return for protecting electric utilities from competition. Certainly, the welfare of the "owners" of electric utilities represents a legitimate interest in the debate over retail competition. But it should be pointed out that the primary consideration in any discussion of retail competition or electric power industry restructuring should be given to the welfare of electricity consumers. If consumers are not expected to benefit, then little reason exists for industry restructuring. Of course, as in the case of other industries that have deregulated or restructured, consumers have benefited, but at varying levels.<sup>(42)</sup>

Critics of retail competition make two broad arguments. First, unlike wholesale competition, retail competition would not benefit all end-use electricity consumers. In fact, they regard retail competition as a poor public policy, since only a small number would benefit at the expense of everyone else.<sup>(43)</sup> Second, competition in wholesale power markets will tend to maximize benefits to retail customers. As long as the utility purchases the lowest-cost or "best" available power, retail customers receive the greatest possible benefits.<sup>(44)</sup>

Turning to the first argument, when all retail customers have the availability of different service providers they should be able to benefit, although at varying levels. Faced with new market choices, retail customers have the opportunity to lower their electricity bills and, perhaps more important, have access to a greater number of services.

Some customers may be worse off if they were previously being subsidized by other customers, for example, through faulty rate designs. Under retail competition, extant subsidies would tend to diminish over time as market pressures readjust prices toward marginal costs.<sup>(45)</sup>

Extending market access only to some customers (e.g., industrial customers) raises the concern that utilities would have an incentive to shift costs to those customers still susceptible to the local utility's "full service" monopoly power. Broad-based retail competition would create strong forces pressuring utilities to become more efficient and more responsive to the preferences of individual customers. These outcomes are impossible to measure, *ex ante*, but for various reasons, are expected to occur. The evidence for this, in addition to coming from economic theory, derives from the experiences of other industries undergoing restructuring and the recent experiences of a more competitive wholesale power market. In these cases, the best analytical-empirical studies have shown that introducing more competition has a significant effect on improving the economic welfare of consumers.<sup>(46)</sup> These benefits stem largely from increased productive (cost) efficiencies by firms translating into lower prices and the introduction of new services.<sup>(47)</sup>

The second argument by critics of retail competition -- customers will at best only incrementally benefit relative to wholesale competition -- is equally flawed and myopic. In the absence of retail competition, pervasive regulation of rates paid by retail customers would still continue. For example, regulators would oversee the utility's investment and purchased-power decisions in basically the same way they do today. Further, retail customers would continue to pay for a utility's past investments that are currently uneconomical. When the local utility acts as the "designated" purchaser of power, its decisions, no matter how competitive wholesale power may be, become largely immune from market discipline and, instead, subject to the judgment of regulators. This means that retail customers would continue to bear the brunt of bad decisions, thereby at most only marginally affecting the incentive of the utility to make better decisions. Retail competition would give customers the opportunity to negotiate credit and risk management instruments better tailored to their needs than the products that are generally available under regulation.

A recent article in *Public Utilities Fortnightly*, authored by two employees of Resource Data International, Inc., articulates this position well.<sup>(48)</sup> The authors summarized their argument that competition in wholesale power markets, by and of itself, will not maximize consumer benefits with the following explanation:

[T]he current bifurcated market structure does not give a utility great incentive to minimize cost other than the threat of retail wheeling. Also, market distortions are creating price trends in wholesale power markets that may be unsustainable in the long term. Utilities will not feel tremendous pressure to reduce costs, improve efficiency, and shut down uneconomic plants until retail wheeling is implemented. Only then will consumers and the U.S. economy benefit from competition (p. 11).

In sum, effective competition in the electric power industry demands more than competition in the generation/wholesale power sector; it also requires retail customers to have direct access to the wholesale market. Otherwise, prices paid by retail customers will depend on the continued regulation of a "full service" monopolist. The consequences will be the sustainability of the inefficiencies and other problems that currently exist in the electric power industry.<sup>(49)</sup>

## MODEL OF RETAIL COMPETITION

### Comparison with the *Status Quo*

The *status-quo* scenario for analysis presented in this report assumes the evolving movement of wholesale power markets toward competition.<sup>(50)</sup> This evolution may entail the operation of a centralized market for managing generating unit commitment, and ancillary and network congestion. A Poolco-type entity, with power exchanges and transmission-network management either combined or separated, would be responsible for these activities. A spot-futures market for electricity would likely develop under such an institutional arrangement. Contracts-for-differences (CFDs), where buyers and sellers can hedge against volatile prices, would also be available.<sup>(51)</sup>

Under the *status-quo* scenario, it is assumed over the near term that utilities would continue to primarily sell electricity to retail customers from their own generating units at historical, embedded costs. For example, if a utility has the choice of purchasing wholesale power at 2 cents per kWh or generating power from its rate-based generating unit with an embedded cost of 8 cents per kWh, it would choose the latter. The one rationale for this assumption is that electric utilities are currently doing just that -- i.e., forgoing lower-cost wholesale power for internal generation. Although not in the best interest of retail consumers, this behavior allows utilities to continue recovering their embedded costs. Replacing internal generation with wholesale power, even when the latter is lower-cost, could jeopardize a utility's legal right (pursuant, for example, to the used-and-useful criterion) to full recovery.

The fundamental difference in the *status-quo* and retail-competition scenarios focuses on the market role of retail customers. Under the *status quo*, the utility acts as a monopoly intermediary between generators and other wholesale service providers and the retail customer. In other words, the utility acts as the "designated" agent forced upon retail customers. This arrangement *per se* poses no problem; the difficulty arises when the utility's interests differ from those

of retail customers. In today's environment, this "interests" discrepancy is exemplified by the fact that utilities tend to favor internal generation over wholesale power, even when higher costs are passed through to retail customers.<sup>(52)</sup>

Under retail competition, customers would have four options; they could

(1) continue to purchase bundled-rates service (e.g., recourse service) from their local utility, (2) negotiate a bilateral (physical or financial) contract with a generator,

(3) assign an aggregator or some kind of marketer to purchase different services, or

(4) purchase spot power directly from the power exchange or Poolco. In a fully-developed retail-competition world, other-than-local-utility services could include ancillary services, billing, metering, and information services. Retail competition does not imply that customers acquiring electric energy from another party would completely bypass the local utility. We expect, similar to the case of natural gas, that virtually all customers opting for unbundled service would continue to receive distribution service from the local utility.<sup>(53)</sup> Responsibility for maintaining the distribution system and assuring reliable local delivery service would still remain with the local utility.

In terms of regulatory intervention, under either retail competition or the *status quo*, price regulation of transmission and distribution services would continue. As discussed later, the FERC has sole authority over the pricing of transmission services, while states would have authority over distribution services. (The exception to this occurs in the case where a rural electric cooperative or municipality owns transmission lines that are not FERC jurisdictional.) Under retail competition, distribution services would be unbundled and priced on the basis of stand-alone cost. Some form of performance-based regulation (PBR) may be applied to give utilities a greater incentive to keep costs down.<sup>(54)</sup> As the sole provider of distribution service, the local utility would have an obligation to provide this service at a reliable and a safe level. Thus, its incentive to maintain the distribution system should remain unchanged.

## Comparison of a Restructured Electric Power Industry

### and the Wheat Market

A comparison of the electric power market and the wheat market reveals both similarities and differences. First, both electric energy (kWhs) and wheat are commodities in the sense that they are homogenous economic goods that can be transacted in competitive markets. Evidence of this is the fact that both are consummated in futures markets. Futures markets require spot markets, where short-term transactions take place under transparent-price conditions. Normally, the price will be driven to marginal cost at the level where demand equals supply. Unlike wheat, whose price is determined in the international marketplace, the price of electric energy in Kansas will largely hinge on regional market conditions.

The value of electric energy and wheat to end-use consumers depends on how these commodities are combined with other commodities and services to form a product that is directly consumed. To the consumer, for example, one kWh of electric energy at the generation level is the same as another kWh of electric energy, just as the different farmers producing one bushel of wheat are undistinguishable. But the kWh of electric energy that end-use consumers purchase or the bushel of wheat embedded in different food products, has a varying value depending on how it is bundled with other commodities and services.<sup>(55)</sup> Electricity consumers, for example, place higher value on electric service that is more firm and less unpredictable in terms of price. As a general rule, the more a commodity is combined with other value-added services, the greater the value consumers will place on the end-use product or service.

Relative to the wheat market, the electric power market, at least for the foreseeable future, is less conducive to competitive forces in the delivery function. Electric transmission and distribution are generally regarded (although perhaps incorrectly) as natural monopolies that will require some form of regulatory control. Under retail competition, the FERC will continue to regulate transmission services (at least for investor-owned utilities) and the state public utility commissions will continue to regulate distribution services.<sup>(56)</sup> In the current context, it is misleading to talk about a totally deregulated electric power industry; the current debate is over partially deregulating the industry and

introducing greater competition into certain segments of the industry.

Compared to the wheat market, the electric power industry requires more centralized control of various market functions. At least that is the current thinking of most (but not all) industry experts. The view that an ISO and power exchange (as separate units or one unit), should have the exclusive right to physically manage unit commitment, ancillary services and transmission-network congestions is currently regarded by many industry observers as the most efficient *modus operandi* for wholesale transactions.<sup>(57)</sup>

Finally, the question arises: *How should Kansas regard electric energy as a potentially tradable commodity?* Should Kansas, for example, encourage the export of electric energy to other states or other regions within the state? Certainly, in the case of wheat, Kansas farmers benefit when they are able to sell to buyers in other states and countries throughout the world. Exporting wheat from Kansas is widely regarded as beneficial to both farmers and the state as a whole.

Some critics of retail competition argue that a state with low-cost electric energy should discourage exports, reasoning that in-state electricity consumers would otherwise pay higher prices.<sup>(58)</sup> Such a position, however, would be detrimental to the well-being of Kansas. First, low-cost electric energy should be regarded as a resource whose value to Kansas increases with the size of the market within which it can be sold. Policymakers in Kansas would not think of restricting the market for wheat produced within the state. Why should policymakers take a different position when it comes to electric energy? From an economic perspective, any commodity or service should be sold to whoever values it the most. Not only does society as a whole benefit but producers also gain from receiving a potentially higher price or from selling more of their commodity or service. Prices to in-state consumers may or may not increase.<sup>(59)</sup> It can be argued that by liberalizing electricity markets in terms of allowing imports and exports, in-state electricity consumers would have access to a greater number of generators. As discussed elsewhere in this report, retail competition would provide Kansas utilities with stronger incentives to keep their costs down and to be responsive to customer demands. In sum, a policy that attempts to restrict the trading of electric energy is ill-advised, contrary to good economics and the overall well-being of Kansas.

### Pricing Methods

Under retail competition, electric services would be unbundled and separately priced. Some of these services, namely those provided under competitive conditions, would ultimately be deregulated. Other services would continue to be regulated but they would probably be subject to different pricing principles from those applied today. Real-time pricing and other pricing methods applying marginal-cost principles should become more prevalent as the industry moves toward competition.<sup>(60)</sup>

In the world of retail competition, it is expected that (1) less risks will be allocated to customers, (2) utilities will have opportunities to earn higher profits than what they do currently, and (3) utilities will be better able to "flex" their prices in response to actual market conditions. All of these outcomes are compatible with a competitive market environment.

In line with marginal-cost pricing, consumers could very well see an increase in access charges for distribution service. Higher access charges would be the result of reallocating some of the utility's fixed costs, which presumably are partially recovered today in the usage (kWh) components of utility bills. Utilities would be more constrained to recover the fixed portion of their distribution costs in a separate access charge.<sup>(61)</sup>

A two-part tariff is compatible with efficient pricing in that an access charge would recover the fixed costs of providing customer access to the distribution system, and a usage (kWh) charge would recover usage-sensitive costs.<sup>(62)</sup> Although some consumers, namely those who consume relatively small amounts of electricity, may be worse off, other customers would be better off.<sup>(63)</sup> Overall, economic efficiency would improve.

The "equity" aspect of electricity prices in a retail-competition world certainly warrants consideration by state policymakers. If all electricity consumers enjoy lower prices, then the "equity" issue becomes academic. A question

may still remain if some consumers receive lower price declines than other consumers. But even here, it cannot be said that retail competition would cause some consumers to benefit at the expense of others.

The more challenging policy question arises when some retail consumers see higher prices that can be directly attributed to retail competition. As argued by some interest groups and analysts, for example, prices to small retail customers may rise subsequent to the introduction of retail competition.<sup>(64)</sup> On the surface, it appears that such an outcome would be inequitable: *Does not an action where some customers benefit at the expense of other customers seem unfair?* How can this statement be questioned?

In response, if certain customers were being subsidized prior to retail competition, then the prices in the previous regime can be characterized as inequitable. The reason for this is that these customers were not paying their share of the costs they imposed on the utility and society. If retail competition eliminates subsidies, then one could argue that prices become less inequitable, even though the beneficiaries of the previous subsidy now have to pay higher electricity prices. If some of these customers are low-income households, special consideration could be given to compensate them by creating an assistance program that offsets the higher electricity prices that they may have to pay.

Inequitable prices become more clear when cost shifting occurs. The probability of cost shifting increases by the degree of *variability* of competition across the different markets within which a utility sells its services. The situation where only large customers have direct access to wholesale markets would create an environment conducive to cost shifting. The utility would be inclined to allocate costs to markets where it faces less competition.<sup>(65)</sup> The resultant prices may be described as inequitable in the sense that "captive" customers (i.e., customers who are denied direct access) are paying for costs incurred by customers who are given opportunities to choose their supplier.

### Effect on Wholesale Power Markets

Retail competition can help to bolster competitive forces in wholesale or upstream markets. The argument that retail competition should wait until wholesale markets become more competitive can be turned around: *Retail competition can assist in accelerating competition in wholesale markets.*

One potential problem in continuing to grant utilities monopoly power in supplying retail electric energy is that they are more likely to engage in abuses. Abuses is defined here as anticompetitive practices that reduce the potential benefits of competition to consumers. Competitively-priced generation only produces benefits to retail consumers when that power becomes available to them at a price that is not inflated because of abuses.

Customer choice would result in the unbundling of retail services. Some services, such as electric energy, would likely become subject to intense competitive pressures. The prices for these services should be transparent to retail consumers. Therefore, price inflation via anticompetitive practices such as affiliate (self-dealing) abuse would tend to financially harm the utility by eroding its sales.<sup>(66)</sup>

In sum, the ability of the local utility to engage in anticompetitive practices such as cost shifting diminishes with the presence of stronger competitive forces "downstream." Retail competition would force the local utility to compete directly with other service providers for the business of end-use customers. Only when the utility provides lower-price or higher-quality service would it be able to compete successfully.

## **POTENTIAL INVESTOR-OWNED STRANDED COST IN KANSAS**

This section examines the potential for stranded cost occurring as a result of a competitive generation market for investor-owned utilities in Kansas. This analysis is conducted for only the major investor-owned utility plants in the state. Stranded costs or competitive losses are defined here as generation costs that are currently recovered in utility rates, but may not be recovered in a competitive market. These potential losses may be offset by a company's competitive gains when the market revenue exceeds generation costs. These costs include both variable costs, that is,

costs that vary with the amount of power produced, and capital or fixed costs invested in power-producing facilities. The method used here first estimates the future revenue stream in a competitive market based on a recent price forecast and then deducts operating, maintenance, fuel, depreciation, and taxes to estimate operating income. A net present value of the company's cash flow is then calculated and net book value of the plant is deducted to determine an estimated net increase or decrease of the firm's generation net worth in a competitive market during the period examined (1998 through 2015).

The price forecasts used in the stranded cost estimation are from the U.S. Department of Energy, Energy Information Administration<sup>(67)</sup> (EIA). These forecasted prices are based on marginal operating costs for multiple time periods, capacity constraints, average cost of transmission and distribution services, and consumer response to changes in price. EIA calculated two price scenarios for thirteen different regions in the country. One scenario is the "Moderate Consumer Response Case," which are average annual competitive prices based on competition-induced reduction in nonfuel operations and maintenance, general and administrative costs, and moderate consumer response to time-of-use prices. The other scenario is the "High Efficiency Competitive Case," which are average annual competitive prices based on greater reductions (than the moderate scenario) in nonfuel operating and maintenance costs, capital cost reductions, and improved operating efficiencies (lower heat rates). The price forecasts used in this analysis are EIA's projections for the Southwest Power Pool (SPP). The forecasted prices and the percentage price change from 1995 average levels are shown in Table 5. Based on this regional price forecast, Kansas customers would, overall, see a benefit from lower competitive market prices than the current average price currently paid by all customer groups.

Detailed plant level data is also used in the analysis. This information is from the Federal Energy Regulatory Commission's Form 1, compiled and organized by the Utility Data Institute.<sup>(68)</sup> This includes data on steam-electric plants from more than 100 electric power companies and 481 power plants in 1995. For Kansas, detailed information was available for eight major power plants located in the state. These plants and some basic characteristics are described in Table 6. These plants account for almost two thirds of the total electric utility industry capacity in Kansas and 87 percent of the investor-owned generating capacity in the state. Together they generated approximately 84 percent of the state's total electric utility industry generation production (kilowatthours) and more than 96 percent of the state's investor-owned generation. Thus, they represent the major sources of generation by investor-owned utilities in the state. In 1995, these plants were mostly owned and operated by Western Resources, Inc. and Kansas City Power and Light.

The three largest power plants in Kansas are among the lowest total-variable-cost plants (this includes fuel, labor, and other operations and maintenance costs) in the SPP region. Of these, one is a nuclear power plant (Wolf Creek) and two are coal plants (La Cygne and Jeffrey). Of the fifty-seven plants in the SPP region, these three

TABLE 5				
PROJECTED PRICE AND PERCENTAGE DECREASE				
FROM ACTUAL 1995 KANSAS PRICE				
(all customer classes, 1995 dollars)				
Projected Prices				
Year	Moderate Scenario (¢/kWh)	Percentage Price Decrease	High Efficiency Scenario (¢/kWh)	Percentage Price Decrease
1998	5.67	13.6	5.53	15.7

1999	5.67	13.6	5.45	16.9
2000	5.75	12.3	5.45	16.9
2001	5.71	13.0	5.40	17.7
2002	5.79	11.7	5.38	18.0
2003	5.78	11.9	5.40	17.7
2004	5.65	13.9	5.14	21.6
2005	5.47	16.6	5.08	22.6
2006	5.42	17.4	5.04	23.2
2007	5.43	17.2	4.98	24.1
2008	5.35	18.4	4.92	25.0
2009	5.28	19.5	4.86	25.9
2010	5.27	19.7	4.85	26.1
2011	5.28	19.5	4.83	26.4
2012	5.19	20.9	4.79	27.0
2013	5.13	21.8	4.72	28.0
2014	5.18	21.0	4.76	27.4
2015	5.16	21.3	4.77	27.3

Source: Energy Information Administration, *Electricity Prices in a Competitive Environment: Marginal Cost Pricing of Generation Services and Financial Status of Electric Utilities, A Preliminary Analysis Through 2015*, DOE/EIA-0614 (Washington, D.C.: Energy Information Administration, August 1997).

TABLE 6  
POWER PLANTS USED IN THE ANALYSIS

Plant	Operator/Owner(s)	Pct Ownership	Megawatts (MW)	Fuel Used
Gordon Evans	Kansas Gas & Elec	100%	526	Natural Gas
Hutchinson	Western Resources	100%	252	Natural Gas
Jeffrey	Western Resources	64%	2,160	Coal
	Kansas Gas & Elec	20%		
	UtiliCorp United Inc	16%		
La Cygne	Kansas City Pwr & Lt	50%	1,619	Coal

	Kansas Gas & Elec	50%		
Lawrence (KS)	Kansas Pwr & Lt	100%	567	Coal
Murray Gill	Kansas Gas & Elec	100%	348	Natural Gas
Tecumseh	Western Resources	100%	231	Coal
Wolf Creek (KS)	Wolf Creek Nuclear	0%	1,236	Uranium
	Kansas Gas & Elec	47%		
	Kansas City Pwr & Lt	47%		
	Kansas Elec Power Coop	6%		

Source: Utility Data Institute, *Measuring the Competition at the Plants: Allocating Costs for Steam-Electric Generation - 1995*, UDI-5163-97 (Washington, D.C.: Utility Data Institute, May 1997).

plants are among the top eight lowest total-variable-cost plants in the region. Table 7 lists the ten lowest total-variable-cost plants in the SPP region. These three plants comprise almost 63 percent of the total investor-owned capacity in the state.

The methodology used here to estimate potential stranded costs, begins by first calculating market revenue based on the EIA forecasted prices, subtracting the costs of generating and delivering power to customers, and then subtracting depreciation expense and taxes. The result is either a positive operating income and net cash flow (operating income plus depreciation expense) that can be used by the company for new capital, debt service, or profit or a competitive loss, or a net operating loss. All plants

Plant	City	State	Operator/Owner(s)	Pct Ownership	Megawatts (MW)	Fuel	Total Variable Cost
Sooner	Red Rock	OK	Oklahoma Gas & Elec	100.00%	1138	Coal	0.97
Muskogee	Muskogee	OK	Oklahoma Gas & Elec	100.00%	1891	Coal	1.08
Iatan	Weston	MO	Kansas City Pwr & Lt	70.00%	726	Coal	1.11
			St Joseph Lt & Pwr	18.00%			
			Empire District Elec Co.	12.00%			
Wolf Creek (KS)	Burlington	KS	Wolf Creek Nuclear	0.00%	1236	Uranium	1.19
			Kansas Gas & Elec	47.00%			
			Kansas City Pwr & Lt	47.00%			

			Kansas Elec Power Coop	6.00%			
Arkansas One	Russellville	AR	Entergy Operations Inc	0.00%	1845	Uranium	1.37
			Arkansas Pwr & Lt	100.00%			
La Cygne	La Cygne	KS	Kansas City Pwr & Lt	50.00%	1619	Coal	1.47
			Kansas Gas & Elec	50.00%			
Pirkey	Hallsville	TX	Southwestern Elec Pwr	85.94%	721	Coal	1.48
			Northeast Texas Elec Coop	11.72%			
			Oklahoma Muni Pwr	2.34%			
Jeffrey	St. Marys	KS	Western Resources	64.00%	2160	Coal	1.52
			Kansas Gas & Elec	20.00%			
			UtiliCorp United Inc	16.00%			
Northeastern 3&4	Oologah	OK	Pub Serv of Oklahoma	100.00%	945	Coal	1.56
Waterford 3	Kilona	LA	Entergy Operations Inc	0.00%	1200	Uranium	1.79
			Louisiana Pwr & Lt	100.00%			
Source: Utility Data Institute, <i>Measuring the Competition at the Plants: Allocating Costs for Steam-Electric Generation - 1995</i> , UDI-5163-97 (Washington, D.C.: Utility Data Institute, May 1997).							

owned by the companies are analyzed together as a group. This allow a "netting" of plants that may have total costs exceeding market revenue to be offset by those plants with a net competitive gain. As a first cut, any plant that has a *variable* cost that exceeds the market price would be a candidate for early shutdown (unless, of course, costs could be reduced or the price is expected to increase). None of the plants examined in this data set, however, are in a shutdown situation.

Tables 8 and 9 are the results of the analysis for Western Resources and Kansas City Power & Light, respectively. Table 10 combines both companies into one, as would occur if the proposed merger by the two companies is approved by state and federal regulators. It is assumed that the 1995 costs and the total amount of power generated at each plant will both remain steady throughout the years forecasted. While both are unlikely assumptions, these assumptions are made to be conservative and not anticipate any cost decrease or demand increase. The market revenue is calculated by using each year's EIA price forecast multiplied by the total generation. Total variable cost is the sum of fuel, labor, and other operating and maintenance costs for all plants. Transmission and distribution and administrative costs are based on a fixed proportion (33 percent<sup>(69)</sup>) of the 1995 price for investor-owned power in Kansas and are also assumed to remain steady throughout the period. Depreciation expense is the total reported for all plants for the year (given the current book costs, at this annual rate, all but one plant will be fully depreciated by the end of the analysis period). The operating income is then calculated for each scenario by subtracting the costs from the market revenue. Taxes are then deducted based on 40 percent of the operating income (a slightly higher rate than actual reported taxes paid) and an after-tax operating income is then calculated. Net cash flow is calculated by adding back in the depreciation

TABLE 8  
POTENTIAL INVESTOR-OWNED "STRANDED COSTS"\*  
FOR WESTERN RESOURCES, INC.  
(1995 dollars in thousands, except last two columns)

Year	Market Revenue		Total Variable Gen Cost	T&D and Admin. Cost	Dep Expense	Before tax		After tax		Net Cash (tot Moderate
	Moderate	High Eff				Operating income		Operating Income		
						Moderate	High Eff	Moderate	High Eff	
1998	1,204,419	1,174,681	340,006	446,527	74,561	343,325	313,586	205,995	188,152	280,556
1999	1,204,419	1,157,687	340,006	446,527	74,561	343,325	296,592	205,995	177,955	280,556
2000	1,221,413	1,157,687	340,006	446,527	74,561	360,318	296,592	216,191	177,955	290,752
2001	1,212,916	1,147,066	340,006	446,527	74,561	351,821	285,971	211,093	171,583	285,654
2002	1,229,910	1,142,818	340,006	446,527	74,561	368,815	281,723	221,289	169,034	295,850
2003	1,227,786	1,147,066	340,006	446,527	74,561	366,691	285,971	220,014	171,583	294,576
2004	1,200,171	1,091,837	340,006	446,527	74,561	339,076	230,742	203,446	138,445	278,007
2005	1,161,935	1,079,092	340,006	446,527	74,561	300,841	217,997	180,504	130,798	255,066
2006	1,151,314	1,070,595	340,006	446,527	74,561	290,220	209,500	174,132	125,700	248,693
2007	1,153,439	1,057,850	340,006	446,527	74,561	292,344	196,755	175,406	118,053	249,968
2008	1,136,445	1,045,105	340,006	446,527	74,561	275,350	184,010	165,210	110,406	239,771
2009	1,121,576	1,032,359	340,006	446,527	74,561	260,481	171,265	156,289	102,759	230,850
2010	1,119,452	1,030,235	340,006	446,527	74,561	258,357	169,141	155,014	101,484	229,575
2011	1,121,576	1,025,987	340,006	446,527	74,561	260,481	164,892	156,289	98,935	230,850
2012	1,102,458	1,017,490	340,006	446,527	74,561	241,363	156,395	144,818	93,837	219,379
2013	1,089,713	1,002,621	340,006	446,527	66,824	236,356	149,264	141,813	89,558	208,637
2014	1,100,334	1,011,118	340,006	446,527	66,824	246,977	157,760	148,186	94,656	215,010
2015	1,096,085	1,013,242	340,006	446,527	66,824	242,728	159,885	145,637	95,931	212,461

\*Note: This is an estimate of the potential stranded costs of power plants in Kansas, some power is sold out-of-state.

Source: Authors' calculation based on Utility Data Institute (UDI) data.

TABLE 9  
POTENTIAL INVESTOR-OWNED "STRANDED COSTS"\*  
FOR KANSAS CITY POWER AND LIGHT  
(1995 dollars in thousands, except last two columns)

Year	Market Revenue		Total Variable Gen Cost	T&D and Admin. Cost	Dep Expense	Before tax		After tax		Net Cash Fl (total)	
	Moderate	High Eff				Operating income		Operating Income		Moderate	High Eff
						Moderate	High Eff	Moderate	High Eff		
1998	478,748	466,927	111,183	177,491	42,956	147,118	135,297	88,271	81,178	131,226	12



2004	1,677,230	1,525,834	451,189	624,019	117,517	484,505	333,109	290,703	199,866	408,220
2005	1,623,796	1,508,023	451,189	624,019	117,517	431,072	315,298	258,643	189,179	376,160
2006	1,608,954	1,496,149	451,189	624,019	117,517	416,229	303,424	249,737	182,054	367,254
2007	1,611,922	1,478,338	451,189	624,019	117,517	419,197	285,613	251,518	171,368	369,035
2008	1,588,174	1,460,526	451,189	624,019	117,517	395,449	267,801	237,269	160,681	354,786
2009	1,567,394	1,442,715	451,189	624,019	117,517	374,669	249,990	224,801	149,994	342,318
2010	1,564,425	1,439,746	451,189	624,019	117,517	371,701	247,021	223,020	148,213	340,537
2011	1,567,394	1,433,809	451,189	624,019	117,517	374,669	241,084	224,801	144,651	342,318
2012	1,540,677	1,421,935	451,189	624,019	117,517	347,952	229,210	208,771	137,526	326,288
2013	1,522,866	1,401,155	451,189	624,019	102,042	345,616	223,905	207,370	134,343	309,411
2014	1,537,709	1,413,029	451,189	624,019	102,042	360,459	235,780	216,275	141,468	318,317
2015	1,531,771	1,415,998	451,189	624,019	102,042	354,522	238,748	212,713	143,249	314,755

\*Note: This is an estimate of the potential stranded costs of power plants in Kansas, some power is sold out-of-state.

Source: Authors' calculation based on Utility Data Institute (UDI) data.

expense to after-tax operating income. Net cash flow is calculated on a cent-per-kilowatt-hour basis as well.

Given the assumptions of cost and demand, the results of the analysis show that for both price scenarios, for all years 1998 through 2015, and for both the separate and combined companies, there would be no net competitive operating loss. Rather, there are net competitive gains projected for each year. In Tables 11, 12, and 13 the net present values of the cash flows are calculated for each scenario, again for the separate and combined companies, and at three different discount rates. While the values vary considerably by discount rate, a similar estimate would be used to determine an approximate market price for the sale of these assets today. The tables also show the results of subtracting the net book values for all the plants for each company from the net present values. This provides an estimate of the net competitive gain or loss from current generation assets.

These results show, based on this analysis, that Western Resources and the combined Western Resources and Kansas City Power & Light have no projected net generation stranded cost in Kansas. Kansas City Power & Light does, for the high efficiency price scenario at the two higher discount rates, show a net loss when the net book value is deducted from the net present value of cash flow. However, given the magnitude of the net cash flow, the uncertainty in these estimates, and the number of years in the period, this is a relatively negligible loss. Another important consideration is that Kansas City Power & Light owns and operates generation facilities in Missouri as well.<sup>(70)</sup> One of these plants, Iatan (see Table 7), of which Kansas City Power & Light owns 70 percent, is the third lowest-cost plant in the SPP region. In terms of *total*

<p>TABLE 11 NET PRESENT VALUE OF CASH FLOW AND NET BOOK VALUE FOR WESTERN RESOURCES, INC. (thousands of dollars)</p>
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Net Present Value of Cash Flow:		
Discount Rate	Moderate	High Eff
@ 8%	2,467,124	2,043,308
@ 6%	2,823,922	2,325,363
@ 4%	3,268,609	2,675,522
Net Present Value - Net Book Value:		
@ 8%	672,500	248,684
@ 6%	1,029,298	530,739
@ 4%	1,473,985	880,898
Source: Authors' calculation based on Utility Data Institute (UDI) data.		

TABLE 12 NET PRESENT VALUE OF CASH FLOW AND NET BOOK VALUE FOR KANSAS CITY POWER AND LIGHT (thousands of dollars)		
Net Present Value of Cash Flow:		
Discount Rate	Moderate	High Eff
@ 8%	1,163,844	995,380
@ 6%	1,333,792	1,135,618
@ 4%	1,545,856	1,310,108
Net Present Value - Net Book Value:		
@ 8%	14,212	(154,252)
@ 6%	184,159	(14,014)
@ 4%	396,224	160,476
Source: Authors' calculation based on Utility Data Institute (UDI) data.		

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TABLE 13  
NET PRESENT VALUE OF CASH FLOW

AND NET BOOK VALUE

FOR MERGED WESTERN RESOURCES, INC.

AND KANSAS CITY POWER AND LIGHT

(thousands of dollars)

Net Present Value of Cash Flow:		
Discount Rate	Moderate	High Eff
@ 8%	3,630,968	3,038,688
@ 6%	4,157,714	3,460,982
@ 4%	4,814,465	3,985,630
Net Present Value - Net Book Value:		
@ 8%	686,712	94,432
@ 6%	1,213,457	516,725
@ 4%	1,870,209	1,041,373
Source: Authors' calculation based on Utility Data Institute (UDI) data.		

plant costs (fixed and variable), Iatan is less than 2 cents per kWh. This plant alone would more than offset the net losses projected for the company's Kansas generation facilities.

While the overall analysis shows, for the most part, a net gain for the companies' Kansas generating plants, some individual power plants may encounter a possible competitive loss when all costs (variable and fixed) are considered. When both variable and fixed costs are considered, three plants will show a competitive loss based on the average annual forecasted price. Two of these plants are small to intermediate size natural gas plants, Murray Gill and Hutchinson (both owned by Western Resources). However, in 1995 Hutchinson only operated in four summer months of June through September and over the five previous years was also only used during summer months. Murray Gill is used more often through the year but its peak use is also during the summer. Therefore, these plants are operating primarily at peak times when the higher seasonal rate applies.<sup>(71)</sup> Also, total generation from the plants are relatively low, so the losses are easily offset by the base-load plants. For example, the net loss from these plants is only about 1.3 percent of the net competitive gain from all the plants in 1998 under the moderate scenario.

The third plant projecting a net loss, Wolf Creek, accounts for the majority of the competitive losses (38 percent of the combined plant net competitive gain in 1998 under the moderate scenario) and warrants further explanation. These losses are due to the relatively high fixed costs of the plant (combined net book cost in 1995 was

more than \$2 billion), not the operating cost. The plant has a very low operating cost (1.19 cents/kWh) which makes it economical to continue to operate. This low operating cost makes Wolf Creek the third lowest-cost nuclear power plant

to operate in the country, the fourth lowest-cost power plant of all types of plants in the SPP region, and twelfth lowest-cost plant of all types in the country (of the 481 plants in the data base). Also, primarily because of two large and low-cost coal plants, Jeffrey (84 percent owned by Western) and La Cygne (50 percent owned by Western Resources and 50 percent owned by Kansas City Power & Light), the high fixed cost of Wolf Creek is offset by the competitive gains of the other five plants. Therefore, the investment costs of Wolf Creek are more than covered by this offset. Wolf Creek is also projected to contribute the second highest revenue of the eight plants, after Jeffrey. Clearly, ignoring sunk investment costs and based on its operating costs, Wolf Creek will be a significant factor in its owners' competitive strategy in the future.

Any state stranded-cost policy should not focus on an individual plant or other asset that may face a competitive loss when all costs are included. If it is determined that customers are required to pay for competitive losses, they should likewise benefit from any competitive gains of the company. Thus, under such a policy, compensation should only be considered when there is a *net* competitive loss. Given the above analysis, both Western Resources and Kansas City Power & Light are likely to be net beneficiaries in a competitive market, compensating them for a loss at one plant due to its fixed costs and ignoring the substantial gain at others would be unfair to its customers. Compensating the company for this fixed costs would also, because of the low operating cost of the plant, give the companies a substantial advantage over its competitors that would be required to recoup both their fixed and operating costs with the competitive price.

## GUIDELINES

Retail competition will engender major changes in how regulation should oversee the activities of electric utilities and in how electric utilities conduct their business. On the one hand, retail competition will reduce the role of regulators in performing certain functions. On the other hand, especially during the transition, regulatory intervention may be needed to make sure that electricity markets develop competitively and not in a direction where incumbent utilities will be able to engage in anticompetitive practices. Consequently, during the transition, a host of issues will need to be addressed to help assure that retail competition benefits consumers and society as a whole.

Guidelines for retail competition reflect principles from which policy directives can be established. One strategy is for the Kansas Legislature to develop guidelines that the KCC would be responsible to execute. Because retail competition would have a wide-sweeping effect on the electric power industry in Kansas, many of the current regulatory practices and policies would need to be revisited. Otherwise, leaving intact existing regulatory rules could have a debilitating effect on the benefits of retail competition in Kansas.<sup>(72)</sup>

Ten general guidelines for implementing retail competition in Kansas are presented below:

*All retail customers should have choice.* Depriving certain customers of choice precludes them from enjoying the potential benefits offered by restructuring of the electric power industry. In addition, cost shifting would become more likely, harming those customers who remain captive to the local utility. Customer aggregation would help in making it possible for small customers to obtain more attractive prices and terms that an individual customer could not get alone.

*True customer choice requires the availability of different unbundled services offered by various providers.*

Unbundling a greater number of services should make retail electricity markets more competitive. Over time, retail competition should evolve to where a number of services, in addition to electric energy, are being offered by different providers at stand-alone prices. It is conceivable that many of these services can be sold under competitive conditions.<sup>(73)</sup> These services can be repackaged and sold by a market aggregator.<sup>(74)</sup> Unreasonable regulatory barriers should not constrain the entry of new service providers.<sup>(75)</sup> Barriers only serve to benefit incumbent firms at the expense of consumers.

*Quality of electric service should not be jeopardized.* This should not imply that all consumers would receive the same quality of service that they currently do. Some consumers would choose lower quality service if they are compensated

with lower prices. The overall quality of service may decrease, and correctly so, if it is true that under the existing regime consumers are receiving excessive quality of service in the sense that they would be willing to sacrifice some quality for lower prices.<sup>(76)</sup> If regulators want to assure that service quality does not fall below a specified level, they can impose penalties on utilities who fail to meet the minimum standard.

Cost-shifting should not be allowed to harm any consumer who is unable to choose among different service providers. Under retail competition, cost reallocation should only occur when compatible with a more economically rationalized rate design. Consumers who currently receive subsidies may face higher prices for certain services; but from an economic perspective, this would not be undesirable: the problem of some customers paying below-cost prices would be mitigated. Cost reallocation that results from the utility exploiting its market power for certain customers is another matter that should be avoided. For example, charging residential customers higher prices because they do not have choice while other retail customers do, exemplifies a form of cost shifting. As mentioned above, allowing choice for all retail customers represents the appropriate response to this problem. The greater the scope of retail competition, in terms of the number of eligible customers and unbundled services, the less likely cost shifting would occur.

The local utility should be obligated to provide services for which it continues to have monopoly power. For services provided in a competitive setting, the local utility should no longer have an obligation to serve. Historically, obligation-to-serve rules were imposed as a restraint on monopoly power. For those services, for example, electric energy, where the local utility no longer has monopoly power, legislators or regulators would need to redefine the local utility's obligation to serve. For services where the local utility still has a monopoly position, the obligation to serve should remain.

Utilities should be compensated for any service they continue to provide or any costs imposed on them by third parties. If, for example, customers purchase electric energy from a third party but continue to receive other services from the local utility (e.g., distribution, transmission, metering, billing), the utility should receive "fair" compensation from these customers. Underpricing these services represents a form of cost shifting that transmits a false signal to customers and hurts other customers.

All providers of unbundled services should have equal opportunities. This means that all providers should operate on a competitively neutral playing field. When such a condition fails to exist, it becomes extremely difficult if not impossible to determine whether electric services are being supplied by the "best" providers. As an essential feature of a properly functioning efficient market, all service providers should conform to the same rules.

Regulatory rules for individual unbundled services should be commensurate with the market environment within which they are transacted. As a general rule, services for which the local utility no longer has monopoly power should be deregulated. Other services, such as distribution, would continue to be regulated but perhaps subject to other than rate-of-return regulation (e.g., price caps).<sup>(77)</sup>

Anticompetitive behavior should be minimized. Such behavior removes the benefits of retail competition from consumers. Self-dealing abuses, cost shifting, and discriminatory access to essential facilities are all examples of anticompetitive behavior that hurt consumers at the benefit of utilities. Mitigation of anticompetitive practices should be an important function of regulation under a retail-competition regime.

Customer information and education should be made available. Without adequate information, consumers would more likely make bad choices or continue to do what they did before. Consumers in any market require a minimum amount of information to take advantage of and benefit from new market opportunities. The KCC can play a vital role in assuring that consumers know the new rules regarding consumer rights and responsibilities, know about new market opportunities, and have access to information needed for well-informed decisionmaking.

In sum, these guidelines should help to increase the benefits of retail competition for Kansas by satisfying three conditions. First, *all* retail customers would have a chance to directly benefit from an open electricity market. Second, regulation would still control the prices of monopoly services and assume an important role in monitoring and remedying anticompetitive practices. Third, all new entrants and incumbent firms would have an equal opportunity to participate.

## DISCUSSION OF SPECIFIC ISSUES

### Jurisdictional Matters: FERC and the States<sup>(78)</sup>

Order 888 requires all utilities that are subject to the FERC's jurisdiction and own, operate, or control wholesale transmission facilities to file nondiscriminatory open-access transmission tariffs. These tariffs apply to services offered to third parties that are comparable to the utilities' own uses of their transmission facilities. While the FERC can provide open-access rules for wholesale transmission and can also grant wholesale stranded-cost recovery on its own authority, thorny issues arise as to where the state/ federal jurisdictional boundary lies in the situation of direct retail access and of municipalization or the retail-turned-wholesale customer. Order 888 provides a thorough discussion of these issues but refuses to draw any bright jurisdictional lines. The FERC continues to have jurisdiction over wholesale sales and wholesale transmission service. The FERC will decide whether a particular transaction is truly wholesale in nature, or whether it is a sham transaction.<sup>(79)</sup>

On the issue of whether the FERC has jurisdictional authority over retail transmission, the FERC concluded that it has clear authority under the Federal Power Act and case law to assert jurisdiction over unbundled retail transmission service (except in the case of rural electric cooperatives and municipalities owning transmission lines that are not FERC jurisdictional). The FERC noted that the Federal Power Act's section 201, on its face, gives the FERC jurisdiction over transmission service in interstate commerce without qualification. The Federal Power Act also provides, however, that the FERC's jurisdiction does not reach to distribution facilities. Specifically, Order 888 affirms that the FERC has exclusive jurisdiction to set the rates, terms, and conditions of the unbundled retail transmission component in interstate commerce. Pursuant to case law, the FERC contends that any unbundled retail transmission transaction is interstate in nature if it takes place on the interstate grid; that is, all such transactions except those taking place in Alaska, Hawaii, and a part of Texas. Once transmission facilities come under FERC jurisdiction, they are then subject to the FERC's open-access requirements. Thus, even though the FERC supports efforts by the state commissions to pursue procompetitive policies, once states have unbundled retail transmission service, those services become FERC jurisdictional.

The FERC contends, however, that it is in no way asserting jurisdiction over retail transmission directly to an ultimate customer, which, according to the FERC, by its very nature must be a bundled retail transmission service. Specifically, the FERC argued that when transmission is sold at retail as part and parcel of the delivered product called electric energy, the transaction is a sale of electric energy at retail. Under the Federal Power Act, the FERC's jurisdiction over sales of electric energy extends only to wholesale sales. But when a retail transaction is broken into two products that are sold separately (for example, by an electric energy supplier and a transmission supplier), the jurisdictional lines change. By unbundling retail transmission, the transmission service then involves only the provision of transmission in interstate commerce, which under the Federal Power Act is exclusively the jurisdiction of the FERC.

The FERC allows a state commission to refuse to provide open retail access to one or more or all of the customer groups. Indeed, the FERC makes it clear that it cannot order retail transmission directly to an ultimate customer, and that it in no way seeks to change state franchise areas or interfere with state laws governing retail marketing areas of electric utilities. Thus, it is up to the states to determine how to open the retail electricity market to competition.

When retail transmission becomes unbundled, the FERC will make a case-by-case determination of where the line is drawn between transmission and distribution facilities. Even so, state commissions can propose where to draw the line, based on seven local distribution indicators; and the FERC will give the state commission's proposal deference. The seven local distribution indicators are: (1) local distribution facilities are normally close to retail customers; (2) local distribution facilities are primarily radial in character; (3) power usually flows into local distribution facilities and rarely flows out; (4) power entering a local facility does not get reconciled or transported to another market; (5) power entering a local distribution system is consumed in a restricted geographical area; (6) meters are based at the

transmission/local distribution interface; and (7) local distribution systems are of reduced voltage.

The rates, terms, and conditions of unbundled retail transmission must be filed at the FERC. The FERC will defer to state commission recommendations regarding retail transmission and local distribution matters, provided that the state recommendations are consistent with the final rule. When states make such recommendations, the FERC expects the state commissions to specifically evaluate the seven local indicators, as well as other relevant facts that the state commissions believe are appropriate in light of the historical use of the particular facilities. The FERC will also entertain a utility's proposal concerning separations, that is the classification and/or cost allocation for transmission and local distribution facilities, provided that the utility consulted with state regulators before making its filing. The FERC expects that unbundled retail wheeling customers will generally take retail transmission service under the same FERC tariff as the wholesale transmission customers. If the unbundled retail transmission service occurs as a part of a state retail access program, however, the FERC will allow a separate tariff to accommodate the design and special demands of the state program in order to meet local needs. The only condition is that the separate tariff must be consistent with the FERC's open-access and comparability policies.

The FERC reiterates that nothing in its claim of authority over unbundled retail transmission or how to separate distribution and transmission facilities and costs is inconsistent with traditional state regulatory authority. The FERC believes that state commissions will still have authority over distribution and over what the FERC calls "the service of delivering electric energy to end users." State commissions will still have authority over (1) reliability of local service; (2) administration of integrated resource planning, including utility supply-side and demand-side (including DSM) decisions;

(3) utility generation and resource portfolios (including purchased power portfolios);

(4) generation and transmission siting; and (5) nonbypassable distribution or retail stranded-cost charges. As a part of this "service of delivering electric energy to end users" that the FERC creates for state commissions, the FERC contends that in the rare instance where no identifiable local distribution facilities exist, states will have jurisdiction in all circumstances over the service of delivering energy to end users.<sup>(80)</sup>

The FERC maintains jurisdiction over wholesale stranded costs. On the matter of retail stranded costs, the FERC determined that the states should assume sole responsibility for any costs stranded by retail wheeling or state direct-access programs. The FERC would only be available to provide relief for retail stranded costs if the state commission has no authority to address stranded costs at the time retail wheeling is required. Also, when state commissions order retail stranded-cost recovery, the FERC expects the recovery to be through a retail charge or mechanism, not through FERC-jurisdictional unbundled transmission. If, however, a state commission does not have authority under state law to resolve retail stranded costs as of the date of the retail customer's departure, the FERC will provide for retail stranded-cost recovery through an unbundled transmission rate. Further, in holding-company and other multistate utility situations, the FERC reserves the right to deal with cost shifting of disallowed stranded costs from one jurisdiction to another. The FERC would defer to "consensus" solutions by affected state commissions. If such a consensus cannot be reached, however, the FERC will determine the appropriate treatment of retail stranded cost. Given the presence of a regional holding-company affiliate in a particular state, that state commission may need to work with other state commissions on the stranded-cost issue.

Concerning the recovery of stranded costs caused by retail customers becoming wholesale customers (whether by municipalization or some other legal means), the FERC holds that, while both state commissions and the FERC have jurisdiction to address these costs, the FERC should be the primary forum for addressing the recovery of these stranded costs. The FERC views these stranded costs as primarily wholesale in nature, because they are a result of wholesale transmission access. If not for the ability of the new wholesale entity to reach another generation supplier through the FERC-filed open-access transmission tariff, such costs would not be stranded. To the extent that any state permits recovery from a departing customer, the FERC proposes to deduct that stranded-cost recovery from what it otherwise will allow.

If states choose to allow direct retail access, the major jurisdictional problem that they will face under the FERC's Order 888 will be the loss of state jurisdiction over retail transmission. By narrowly interpreting the "savings" provisions of the Energy Policy Act as merely prohibiting the FERC from ordering transmission access, the FERC provides that state commissions will necessarily lose jurisdiction over unbundled retail transmission facilities.

To the extent that the FERC does show deference to the state commissions on where to draw the line between transmission and distribution, the state commissions will find the seven indicators problematic. The origin of the seven indicators was a joint meeting between staff members of various state commissions and the FERC that was conducted in conjunction with a NARUC meeting. What became the seven indicators were seven alternative methods that could be used to draw the line between transmission and distribution. Even a casual review of the seven indicators shows that several of them conflict. For example, the indicator that local distribution facilities are primarily radial in character might set the transmission-distribution boundary at the customer line extension; in contrast, the meter-based indicator would place the transmission-distribution boundary at the customer meter. The state commission might wish to decide which indicators to emphasize, perhaps with the objective of maintaining jurisdiction over as many facilities as possible.

The FERC statement that in every transaction there is a "delivery service" that is subject to state jurisdiction, might seem comforting; however, it is without statutory basis in the Federal Power Act, and might not be supported by the enabling statutes in many states. Each state commission will need to reexamine its own enabling statute to determine whether it can take advantage and make use of this jurisdiction concession.

### Anticompetitive Practices

Under retail competition, the local utility may be allowed to compete with third parties in the provision of electric energy. As has been the case for the natural gas industry, the local utility may have an interest in forming an affiliate to compete with other suppliers in its franchised area. A problem, whether for the natural gas, telecommunications, or electric power industries, arises whenever the incumbent utility has common ownership and control of competitive assets and regulated-monopoly assets that third-party suppliers must have access to. As an example, assume that the local electric utility, who is the monopoly supplier of distribution service, forms a marketing affiliate to compete with other suppliers of electric energy. Opportunities for abuse by the local utility are evident. First, it can discriminate against competing suppliers by overcharging them for network service and making it difficult for them to gain access to the network. One adverse outcome of this is that the affiliate can charge an inflated price to the local utility; this is a classic example of self-dealing abuse. Preferential treatment of an affiliate would have the effect of discouraging entry of new suppliers, driving up the costs of the affiliated utility, and of inflating the profits of the unregulated affiliate.

Second, the local utility can pass along a portion of the costs of its affiliate to customers of its monopoly service. This cost shifting merely reflects the incentive of a utility to cross-subsidize services sold in more competitive markets. As a general principle, when the level of competition across different markets varies widely, as in the example here, the umbrella (e.g., holding company) entity would be motivated to shift costs to its least-competitive markets.

Regulators have several ways to deal with these abuses; they can require structural or accounting separation, prescribe rules for affiliated transactions, establish reporting/accounting standards, or implement comprehensive "safeguard" rules.<sup>(81)</sup> These so-called "command-and-control" responses have met with limited success in the many cases where they have been applied by state public utility commissions.

Cost shifting, affiliate abuses, and cross-subsidies occur for essentially two reasons. First, regulators have less than perfect information on whether abusive or anticompetitive behavior exists. Consequently, a utility would have the ability to report costs that are improperly allocated to certain (e.g., "captive") customers. The second reason for cost shifting, affiliate abuses, and cross-subsidies is that a utility's prices are primarily dependent upon its reported costs. Thus, when a utility reports higher costs, assuming approval by regulators, its prices would go up.<sup>(82)</sup>

In the electric power industry, different "mitigation" approaches have been proposed and applied to address these potential problems. For example, in its Order 888, the FERC is pinning its hopes of minimizing abuse or anticompetitive behavior by vertically-integrated electric utilities on the combination of an ISO and functional unbundling. It is expected that states, as they have done with natural gas, will require a "code of conduct" to govern the interactions between a utility and its affiliates. Structural separation, in many instances, will also be required. This action breaks up the different lines of business within a corporate entity into separate business units.

Divestiture represents a "mitigation" approach that may be the ultimate solution. Some analysts believe that divestiture is the only effective way to prevent abusive practices.<sup>(83)</sup> In a recent report to the state legislature, the Maine Public Utilities Commission concluded that divestiture will be necessary to assure a fair and nondiscriminatory market.<sup>(84)</sup> The Commission argued that effective competition among generators requires that the regulated local utility be a neutral link between generators and retail customers. It believes this neutrality can be better achieved by ensuring arm's-length transactions than by regulating and overseeing affiliate activities. As part of electric power industry restructuring, the California Public Utilities Commission is encouraging the state's utilities to divest at least 50 percent of their fossil-generation assets. The Massachusetts Department of Public Utilities has recently required utilities to divest their generation assets; and divestiture has been encouraged by legislative and regulatory actions in other parts of New England.<sup>(85)</sup>

Expanding the scope and intensity of competition in retail electricity markets should mitigate against abusive practices by the local utility. With customer choice, retail services become unbundled, in some cases transacted in workably competitive markets. The prices for these services would be transparent to customers. Consequently, the utility would have less ability to engage in abusive practices. Because local distribution service would continue, at least for the foreseeable future, to be supplied in a monopoly setting and be price-regulated, the chances for abuse would still exist.

As a policy matter, forced divestiture can be regarded as a "last ditch," but perhaps necessary, step to prevent anticompetitive practices. A host of questions, legal, technical, and financial (e.g., bond debentures) in nature, would need to be addressed. Asset divestiture is a complicated activity for both utilities and regulators. Especially when mandated by regulators without the consent of the utility, divestiture would likely result in protracted and costly litigation that could stifle industry restructuring activities. Based on the experiences in various industries, divestiture under these conditions could very well lead to an antitrust remedy by the courts. The case for forced divestiture should rest on the premise that anything less is inadequate in terms of preventing abuse by a vertically-integrated utility.

At this time, it is unclear whether the KCC has the authority to order divestiture. The Kansas Legislature may want to amend the state's public utility statutes to give the Commission this authority.

### Pilot Programs

The merits of pilot programs to initiate retail competition in Kansas are not at all clear. On the positive side, pilot programs can produce valuable information for implementing retail competition on a large scale. Pilot programs can also provide a "comfort factor" to policymakers who are reluctant to go full force on something as far-reaching as retail competition. On the negative side, pilot programs can delay the wide implementation of retail competition in Kansas. Such a delay will deprive electricity consumers within the state of the benefits of retail competition.<sup>(86)</sup> It can also be questioned whether the information from pilot programs conducted by Kansas utilities would reveal anything more than the information from the several pilot programs being conducted over the next few years together with the actual experiences of full-scale retail competition in other states.

Early pilot programs around the country have been instructive for both utilities and regulators. At this time, the need for additional programs is unclear.<sup>(87)</sup> Since past pilots have attracted retailers and aggregators from across the country, the lessons to be learned have spread quickly. Further, large-scale rollouts are being planned in Pennsylvania (230,000 customers before the end of the summer) and California (the entire state starting in January 1998).

Pilot programs are currently underway in five states, Illinois (two programs), Massachusetts, New Hampshire, New York, and Washington, and are planned in others, including Idaho and Pennsylvania. These pilots have largely been an exercise in supplier selection and service implementation; by design, they have not produced fully-functioning markets in electricity.

Some of the outcomes of pilot programs can be extrapolated to states such as Kansas. One example is in the handling of affiliate transactions. In Illinois, where

Central Illinois Lighting Company (CILCO) affiliate QST Energy initially garnered a 96 percent market share,

allegations arose that CILCO unfairly shared customer information with QST Energy and that side deals between the two entities kept other firms from competing in the pilot. Short of divesting generating assets, the lesson learned here is that utilities should be bound by some code of conduct.

Another important lesson learned from the pilot programs in New Hampshire is the need for up-front consumer education. Unless consumers are fully informed, either they are not going to participate or they will become confused.

Although pilot programs may not provide insights into sustainable markets for electricity, their greatest strength may lie in sharpening the marketing and implementation focus skills of the participating suppliers. Front-office (e.g., customer service) and back-office (e.g., billing) systems and infrastructures have been shown to be inadequate in some instances. Load imbalances have occurred, and the true nature and cost of ancillary services have been concealed. Marketing efforts resulted in "chaos" in New Hampshire, with customers bombarded with up to ten pieces of direct mail as well as tree seedlings, birdhouses, and so forth. Unfair or misleading advertising was considered a major problem by many participants. <sup>(88)</sup>

Overall, the outcomes of pilot programs have provided some useful information, part of it anecdotal. It is difficult, however, to say that Kansas utilities should conduct their own pilot programs as a first step in implementing retail competition. One criticism of pilot programs is that they have mainly benefited utilities and marketers, rather than customers and state public utility commissions.

### The Meaning of "Bypass"

The effect of "bypass" on the financial condition of utilities needs to be clarified. In its generic usage, bypass refers to the phenomenon of retail customers switching to nonutility or third-party suppliers in the purchasing of services previously provided by the local utility. What is sometimes called "facilities bypass" involves the situation where the assets of the local utility are less utilized because of retail customers turning to other providers. For example, facilities bypass in the natural gas industry occurs when a retail customer or its agent transports natural gas through a spur line from a main pipeline to the customer's premises. The customer could either construct, own, or operate the spur line herself, or the pipeline or some other entity could undertake the same actions. <sup>(89)</sup>

Under the vision of most industry observers, facilities bypass under retail competition in the electric power sector would only affect generation assets. Some utility-owned generation facilities may be less utilized when customers decide to purchase their electric energy from someone else. This could occur because of high operating costs, making certain plants uneconomical in a competitive marketplace.

Most experts do not envision, at least in the short term, bypass of the local utilities' transmission and distribution systems. Utilities would continue to deliver the power to retail customers in essentially the same way they do now. This means, for example, utilities will have the same obligation as they now have to provide safe and reliable distribution service at regulated rates.

The major change under retail competition lies with utilities transporting less of their own power (either internally generated or purchased), with the gap filled by power purchased directly by retail customers or their agents (e.g., aggregators). The returns that utilities will earn from their transmission/distribution assets should not decrease over what they are today. As mentioned earlier in this report, pressures for new rate-design procedures in recovering transmission/distribution costs would occur.

A valid argument can be made that under retail competition utilities would be able to earn higher and more predictable returns from their delivery assets. The reasons for this are two-fold. First, cheaper electric energy should increase the demand for electric service. With additional consumption, delivery systems should have higher utilization rates. Many natural gas utilities, as an analogy, see their future in distributing gas only. These utilities have taken the position that cheap natural gas, irrespective of the supplier, can help to improve the utilization of their distribution assets; in industry

jargon, a higher throughput means higher profits. It is not unreasonable to believe similar opportunities would exist for electric utilities under retail competition.

Under retail competition, earnings from distribution services should also be more predictable. Assuming that a portion of the revenues from distribution services are currently being recovered in the user-sensitive (kWh) component of electricity bills, under a two-part tariff, where the fixed costs are recovered in an access charge, the utility would face less uncertainty over its future earnings from distribution services.

## Taxes

Recent concerns over the relationship between taxes and electric power industry restructuring have emerged as a major issue in several states.<sup>(90)</sup> Specifically, given existing state tax laws, restructuring could produce less tax revenues and create an "unlevel playing field" that would penalize in-state electric utilities.<sup>(91)</sup> Such an outcome has both economic and political implications. Giving certain suppliers an unfair advantage can cause distortions in that the "best" suppliers may end up not being the preferred choice of consumers. Lower revenues, of course, mean less monies available to fund current state and local governmental services.

The general consensus in states where the tax implications of electric power industry restructuring have been discussed is that state laws would need to be revised to preserve existing revenues while not giving any competitive advantage to any group of electric energy providers; that is to say taxes should be competitively neutral, while having a minimal impact on the tax revenues currently collected by state and local governmental units.

A major objective of any revised state law would be to place in-state electric utilities on the same standing with regard to taxes as other electricity suppliers. These other suppliers include independent generators and power marketers. One option is to replace the gross-receipts and franchise taxes with a sales tax imposed on all electricity suppliers. Another option is to apply the same property tax rates to all property including that owned by utilities, and to repeal the exemption of nonutility electricity suppliers from taxes that utilities are required to pay.

Perhaps, the "cleanest" option for preventing losses in tax revenues and for maintaining competitive neutrality would be to establish a consumption tax on a kWh basis. The consumption tax could replace gross-receipts and franchise taxes. Some states face the problem of the gross-receipts tax not being applicable to purchases of electricity from out-of-state sources. A consumption tax would avoid any taxing inequities among competitors that would otherwise skew the market in favor of tax-advantaged competitors.

The interest in a consumption tax has grown in recent months. New legislation in Oklahoma requires the state's Tax Commission to study the feasibility of establishing a uniform consumption tax.<sup>(92)</sup> A tax advisory group in Virginia has indicated its preference for a usage tax to replace the current gross-receipts tax.<sup>(93)</sup> Ohio is currently considering a user or sales tax to replace existing taxes such as the state's high tangible personal-property tax on electric utilities.

A recent presentation by Deloitte and Touche before the Kansas Retail Wheeling Task Force shows that Kansas electric utilities have a high tax burden relative to electric utilities in potentially "competitive" states. This, by itself, would tend to diminish the competitiveness of Kansas electric utilities in an open marketplace. In addition, higher property taxes applicable to electric utilities and gross-receipts taxes applicable only to in-state electric utilities, Kansas utilities would be at a disadvantage in competing with other electricity providers. Taxes that discriminate against utilities or any service provider could produce serious market distortions in a restructured electric power industry.

In sum, Kansas would need to revise its tax laws under retail competition. Replacing some of the existing taxes with a consumption tax has the potential to both retain existing tax revenues and to achieve competitive neutrality among the different groups of suppliers selling electricity within the state.<sup>(94)</sup>

## Securitization

An often discussed means to dealing with potential stranded costs is securitization. Securitization refers to the creation of a financial security that is backed by a revenue stream pledged to pay the principal and interest of that security. The main purpose for this device by electric utilities is to reduce uneconomical costs with an up-front, lump-sum payment from the sale of a security or bond. Securitization requires legislation to create a transferrable property right to collect the utility's uneconomical cost from ratepayers. Such legislation determines the general guidelines on what the utility can collect from its current ratepayers and instructs the state's utility commission to determine the specific amount to be collected and to supervise a mechanism for collection. Such a mechanism for the collection of uneconomic utility costs is often called a "competition transition charge" or "CTC." This is a "non-bypassable" obligation placed on ratepayers by legislation.

The legislatively created property right can be transferred by the utility to a designated trustee. If this option is exercised by the utility, the trustee then issues a security or bond and pays the utility the cash proceeds from the sale of the security in the financial market less transaction costs in exchange for the property right. The cash proceeds the utility receives should equal the discounted present value of the CTC revenue stream. The utility or distribution company collects the CTC from the customers and transfers the funds to the trustee that then transfers it to the security holders. The benefits of securitization come primarily from the replacement or refinancing of the utility's existing capital structure of debt and equity with lower-cost debt. Any savings realized from securitization are often required to be given back to retail customers.

The securities are essentially backed by a pledge by legislators to see that the securities will be paid in full, including principal, interest, and financing costs. These securities have a value because the legislators have promised to create and sustain the revenue stream from the CTC until the debt is paid. California, Pennsylvania, and Montana have adopted legislation that allows utilities to use this option and many more states are considering it. To date, while \$1.1 billion was authorized by the Pennsylvania Public Utility Commission to be securitized by a company, no bonds have been sold.

While securitization can potentially have some benefit to customers, there are at least two significant limitations. First, to obtain a higher bond rating than current utility debt and realize the lower debt cost, any securities issued would have to be irrevocable and provide assurances that recovery is guaranteed for the life of the bond. Securitization provisions usually contain a true-up mechanism that raises or lowers the CTC to adjust for changes in the number of customers or demand level. However, the amount initially set as the principal of the bond cannot be changed. This may be a problem if the actual amount of competitive loss is less than the amount forecasted when the principal was authorized. As can be seen in the above estimation of stranded costs in Kansas, small changes in the assumptions can have a significant impact on the net amount of predicted stranded costs (note, for example, the billion dollar differences in net present value calculations in Tables 11 through 13 when the discount rate changes). These estimates are based on dozens of explicit and implicit assumptions used in the analysis, any number of which may turn out to be incorrect. This represents a significant risk for customers who would have no recourse if the loss does not materialize as expected.

A second limitation is also related to the irrevocableness of the bond. Generally, either a competitive market or, in the case of regulated industries, a regulator monitors the appropriateness of a firm's costs. Securitization limits the ability of the market or the regulator to discipline or revisit securitized costs and determine the appropriateness of recovery in the future. This also means significant risk being transferred to utility customers.

Primarily because it is likely that there would be no net investor-owned competitive loss in Kansas,<sup>(95)</sup> securitization would not be needed or necessary. It may be an option to consider potential rural electric cooperative losses, however. But this would have to be weighed against the possibility of lower-cost federal financial assistance.

## **THE NEXT STEP FOR KANSAS**

Reasonable people can understandably disagree about the net benefits of retail competition to Kansas. The job of measuring precisely the benefits and costs is inherently difficult. The long-term effects of retail competition require knowing how the electric power industry would ultimately be structured and how market participants would behave. For example, to what extent would Kansas utilities reduce their costs, offer new and market service, and introduce new technologies in response to retail competition? On the consumer side, how many Kansas customers would take

advantage of market opportunities and how much lower, if at all, would their rates be? We do not have sure answers to these questions; in fact, any estimate should be interpreted in terms of its projected direction of change, rather than its projected size of change. To say, for example, that industrial consumers would benefit by \$X and residential customers would lose by \$Y should be interpreted loosely; namely, that large customers would be expected to gain and small customers would be expected to lose.<sup>(96)</sup> But even the projected direction of change should be susceptible to scrutiny. For example, if one projects that a robustly competitive retail market for electricity would develop, where all customers are able to take advantage with no cost shifting, then it seems reasonable to predict that small customers would benefit as well.

In arriving at a decision on retail competition, the Kansas Legislature would be advised to combine the best sources of information. Such information can come from (1) the experiences of electric-power restructuring in other states and countries, (2) the experiences of other restructured industries such as natural gas and transportation,

(3) the results of pilot programs by Kansas and out-of-state utilities, (4) computer modeling, (5) economic theory, and (6) empirical analysis conducted for Kansas. Although all of these sources are less than perfect, they are preferable to anything else.

This report endorses the position that Kansas should begin in the shortest time possible to lay the groundwork for the implementation of retail competition. It is almost certain that retail competition will eventually come to Kansas. It seems implausible that what has happened in California, Pennsylvania, Rhode Island, New Hampshire, Massachusetts, and is soon to happen in other states, will not eventually spread across the states, even those that currently have low or moderate electricity prices.<sup>(97)</sup> It is hard to imagine a U.S. electric power industry where retail competition exists in some states but not in others; this makes little economic sense. Besides, irrespective of current attitudes and positions, states will be under increasing pressure to open up their retail electricity markets. Further, it seems plausible that the federal government will not tolerate a hybrid marketplace where some states continue to erect barriers that interfere with the interstate trading of electricity.

Second, based on the review of the evidence, including the economic analysis conducted for this report, retail competition should be good for Kansas. Consumers should benefit, and the electric power industry should become more efficient and consumer-responsive. Utilities in the state would be under significant pressure to make a greater effort to reduce their costs, lower their prices, implement more economically rational rate designs, introduce new services and deploy new technologies and other innovations. Other restructured industries, such as airline, trucking, railroad, natural gas, telecommunications, financial, and the United Kingdom electric power industry, have seen the offering of a greater variety of services and products, lower prices arising from new competitive pressures, improved industry productivity and operating efficiencies, and economically rational and equitable prices.<sup>(98)</sup> These results are not surprising in view of the fact that these industries have become more competitive and less reliant on governmental intervention.

Third, lower electricity prices, the availability of new electric services, and a more efficient electric power industry would all be good for the Kansas economy.<sup>(99)</sup> Just as improved efficiencies in the growing of wheat by Kansas farmers benefit the state economy, the same outcome logically holds true when the electric power industry in Kansas, or any other industry for that matter, operates at a higher level of efficiency.

Making the above case for retail competition, the question then becomes how quickly and in what way should it be implemented. Going from the current condition where the state's electric power industry is highly monopolistic and tightly regulated to one where retail competition exists will not be easy. Many issues will have to be resolved. One alternative is for the Kansas Legislature to identify what these issues are and to require the KCC to resolve them by some specified time period in a rulemaking or other kind of forum.

For Kansas to take the position that nothing should be done unless it has precise and indisputable evidence that retail competition will be beneficial for each and every Kansan unduly favors the *status quo*. It is a poor and unrealistic way to make policy.

As said earlier, no such evidence will ever be forthcoming, whether \$100,000 or \$5 million are spent on studies. Such "policy paralysis," which refers to the viewpoint that perfect information should be made available before making

changes, undermines any reform and industry restructuring efforts, whether for the electric power industry or any other industry. This position is often taken by those during public policy debates who have a strong interest in opposing change. It is a position that most times should be heavily discounted by policymakers.

The question of how quickly Kansas should implement retail competition on a wide scale becomes more difficult to answer. On the one hand, moving as quickly as possible, as some would label the "flash cut" approach, would allow the benefits of retail competition to consumers and the state to be realized sooner in time. This approach is premised on the belief that potentially large benefits exist and that any problems that may arise from shortening the transition period can always be corrected for. Advocates of this position generally believe that extending the time until competitive forces dominate the industry imposes a lost opportunity for dispersing the benefits of competition to retail customers.

On the other hand, a "flash cut" approach may work counter to maximizing the benefits of retail competition in the long term. Paying a price to defer implementation may be small compared to the risks associated with "things going wrong." As discussed earlier, the available information does not allow policymakers to know for sure what exactly the effects of retail competition will be. If structured poorly, retail competition could create certain problems. Moving more deliberately, as some would argue, would allow time to lay out well-conceived "ground rules" during the transition. Especially for risk-averse decisionmakers, this can be attractive in terms of diminishing any chance of serious mistakes being made.

The arguments for moving deliberately, in essence, can be best rationalized on two grounds. First, retail competition would dramatically change the nature of industry activities and regulation. Both the Kansas utilities and the KCC would have to revisit existing practices and readjust or replace them to accommodate the new market environment. This would require considerable effort. Second, over the next few years, we should know much more on the anticipated effects of retail competition, how it can best be implemented, and associated problems. Kansas will be able to learn from the experiences of other states implementing retail competition. Further, Kansas utilities could develop pilot programs to obtain additional information in predicting the outcome of permanent and full-scale programs and in identifying technical and administrative problems. (As discussed earlier in this report, however, pilot programs may not be all that useful.)

In sum, this report recommends that Kansas regard retail competition as something that is inevitable and in the long-term interest of the state. Consequently, Kansas should take the next step by laying the groundwork for a retail-competition regime. Both the Legislature and the KCC should work in tandem in developing the "ground rules" needed to help assure a truly competitive retail market for electricity in Kansas. It may be wise to move somewhat cautiously yet specifically toward making customer choice a reality for Kansas electricity consumers. Deferring benefits further into the future for Kansas consumers carries a price that should not be ignored.

## APPENDIX

### REVIEW OF DOCKING INSTITUTE REPORT

The Docking Institute report, *Economic Impact of Retail Wheeling on Areas Served by Kansas Rural Electric Cooperatives*, paints a gloomy picture of retail competition for rural Kansas. In agreement with the position of many opponents of retail competition, it alleges that most consumers will be losers, with benefits accruing only to large customers. This review responds in a point-by-point format to the major arguments made by the report in arriving at its conclusions.

(1) *The report argues that retail competition will result in losers.* This is certainly conceivable. But instead of consumers being harmed, it will largely be those electric utilities that *fail* to respond to increasing competition by reducing their costs of operation, by taking on innovations and new technologies, by designing and offering new services that consumers want, and by tailoring their prices and services to individual consumers. Utilities that take such actions will do quite well. More competition will benefit well-managed utilities who undertake changes in their internal operations in line with market realities and consumer demands. It seems that the report presumes that the rural co-ops

will be incapable of competing. It in effect portrays rural co-ops as inefficient and customer-nonresponsive entities whose future survival hinges on the sustainability of government subsidies and monopoly retail-electricity markets.

(2) *The report states that the long-term goal of retail competition is to reduce the costs of generating electricity.*<sup>(100)</sup> This is not what retail competition is all about. Retail competition would improve consumer welfare in various ways -- lower electricity prices is only one. Another, and perhaps more important, outcome would be that a greater menu of services would be available to consumers. Consumers would benefit from the availability of more services, relative to the current offering of "plain vanilla, one-size-fits-all" service. Retail competition would better respond to the diverse interests of consumers. In contrast, the current regime fails to provide the consumers' intermediary, the local utility, with strong incentives to accommodate the interest of individual consumers.

From the perspective of Kansas, retail competition offers promise in improving the overall efficiency of the electric power industry. Consumers would have better price signals (e.g., via market-based pricing) and utilities would have greater incentive to improve their productivity. The end result for Kansas is higher economic growth and a better allocation of its resources.

(3) *The fact that some electricity consumers may be worse off under retail competition would only occur because of lost cross-subsidies.* The report admits to this but presumes that this outcome would be undesirable. But why would it? Why should certain electricity consumers be entitled to receive subsidies paid for by other electricity consumers? (The authors of this report have not conducted an independent analysis to determine whether existing rate structures of Kansas rural electric cooperatives embody subsidies favoring small customers but they presume that such subsidies do exist.)<sup>(101)</sup> It can be argued that a subsidized rate structure is both inequitable and economically inefficient. If some customers impose costs that exceed the amounts they are paying for electricity, they in turn are inflicting a net cost on society. At the margin, they are consuming an excessive amount of electricity in the sense that the value they place on the additional electricity is less than the additional cost to society.

It seems that what the report fears most with retail competition is the loss of existing subsidies to certain, presumably deserving, electricity consumers. The report projects that retail competition would place strong pressures in eliminating the subsidies embedded in existing rates. Competition tends to do just that, as evident by the experiences of other industries that have undergone restructuring or deregulation in recent years. It should be kept in mind, however, that this would be more true for competitive services such as electric energy than for monopoly services such as distribution.

(4) *The report argues that rural co-ops should be treated differently than other electric utilities.* It states, for example, that economic efficiency should not be the goal of social policy when pertaining to rural co-ops.<sup>(102)</sup> What the report reflects, perhaps more than anything else, is a position of advocacy for existing subsidies in co-ops' rate structures that benefit certain consumers. Retail competition, as discussed earlier, would unravel these subsidies over time. The report fails to see how those customers currently enjoying subsidies may be better off when given market choices for electric energy and other unbundled services. It neglects to consider the full benefits of retail competition to consumers, including those who are currently being subsidized.

(5) *The report concludes that small customers would probably pay a larger share of the distribution costs of rural co-ops than they currently do.* They may or may not depending on how nonenergy costs now incorporated into the usage (energy) charges of large customers will be recovered in a retail-competition world. Whether the overall bills to small customers would be larger or smaller is an empirical question that the report attempts to answer. Unexamined in the report, is the plausibility that large customers could continue to subsidize small customers (assuming, of course, that such a subsidy currently exists). This could be done by simply increasing the access charge for large customers, which the rural co-op would be able to do since it will continue to have monopoly power for distribution. Small customers, contrary to the results contained in the report, should see lower electricity bills because of lower energy charges. To restate, if small customers pay less for energy costs and the same amount for distribution costs that they did before, they should see lower electricity bills.

Regrettably, the report fails to address the potential, long-run benefits to small customers from the offering of additional services and price-service menus that would result from retail competition. Dynamic, long-term changes in the operation of rural co-ops resulting from retail competition would also benefit small customers. These changes include

less costly and more customer-responsive investments and the tailoring of services to meet the preferences of individual consumers.

(6) *The report projects that electricity prices should drop for industrial customers, potentially improving their competitiveness and boosting regional income and employment.* Oddly it goes on to say that other regions would probably see larger price reductions, resulting in the exodus of industrial firms from rural Kansas.<sup>(103)</sup> The report gives no valid reason why prices would fall more in other regions and, more seriously, neglects to consider the dire outcome that could result from other regions allowing retail competition and rural Kansas not. That should be the biggest concern of the authors of the report. That is, if industrial prices in other regions drop, perhaps dramatically, because of retail competition and rural Kansas continues to deprive industrial customers of direct access to cheap wholesale power, the effect on industrial firms in rural Kansas can be especially damaging. This particular omission seriously undermines the credibility of the report in examining in an even-handed fashion how retail competition would affect the economy of rural Kansas. The high price of electricity in rural Kansas relative to prices in rural areas in neighboring states,<sup>(104)</sup> suggests that retail competition would drop prices more in Kansas than in these other states.

(7) *The report argues that the benefits of retail competition would accrue almost exclusively to urban areas.* It also argues that rural areas would plainly be losers. Electricity consumers in rural Kansas currently pay much higher prices than consumers in most of the other parts of the state. On the basis of distribution costs alone, rural electricity prices should be higher. But even taking this into consideration, the evidence suggests that the current prices paid by rural customers for electricity (net of delivery and other nonelectric energy costs) are farther out of line with market-based prices than prices in urban areas. If so, the potential benefits of retail competition would be greater in rural areas. Even if this is not true, it is not at all clear why rural areas would be losers and urban areas winners. It seems that both rural and urban areas would emerge as winners.

(8) *The report implies that retail competition would result in cost shifting to customers who are unable to "bypass" the local rural co-op distribution system.* Even with retail competition, few customers would actually switch distribution service providers. The pertinent "bypass" activity that would take place under retail competition (at least in the short term) encompasses only the electric energy, most of which is currently purchased under all-requirements contracts with Kansas Electric Power Cooperative and Sunflower Electric Power Corporation.<sup>(105)</sup> Consequently, the rural co-ops should have no more difficulty in recovering distribution costs than currently. It may be true, however, as argued in the report, that small customers may have to pick up a larger share of these costs. But, of course, this is far from certain, so long as the rural co-op maintains its monopoly power for distribution. To repeat, retail competition would not affect the ability of rural co-ops to recover their distribution costs; instead, it would provide them with incentives to recover these costs in a more economically rational and equitable fashion. One may argue that the same phenomenon occurred in the telecommunications industry, where competition forced long-distance prices down, thereby diminishing the subsidies available for local-access service. Consequently, local-access fees had to be raised to levels that more closely corresponded to costs. This outcome can be considered undesirable only if one accepts the premise that local-exchange consumers had a legitimate claim to below-cost, subsidized local-access service. Using the telephone analogy as a predictor of higher distribution costs, however, is somewhat fallacious. Local exchange rates increased to pay for universal service funded by long-distance service. Because no comparable subsidy exists for electric generation, total distribution costs for a rural electric co-op would not be expected to increase, at least for this reason.

(9) *The report predicts that retail competition will change the nature of price discrimination by rural co-ops.* Whereas it acknowledges that price discrimination now exists, generally favoring small customers, the report fears that new price discrimination would turn the tables by favoring large customers. For example, the report admits that retail competition may end the current practice of large customers subsidizing small customers.

The current price discrimination can perhaps be best characterized as an income transfer that attempts to make electricity more affordable to small rural customers. It is rationalized on the grounds that small rural customers should not have to pay the true cost of electricity. This rate subsidy is politically palatable for co-op managers in view of the fact that the majority of co-op members can be classified as small customers. From an economic perspective, such price discrimination reduces market efficiency.

The new form of price discrimination that would emerge under retail competition would mostly be market-driven. Utilities and other firms would be expected to offer special prices or provide services under bilateral contracts with

special price and nonprice terms and conditions tailored closely to the demands of individual customers. Under most conditions such price discrimination can be rationalized on economic grounds, with positive benefits accruing to society.

Generally, those customers with more choices would be beneficiaries. This may be discomforting to rural co-op managers, state policymakers, and customers who do not directly benefit. Yet, such price discrimination prevails in nonregulated markets and, in most situations, is considered socially desirable. Of course, one effective way to mitigate against such market-driven price discrimination entails allowing all customers the same opportunity to choose their service or product provider.

(10) *The report cites an article by Kaserman and Mayo<sup>(106)</sup> that found vertical-integration economies in electric utilities.* The question of what overall effect vertical deintegration would have on the industry requires more analysis. For example, a recent National Regulatory Research Institute (NRRI) study casts some doubts on the benefits of economies of scale and scope for the U.S. electric power industry.<sup>(107)</sup> Past studies, taken together, contain mixed evidence on the cost efficiency of vertical integration in the U.S. electric power industry.

Experiences in other industries suggest that any lost economies that may have been realized from vertical deintegration were more than offset by cost reductions from increased competitive pressures. One example is the natural gas industry, where the local gas distributors' bundled sales service was unable to compete with unbundled gas supplies provided by marketers and other entities that became available to both pipeline shippers and industrial customers. Bundled sales service, in effect, failed the market test as most eligible consumers found it preferable to purchase different gas services on an unbundled basis. In other words, any lost economies from vertical deintegration were apparently more than offset by cost reductions from competition.

Finally, it is difficult to see where economies from vertically-integrated rural cooperatives actually lie. It is our understanding that rural cooperative distributors and the generation and transmission (G&T) cooperatives have separate boards of directors, accounting and computer systems, purchasing departments, and administrative personnel. This apparent structural separation of the distributors from the G&Ts diminishes opportunities for vertical-integration economies.

1. Retail wheeling sometimes carries the narrow interpretation of involving only bilateral transactions between a generator and an end-use customer. Under the usual meaning of retail competition, the price of electric energy can be either the spot price determined in the power exchange or a price negotiated between the buyer and seller.
2. Currently, electric utilities sell bundled service to retail customers. This bundled service encompasses electric energy, transmission, ancillary services, distribution, billing, metering, and other retail services. These services are combined and sold at one aggregate price.
3. Load aggregation may be necessary to give small customers a reasonable bargaining position with market suppliers. Municipalities could act as aggregators for their residents and any organization, for that matter, could aggregate their members' load.
4. This assumes that the local utility would continue to be able to generate power or purchase electric energy for their retail customers.
5. Special meters would probably not be required to initiate retail competition. Of course, under real-time pricing (which, incidentally, is one of the choices California electricity customers will have available), hourly meters would be necessary. As retail competition evolves, maximum benefits would probably require special meters to apply pricing methodologies that take into account variations in the cost of electricity during different time periods. In the near term, however, average load curves or other estimated usage data should be an adequate alternative to special meters. This would be especially true for residential and most other small customers.

6. See, for example, Edison Electric Institute, *Retail Wheeling and Restructuring Report* (Washington, D.C.: Edison Electric Institute, June 1997).

7. Experiences in recently deregulated or restructured industries (natural gas, long-distance telecommunications, airlines, trucking, and railroads) have shown that consumer benefits increase over time. See Robert Crandall and Jerry Ellig, *Economic Deregulation and Customer Choice: Lessons for the Electric Industry* (Fairfax, VA: Center for Market Processes, 1977), 2.
8. These costs would generally be in the form of reallocating existing utility costs to either small customers (assuming they are still held "captive" by the local utility) or utility shareholders.
9. One possible mechanism would be a temporary price cap on the electricity purchased by "captive" customers.
10. As shown later in this report, this condition holds for Kansas electric utilities.
11. Unfavorable outcomes include incumbent utilities engaging in anticompetitive abuses, certain customers "unfairly" paying higher prices, significant loss of economies of scope (which refers to cost increases attributable to vertical deintegration), and any economic distortions that may result from misconceived ground rules, including regulatory rules.
12. Other lessons learned from the natural gas industry include: (1) self-procurement, especially by large customers, would likely occur on a large scale, (2) initial service unbundling would eventually lead to rebundling by full-service providers, (3) the benefits of competition would be widely shared, although to varying degrees on a customer-class basis, and (4) new players and technologies will emerge. See Ronald G. Oechsler, "Lessons Learned from Restructuring the Natural Gas Industry," Retail Competition and Restructuring Conference, Denver, Colorado, March 30, 1995.
13. Much of the information obtained about the SPP came from telephone conversations with Larry Holloway of the Kansas Corporation Commission and Nick Brown of SPP.
14. The proposal still requires the approval of the Kansas Corporation Commission, the Missouri Public Service Commission, the FERC, and other jurisdictional governmental agencies.
15. Western Resources distributes electricity and natural gas through its operating utilities, Kansas Power and Light and Kansas Gas and Electric.
16. On July 30, Western Resources announced its plans to combine its security services with Protection One, Inc. to establish the second largest monitored security firm in the country.
17. Midwest Energy, "Midwest Energy Announces Open Access Plan," *News Release*, April 30, 1997.
18. Phase one of the plan should not be construed as retail wheeling, since Midwest Energy would continue to assume the role of electric-energy intermediary (i.e., aggregator) for retail customers.
19. Bill Spratley, "Overview of Current Electric Retail Competition Activities in State Legislatures," presentation before the Kansas Retail Wheeling Task Force, Topeka, Kansas, July 17, 1997, Exhibit I.
20. This data was obtained from various issues of Edison Electric Institute's *Statistical Yearbook of the Electric Utility Industry*.
21. Ibid.
22. Hossein Haeri, M. Sami Khawaja, and Matei Perussi, "Competitive Efficiency: A Ranking of U.S. Electric Utilities," *Public Utilities Fortnightly* (June 15, 1997): 26-33.
23. John B. Chilton, Ronald P. Wilder, and Douglas P. Woodward, *Electricity Deregulation in South Carolina: An Economic Analysis* (Columbia, SC: SCANA Corporation, 1997).

24. See, for example, Kenneth W. Costello, "Low-Cost States Should Open Up Too," *Public Utilities Fortnightly* (January 15, 1997): 16-17. The author questions the underlying presumption that interstate trading of electric power represents a zero-sum game where out-of-state consumers would benefit at the expense of in-state consumers. According to the author, this hypothesis seems to run counter to the expected outcome of trading benefiting both buyer and seller.

25. This question is asked under the presumption that the "regional average" hypothesis may have some validity.

26. Sunflower Electric Power Corporation, *1996 Annual Report*, submitted to the Kansas Corporation Commission, 29.

27. Kansas Electric Power Cooperative, *1996 Annual Report*, submitted to the Kansas Corporation Commission, 30(a)-30(f).

28. Energy Information Administration, *Electric Sales and Revenues 1995*.

29. Kansas Gas and Electric's high overall price for electricity can also be explained by its 47-percent share of Wolf Creek.

30. Ibid.

31. See, for example, Kenneth W. Costello and Robert J. Graniere, *Deregulation-Restructuring: Evidence for Individual Industries* (Columbus, OH: The National Regulatory Research Institute, 1997).

32. Some Kansas utilities, for example Midwest Energy and Western Resources, share this position. The Chairman of the Board and Chief Executive Officer of Western Resources, John E. Hayes, Jr., stated to the Kansas Legislative Task Force on Retail Wheeling on July 10 of this year:

Let me say from the outset. . .the majority of those in our industry understand competition is coming. And we have no problem in moving to a competitive model. In fact, Western Resources has been preparing for competition for the last few years.

Mr. Hayes also remarked that Western Resources supports a transition to competition that "assures fairness to all and makes service reliability and safety top priorities."

33. Equilibrium refers to the end point of industry restructuring after adjustments by market participants and regulators under the new regime are fully completed. One lesson learned from other industries is that these adjustments may take several years to complete and change an industry in a way that we cannot ever hope to anticipate.

34. Edison Electric Institute, *Retail Wheeling and Restructuring Report*, 15-21.

35. In 1995, the average price of electricity was 4.7 cents and 5.6 cents per kWh in Montana and Oklahoma, respectively. The U.S. average price was 6.9 cents per kWh. (Energy Information Administration, *Electric Sales and Revenues 1995*, 2 (Figure 16).)

36. See, for example, "DOE's Smith: 'No Chance' for Restructuring Bill This Year," *Public Utilities Fortnightly* (July 15, 1997), 50. Supporters of federal legislation, however, are optimistic that legislation will be passed by the end of next year.

37. The bill introduced by Senator Craig Thomas (S. 722) would remove obstacles to states wanting to restructure the electric power industry. The bill would confirm that states have authority over "retail electric supply."

38. This argument was used in the debate over electric power industry restructuring in Oklahoma. Legislation (S. 500), known as the "Electric Restructuring Act of 1997," was signed by the governor on April 25 of this year.

39. This is the so-called "stranded cost" issue.

40. See Kansas Public Finance Center, *The impact of Retail Wheeling on Municipal Electric Utilities in Kansas* (Wichita, KS: Kansas Public Finance Center, March 1997). The report lists four major concerns for municipalities: (1) the need to enact higher taxes to offset the loss of municipal-utility surpluses, (2) the need to cut back on public services to avoid tax increases, (3) the need to impose customers with a transition charge to cover stranded costs, and (4) the loss of local control over electric service.

41. See The Docking Institute of Public Affairs, *Economic Impact of Retail Wheeling on Areas Served by Kansas Rural Electric Cooperatives* (Hayes, KS: The Docking Institute of Public Affairs, April 1997). The Appendix to this report contains a critique of the study.

42. For example, we observe widely varying changes in prices across natural-gas customer groups after the inception of wellhead regulation in 1979 and pipeline reform in 1985. Although all customers have benefited, industrial customers and electric utilities have gained the most. Two explanations account for this phenomenon: (1) large customers have had direct access to wellhead gas at market-based (spot) prices, and (2) a larger proportion of the delivered price of natural gas to large customers comprises the wellhead price, which over the last ten years or so has declined more than the price of other gas transportation services.

43. See, for example, The Docking Institute of Public Affairs, *Economic Impact of Retail Wheeling on Areas Served by Kansas Rural Electric Cooperatives*; and Chilton et al., *Electricity Deregulation in South Carolina*.

44. *Ibid.*, Chilton et al. The authors, for example, state that:

A basic question to ask is what can be gained from retail competition that cannot be obtained from wholesale competition. There is an active wholesale market. It has functioned to rationalize deployment of the generating assets -- that is, coordinate the dispatch of generation in the most economic manner. That market also can be utilized by regulators to improve the performance of cost-plus regulation (p. 75).

45. We observe this outcome in recently deregulated or restructured industries. Regulation in these sectors had generally deprived consumers of benefits from competition and increased prices above marginal costs. Some of the surplus revenues were disbursed either to "privileged" consumers, owners of firms or the industry resources such as labor. See, for example, Crandall and Ellig, *Economic Deregulation and Customer Choice*.

46. See, for example, Crandall and Ellig, *Economic Deregulation and Customer Choice*; Costello and Granieri, *Deregulation-Restructuring*; and Clifford Winston, "Economic Deregulation: Days of Reckoning for Microeconomists," *Journal of Economic Literature* 31 (September 1993): 1263-81.

47. Using the jargon of economists, consumer benefits are measured by what is called "consumer surplus" -- the value received from a product or service minus the expenditure outlay. Under retail competition, consumer surplus could increase because of (1) reduced prices, (2) the availability of additional electric services, and (3) an increase in the quality of service. According to the consumer-surplus concept, consumers may benefit even when their electricity bills rise. If, for example, price falls and consumption increases by a greater percentage (i.e., the price elasticity of demand exceeds one, in absolute terms), consumers are better off even though their expenditures for electricity have gone up. The reason for this is that the additional value they receive from consuming more electricity exceeds their additional outlay.

Studies on recently restructured-deregulated industries have shown that consumers have benefited from all three factors listed above: they have received lower prices, better quality of service in many instances, and additional services from which to choose. Consequently, looking at the price effect alone would tend to underestimate, perhaps by a large margin, the true benefits of retail competition.

48. Christopher Seiple and Barbara O'Neill, "Half-Hearted Competition," *Public Utilities Fortnightly* (May 15, 1997): 10-11.

49. In the short term, efficiency gains could come from increased capacity utilization, from savings in operation and

maintenance of existing generating facilities, and from improved labor productivity.

50. Wholesale power markets can become more competitive by the deregulation of generation, competitive procurement of electric energy, entry of independent marketers and brokers, and nondiscriminatory "comparable" transmission service and pricing.

51. CFDs represent a risk-hedging tool for generators and purchasers of electric energy. Under a CFD, if the pool price exceeds the negotiated price, the generator pays the price difference to the purchaser. Here, we assume that the purchaser is a wholesale buyer who wants more certainty over the future price it will have to pay for electricity.

52. Further, as the designated agent for virtually all electricity consumers in its franchised area, the utility finds it difficult, and in reality has weak incentive, to tailor its services in accordance with the preferences of individual customers.

53. The nature of "bypass" under retail competition is discussed in more detail later in this report.

54. One form of PBR is price caps, which have been applied in the United Kingdom's privatized public utility industries and the U.S. telecommunications industry.

55. Mathematically, for example, this idea can be expressed as

$$U_f = g(W, Z)$$

Where the benefits a consumer receives from flour,  $U_f$ , is a function of the amount of wheat contained in the flour,  $W$ , and the other ingredients that are combined with the wheat to make flour,  $Z$ .

56. Although this prediction seems safe in the near term, in the long term electricity delivery services may succumb to competitive forces. See Arthur S. DeVany, "Electricity Contenders: Coordination and Pricing on an Open Transmission Network," *Regulation* (Spring 1997): 48-51.

57. The premise underlying centralized control is that decentralized decisionmaking by generators on a free-flowing alternating current (AC) network can lead to market failures, reflecting the difficulty of achieving efficient decentralized competition among generators.

58. See, for example, Chilton et al., *Electricity Deregulation in South Carolina*.

59. As discussed earlier, it is unlikely that prices in Kansas would increase according to the "regional average" hypothesis. In response to the fear that prices may rise, however, price caps can be put in place, at least as a transitory mechanism to protect those customers who remain "captive" to the local utility.

60. As noted earlier, real-time pricing would require special meters, whose costs over time will likely fall because of economies of scale in production and technological improvements.

61. The reason for this is that some of the other service components would be unbundled, priced separately and according to market conditions, and purchased from third parties. Consequently, recovery of distribution costs from these services would be difficult if not impossible to do.

62. It is inefficient to assign any fixed costs to the price of usage (i.e., kWhs consumed); this would raise the price of usage above marginal cost, thereby pushing usage below an efficient level.

63. Some customers may be worse off because of competitive pressures if they are required to pick up a larger share of the utility's fixed costs that more than offsets the reduced costs from direct access to, say, wholesale electric energy.

64. Especially problematic is the outcome where low-income households would be disproportionately harmed. Special

assistance programs may be required to protect these households against higher electricity bills. The state will have to decide whether such programs should be funded by taxpayers or by utility customers through some form of surcharge.

65. In the electric power industry, competitive conditions are not anticipated over the next several years for all services. The consensus among industry observers is that "wires services" will be monopolistic and subject to price regulation. This implies that cost shifting or cross-subsidization remains a problem with vertically-integrated utilities (see later section, "Anticompetitive Practices"). Regulators can only feel confident that cost shifting does not occur when they are able to perfectly segment costs. Since, in practice this is extremely difficult if not impossible to do, largely because of what are called common costs, vertically-integrated utilities have the ability to shift costs to monopoly-type services.

66. Self-dealing abuses, for example, would be mitigated, since the local utility would have less opportunity to pass through inflated prices for affiliated transactions because the true market price would be more transparent to consumers and consumers could avail themselves of gainful market opportunities.

67. U.S. Department of Energy, Energy Information Administration, *Electricity Prices in a Competitive Environment: Marginal Cost Pricing of Generation Services and Financial Status of Electric Utilities, A Preliminary Analysis Through 2015*, DOE/EIA-0614 (Washington, D.C.: Energy Information Administration, August 1997). The key assumptions of the forecasted prices are described on pages 14 through 19.

68. Utility Data Institute, *Measuring the Competition at the Plants: Allocating Costs for Steam-Electric Generation - 1995*, UDI-5163-97 (Palo Alto, CA: Utility Data Institute, May 1997).

69. This is based on a national proportion from U.S. Department of Energy, Energy Information Administration survey. This estimate is also conservative since many of the cost components used to calculate this proportion include some generation-related costs that many also be included in the variable generation cost.

70. This analysis only estimates potential investor-owned stranded costs in Kansas. This is done since the KCC and the Kansas Legislature only have jurisdiction over generation facilities in their state. However, for ratemaking purposes in the past, company-wide costs were considered and could be considered for this analysis as well. As it turns out, only consideration Kansas generation facilities is also conservative for the reason explained above.

71. The EIA price projections under both scenarios assume time-of-use pricing which would likely compensate both units when they operate.

72. The basic argument here is that retail competition without accompanying changes in the scope and fundamental tenets of regulation could create new problems undermining the potential benefits. Regulatory reforms in pricing rules, obligation-to-serve requirements, oversight activities, and so forth would become necessary to realize the full potential benefits from retail competition.

73. Under competitive conditions it is assumed that the local utility would lack the ability to maintain above-market prices for a sustained period. Prices would tend to gravitate toward the marginal cost of the highest-cost service provider, with lower-cost providers able to earn economic profits.

74. The market aggregator can be the local utility or any market entity that is willing to provide this service.

75. One potentially serious barrier would be onerous certification requirements.

76. It can be argued that rate-of-return regulation has inflated service quality beyond the level that would be observed in a restructured, less regulated industry. Some analysts have argued, however, that consumers in recently deregulated or restructured industries have benefited as much, if not more, from improved service as from lower prices.

77. Other pricing mechanisms fall under the category of performance-based regulation. They would provide the local utility with stronger incentives, in comparison with rate-of-return regulation, to control costs and optimize asset utilization.

78. This section is an adaptation of Section 6 (written by Robert E. Burns) of the NRRI report *Summary of Key State Issues of FERC Orders 888 and 889* (Columbus, OH: The National Regulatory Research Institute, January 1997).

79. According to the Energy Policy Act of 1992 (EPAct), a sham wholesale transaction is defined as the transmission of electricity to, or for the benefit of, an entity if the electricity would then be sold by the entity directly to an ultimate (retail) customer.

80. Creating such a "delivery service" assures that customers will have no incentive to structure a purchase that avoids using identifiable local distribution facilities in order to bypass state-imposed charges for stranded costs or social benefits.

81. In the natural gas industry, codes of conduct have become popular. These codes in part incorporate standards and safeguards to ensure uniform and fair treatment for all entities that require use of the regulated utility's essential services such as local distribution. States' codes generally require structural separation, prohibition of preferential treatment by the gas utility with its marketing affiliate, and periodic reporting of certain information.

82. This assumes that prices are subject to rate-of-return regulation; price caps, or some other kind of incentive-based regulation, can be used to break the close linkage between prices and an individual utility's costs.

83. See, for example, Irwin M. Stelzer, "Vertically Integrated Utilities: The Regulators' Poison'd Chalice," *The Electricity Journal* 10, 3 (April 1997): 20-29, 83. Stelzer starkly argues "I see no prospect of a truly competitive market for generation so long as monopoly owners of transmission and distribution 'wires' are allowed to own generating plants" (p. 83). Part of Stelzer's reason for this position is his belief that the dimensions of transmission service are too complex for any regulator to devise rules guaranteeing nondiscriminatory access. Stelzer also believes that utility owners of transmission facilities, notwithstanding an ISO, will be able to game the regulatory process to their advantage.

84. Maine Public Utilities Commission, *Electric Utility Industry Restructuring: Report and Recommended Plan*, Docket No. 95-462, December 31, 1996.

85. A major event was the recent acquisition by the Pacific Gas and Electric affiliate, USGen, of eighteen electric generating plants from New England Electric System. As one observer remarked, this transaction represented the first divestiture of a utility's generation business to a third party. (See "PG&E Corp. Affiliate To Acquire New England Electric System's Non-Nuclear Generating Business For Nearly \$1.6 Billion," *Foster Report No. 2143* [August 1997]: 28-29.)

86. A recent article in *The Electricity Journal* articulates this position:

Retail access pilot programs are today's pet rock. Unless they are well-defined and incorporated in a carefully designed experimental approach, retail access pilots will serve only to delay real change while creating the illusion that we're actually learning something (p. 19) (John H. Landon and Edward P. Kahn, "Retail Access Pilot Programs: Where's the Beef?" *The Electricity Journal* 9, 10 [December 1996]: 19-25).

87. A review of current pilot programs is found in Edison Electric Institute, *Retail Pilot Programs: The First Six* (Washington, D.C.: Edison Electric Institute, 1997).

88. The New Hampshire pilots also revealed that price was by far the most important factor for customers. Complaints by customers of suppliers' actions were minimal -- only 4 percent of the participants said they had problems with suppliers.

89. In the U.S. natural gas industry, facilities bypass was frustrated by the offering of unbundled transportation service by local gas utilities, in some instances at discounted (i.e., below-embedded-cost) prices.

90. See, for example, Edison Electric Institute, *Retail Wheeling and Restructuring Report*.

91. These concerns were expressed in a July 17, 1997 memorandum presented by the Kansas Department of Revenue to the Kansas Retail Wheeling Task Force. The memorandum explained that retail competition could (1) have an indirect effect on the state's corporate tax, (2) create an "unlevel playing field" (e.g., the use tax may not apply to out-of-state suppliers), (3) reduce sales tax revenues, and (4) reduce property taxes (e.g., if the courts determine that unregulated electricity generation does not constitute a "public utility" function for purposes of property tax statutes).

92. Edison Electric Institute, *Retail Wheeling and Restructuring Report*.

93. *Ibid.*

94. Similar to taxes on the consumption of any product or service, a consumption tax on electricity would cause economic distortions (a "deadweight" loss) and would likely be shared by consumers and producers. The welfare loss would depend on the effect on supply and demand to changes in prices (i.e., on price elasticities). Consumption taxes generally increase prices to consumers and reduce them to suppliers. Parties who ultimately end up "paying" the tax may include those for whom the tax was not directly imposed.

95. See the earlier section, "Potential Investor-Owned Stranded Cost in Kansas."

96. Estimates can also be assessed as to whether they represent reasonable bounds on the expected effect of retail competition. For example, if Kansas utilities are expected not to be able to recover any stranded costs but are expected to make significant cost reductions, the resultant consumer-benefit estimate of retail competition may be interpreted as an upper bound.

97. The recent passage of legislation in Montana and Oklahoma reinforces this position.

98. See, for example, Crandall and Ellig, *Economic Deregulation and Customer Choice*; Winston, "Economic Deregulation: Day of Reckoning;" and Kenneth W. Costello and Robert J. Graniere, "The Outlook for a Restructured U.S. Electric Power Industry," *The Electricity Journal* 10, 4 (May 1997): 81-91.

99. Lower electricity prices, for example, mean households would have greater discretionary income to spend on other goods and services; lower prices may also encourage expansion of existing businesses or attract new businesses into the state. The economic-development effect on Kansas depends importantly on what surrounding states do with regard to retail competition. The worst-case scenario for Kansas would seem to occur if surrounding states allow retail competition while Kansas does not.

A reciprocity requirement, where power suppliers from states that have not authorized retail competition would be prohibited from selling in Kansas would be ill-advised. In addition to possibly violating the Interstate Commerce Clause, prohibition could deprive Kansas of low-cost power supplies. If Kansas endorses retail competition as a mechanism for lowering electricity prices, it should reject reciprocity or any policy that would constrain competitive forces.

100. "The long-run goal of retail wheeling is the generation of electricity in the United States using fewer resources per kilowatthour (kWh)" (p. xi).

101. The report implies that subsidies in rate structure currently exist:

It is very likely that retail wheeling will force changes in most co-ops' rate structures. For some co-ops, large customers within a rate class subsidize smaller customers (except for some large power-oil rate classes) (pp. xi - xii).

102. The report, in fact, admits that rural electric co-ops are not economically efficient (p. xi). For example, in the absence of subsidies from the federal government, the report argues that cooperatives would not be able to cover their costs.

103. "Although lower rates for industrial customers may decrease their production costs, potentially boosting regional income and employment, equal or greater rate reductions are likely to occur at the same time in other regions. Exodus

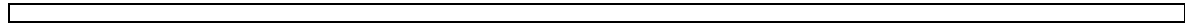
of industrial firms, or outsourcing prevent in-house production, is as likely as entry or expansion" (p. xiii).

104. See Table 2 of this report.

105. See the earlier discussion in this report.

106. David L. Kaserman and John W. Mayo, "The Measurement of Vertical Economies and the Efficient Structure of the Electric Utility Industry," *Journal of Industrial Economics* 38, 5 (1991): 483-502.

107. Herbert G. Thompson et al., *Economies of Scale and Vertical Integration in the Investor-Owned Electric Utility Industry* (Columbus, OH: The National Regulatory Research Institute, 1996).



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