

**BEFORE THE STATE CORPORATION COMMISSION
OF THE STATE OF KANSAS**

STATE CORPORATION COMMISSION

DIRECT TESTIMONY OF

JAN 31 2006

ROBERT J. CAMFIELD

 Docket
Room

**ON BEHALF OF
KANSAS CITY POWER & LIGHT COMPANY**

**IN THE MATTER OF THE APPLICATION OF
KANSAS CITY POWER & LIGHT COMPANY
TO MODIFY ITS TARIFFS TO BEGIN THE
IMPLEMENTATION OF ITS REGULATORY PLAN**

DOCKET NO. 06-KCPE-828-RTS

1 **Q. Please state your name, title, and business address.**

2 A. My name is Robert J. Camfield. I am a Vice President with Christensen Associates
3 Energy Consulting LLC. My business address is Suite 700, 4610 University Avenue,
4 Madison, Wisconsin, 53705.

5 **Q. What is the scope of your testimony?**

6 A. Kansas City Power and Light Company has retained Christensen Associates Energy
7 Consulting (CA Energy Consulting) to assess its utility performance, and to report the
8 findings of the performance study in the immediate docket. My testimony is focused on
9 the performance of Kansas City Power and Light Company in providing electric service
10 to retail consumers over recent years.

11 The testimony and accompanying exhibits review and summarize our study of KCPL's
12 performance for the consideration of the State Corporation Commission for the State of
13 Kansas ("KCC" or "Commission"). The testimony goes on to discuss the evolution and
14 status of wholesale power markets and, associated with wholesale markets, the

1 underlying causes of higher capital risks inherent to the electricity industry. The
2 testimony concludes with recommendations regarding the incorporation of performance
3 in the rate of return, within the current docket.

4 **Q. What guidelines regarding the scope, approach, technical methodology, and criteria**
5 **did Kansas City Power and Light provide to CA Energy Consulting, for assessment**
6 **and study of the Company's performance?**

7 A. None. The study was performed with complete independence. All aspects of the study
8 including scope, approach, criteria, and selection of peer groups of electric utilities were
9 determined at the discretion of CA Energy Consulting.

10 **Q. Please review your professional background and experience that qualifies you to**
11 **provide such recommendations.**

12 A. My experience covers a number of issues facing regulated industries. I have represented
13 agency staff, consumer advocates, independent energy companies, utilities, and
14 transmission companies before a number of regulatory agencies regarding issues of cost
15 of capital, cost performance and benchmarking, forecasts of electricity demand, retail
16 tariffs, cost of service allocation, generation planning, and transmission congestion. I
17 have been involved in the negotiation of power supply contracts and the terms for
18 franchise licenses. My overseas assignments are several including a comprehensive
19 market restructuring plan in Central Europe. I have served on national and regional
20 advisory panels, and I have advised electric companies on numerous policy and technical
21 issues. Innovations include two-part tariffs for transmission services, web-based self-
22 designing retail electric products, marginal cost-based cost-of-service methods, and
23 efficient pricing of distribution services. I have published articles in *The Electricity*

1 *Journal, IEEE Transactions on Power Systems, and CIGRE.* Currently, I am the Program
2 Director of EEI's Transmission and Market Design School.

3 I joined the Michigan Public Service Commission in 1976 as staff economist. My tenure
4 with the Michigan Commission involved retail electricity and natural gas pricing issues,
5 and I testified in several regulatory proceedings regarding cost of capital and retail gas
6 prices. I joined the New Hampshire Public Service Commission in 1979 as senior
7 economist, and held the position of chief economist beginning in 1981. In these
8 capacities, I was responsible for the development, administration, and training of the
9 economics staff. I oversaw economic analysis and the development and delivery of
10 testimony, and provided policy advice to the Commission on a variety issues such as
11 construction work in progress, financial planning, and the determination of PURPA
12 Section 133 rates. I joined Southern Company in 1983, and held positions in several
13 departments including Pricing and Economic Analysis at Georgia Power Company,
14 Costing Analysis of Southern Company Services, and Southern Company's Strategic
15 Planning Group. In 1994, I joined Laurits R. Christensen Associates, Inc. as senior
16 economist, and currently hold the position of Vice President.

17 I am a graduate of Interlochen Arts Academy, and hold a Bachelor of Science Degree in
18 Business Administration from Ferris State University with an emphasis in Management,
19 graduating in 1969. I earned a Master of Arts Degree in Economics at Western Michigan
20 University in 1975, with a concentration in Monetary Theory and Policy.

1 **Q. Can you briefly review the market context of Kansas City Power and Light**
2 **Company?**

3 A. Yes. Kansas City Power and Light Company (KCPL) is a wholly owned subsidiary of
4 Great Plains Energy Inc., and provides electricity service in Kansas City, Missouri and
5 the surrounding region. KCPL's service territory covers metropolitan areas, small cities
6 and communities, and rural areas with concentrations of residential and small to mid-
7 sized commercial and industrial customers, along with some large customers. In
8 addition, KCPL is involved in the wholesale power markets of the Midwest region on a
9 substantial scale with relatively high concentrations of short- and intermediate-term
10 transactions.

11 **Q. You mention integrated service. What is the nature of KCPL's integrated**
12 **electricity service and what are the resources employed by KCPL to provide it?**

13 A. Integrated service refers to the package of generation, transmission, distribution, and
14 customer service activities as a bundled retail utility service. The resources used to
15 provide integrated service include capital, labor, material and service inputs, along with
16 primary and nuclear fuel. Capital resources are unusually large scale, very long lived,
17 and highly specialized. The scale of the facilities is necessary in order to obtain
18 comparatively low supply costs through economies of scale. Generation service refers to
19 the production or generation of electric energy and capacity to provide reserve services in
20 the form of regulation, spin, and supplemental reserve categories. Transmission and
21 distribution service (delivery) is the transport of power from KCPL's generation plants
22 where electricity is produced to customer facilities and premises where it is consumed.
23 Distribution also includes connection services involving voltage transformation and

1 meters. The provision of integrated service also includes customer service and sales
2 involves meter reading (metering), bill rendering, the process of responding to customer
3 inquiries regarding electricity service and bills, and the process of assisting customers in
4 the efficient use of energy and tariff choices.

5 KCPL is an established organization, and on-going integrated service on the scale of
6 KCPL involves substantial resource inputs that are closely coordinated operations.
7 Electricity cannot be stored, and the flow of electricity within electrical circuits, the
8 service itself, is governed by physical laws. This means that the operation of the
9 resources and facilities involved in the production and delivery of electricity must adhere
10 to a strict regiment and protocol in order for electricity to be provided reliably to retail
11 consumers. This involves the monitoring and control of power systems across the
12 integrated system in order to achieve an exact balance of supply with consumer demand
13 in real time. Real-time balance involves load following and occasional redispatch to
14 manage congestion, using a combination of reserve services as provided by committed
15 and non-committed units.

16 To provide generation services, KCPL has invested in and operates a sizable fleet of
17 nuclear, coal, and natural gas generating units. Generating units are large facilities with
18 specialized equipment as mentioned, including fuel storage and fuel handling facilities,
19 boilers and pressurized steam generators, turbines, cooling towers and condensers,
20 electric generators and exciters, transformers, and black start ancillary generators.
21 Generation is carried out in accordance with least-cost principles that apply to long-term
22 planning, fuel purchasing, maintenance scheduling, unit commitment, and dispatch

1 activities. In addition, these units must operate in a manner that complies with safety and
2 environmental regulations.

3 Transmission consists of high voltage transport facilities configured as meshed and radial
4 circuits. Facilities include towers, conductors, insulators, transformers, substations, and
5 various devices to control voltage and to ensure adequacy of reactive power.
6 Transmission also includes monitoring and control technologies and activities. Because
7 KCPL is a designated control area, it must adhere to the reliability guidelines of the North
8 American Electric Reliability Council (NERC). Electric distribution is linked to
9 transmission networks.

10 Distribution service provided by KCPL involves investment in and the operation and
11 maintenance (O&M) of distribution facilities including wires (lines, poles, substations
12 and equipment) and connections (customer transformer, meters). Distribution facilities
13 include underground and overhead transformers and conductors organized as radial and
14 loop circuits operated at a variety of voltages, as well as right-of-way, towers,
15 underground conduits, substation transformers, customer transformers, and compensation
16 technologies including capacitors and reactors. Facilities also include circuit switch gear
17 and monitoring and control technologies (SCADA) that help maintain power service and
18 expedite service restoration in the case of an occasional reliability failure or storm event.

19 In summary, integrated electric service, including the resources employed in the course of
20 providing it, is complex and is not to be taken lightly. Indeed, electric utilities like
21 Kansas City Power and Light must harness, organize, and utilize to the fullest the
22 specialized knowledge, skills, and capabilities of its staff in order for integrated electric
23 services, ever so vital to regional economies, to work. In carrying out its task of service

1 to the public, Kansas City Power and Light has achieved a high standard of performance,
2 particularly in long-term productivity which is the key measure of overall utility
3 performance.

4 **Q. Please describe the input costs associated with providing integrated electricity**
5 **services.**

6 A. Costs of integrated service include operations and maintenance expenses and the charges
7 on capital investment, including the physical facilities (capital stock), inventory, and
8 working capital. As mentioned, the physical facilities associated with electricity services
9 require capital investment on a large scale due to the sheer size of the specialized
10 equipment employed in providing services. Also, the investment levels needed to satisfy
11 on-going growth in regional economic activity are rather indivisible and lumpy, a
12 characteristic which requires special diligence and caution as regards to the management
13 of capital risks.

14 **Q. What is the general approach used in the study to gauge the performance of KCPL**
15 **and the integrated services that it provides?**

16 A. At the outset, an assessment of performance faces three fundamental study design issues
17 including: 1) the perspective from which performance should be gauged; 2) the metrics
18 that align with the identified perspective; and 3) the criteria that should be used to gauge
19 relative performance for the defined metrics. For the immediate study, performance is
20 gauged from the perspective of retail consumers and markets. In essence, the study
21 addresses the question, "what has been the performance of KCPL in providing integrated
22 electricity services over recent years, from the perspective of retail consumers?"

1 The study assesses the performance of KCPL in terms of *Performance Level*, where the
2 performance of KCPL is measured within specific timeframes, and *Performance Trend*
3 where KCPL's performance is measured over time. For several metrics, KCPL's
4 performance is measured (benchmarked) with respect to samples of comparable electric
5 utilities. The trend in performance, as measured by rates of change over time, is the most
6 meaningful measure because it reflects the effectiveness of service providers in obtaining
7 on-going improvement in operations and productivity.

8 **Q. Please identify the metrics used in the study to assess performance.**

9 A. For the immediate study, which is geared to assessing KCPL's performance from the
10 perspective of retail markets, the following categories of metrics have been selected:

- 11 • Overall Retail Prices refers to the level and general trend over recent years of the
12 all-in prices paid by retail consumers for the bundled electricity services provided
13 by KCPL.
- 14 • Total Factor Productivity (TFP) refers to the level and trends in resource inputs
15 used in providing outputs. The outputs of integrated services provided to retail
16 markets can assume several attributes such as the number of customers, the level
17 of energy (MWhs), and territorial peak demand (MWs).
- 18 • Cost Diagnostics refers to unit-specific or normalized costs, where operations
19 costs are gauged with reference to 1) capital inputs, and 2) aspects of the output
20 such as retail electricity sales (MWh), number of retail customers, and peak
21 demand.
- 22 • Scorecard Metrics refers to selected elements of the *Balanced Scorecard*, which is
23 the internal self-appraisal process implemented by KCPL in recent years.

1 For the performance categories *Overall Retail Prices*, *Total Factor Productivity*, and
2 *Cost Diagnostics*, the assessment is conducted over the 1994 – 2004 timeframe, which is
3 broken into the periods 1994 – 1998 and 1999 – 2004. Generally speaking, greater
4 emphasis is given to the more recent five years, and trends rather than levels, because
5 year-over-year changes are more suggestive of the success of the actions, plans, and
6 activities of utilities to improve performance. Essentially, improvement is reflected in
7 unit-of-output cost changes across years. Total factor productivity captures the efficiency
8 of resource utilization and is arguably the most meaningful gauge of overall performance
9 for electric service providers. The Balanced Scorecard, on the other hand has only
10 recently been put in place and thus cannot reflect upon the experience over longer
11 timeframes.

12 **Q. You mention Kansas City Power and Light’s Balanced Corporate Scorecard as an**
13 **internal performance assessment mechanism. Please describe.**

14 A. At the initiative of its Board of Directors, Kansas City Power and Light has implemented
15 an internal process of on-going performance appraisal referred to as the Corporate
16 Scorecard (“Scorecard”). KCPL’s Scorecard provides a separate assessment of each of
17 the four major areas of integrated electric service, including generation (supply),
18 transmission, distribution, and customer services. Several Scorecard metrics are used in
19 our independent study of the overall performance by KCPL. These metrics are the
20 *Customer Satisfaction Index*, the *SAIDI Index of Reliability*, the *% of Customers Returned*
21 *to Service Within 2 Hours*, and *Customer Service and Call Speed of Response*.

22 The Scorecard system is comprehensive and, for each of the service areas, KCPL’s
23 Scorecard includes a battery of metrics relevant to the specific area. For generation

1 services, KCPL's Scorecard recognizes 17 metrics; transmission recognizes 12 metrics,
2 distribution covers 23 metrics, and customer service metrics include 30 separately
3 defined elements. The metrics are grouped into categories referred to as Customer,
4 Financial, Internal, and a corporate category referred to as Learning and Innovation
5 which includes safety. Some of the metrics are direct measures of the attributes of
6 electric services delivered to customers such as the System Average Interruption
7 Duration Index (SAIDI) and the national survey of customer satisfaction. Others are on-
8 going performance indicators aimed at the internal processes of the various organizations
9 and areas that together provide integrated electric service to customers. Example
10 indicators of process performance include direct operations and maintenance expenditure
11 per customer (a financial indicator for distribution operations); line clearance miles
12 completed on schedule (an internal indicator for distribution operations); OSHA
13 incidence rate (a corporate category indicator for generation services); and CellNet
14 monthly read percentage (a financial indicator for customer services).

15 Many of the metrics are measured and reported monthly, although some are only relevant
16 on an annual basis. For some metrics, KCPL assesses or benchmarks its performance
17 with reference to industry-wide experience, while other metrics gauge performance over
18 time and with reference to stated levels, goals, and targets. For many of the individual
19 metrics of the various service areas, the Scorecard references specific programs, action
20 plans, and strategies that have been or are intended to be implemented by KCPL to
21 improve performance, as gauged by the individual metrics.

22 **Q. Please continue in the description of the metrics, first focusing on Retail Electricity**
23 **Prices.**

1 A. Overall retail electricity prices, sometimes called all-in prices, are determined as the sum
2 of the annual retail revenues across the various market segments and customer classes
3 served, divided by the sum of retail electricity consumption, also across segments and
4 classes. Overall retail prices are measured in nominal terms. The retail price metric does
5 not and for the purpose at hand should not delve into the relative prices of individual
6 tariff elements and cost-of-service among market segments. Attempting to assess the
7 prices of KCPL at a tariff level raises complicated and not easily resolved problems of
8 comparability among utilities, including differences in: 1) criteria to qualify for service
9 provided under individual retail tariffs; 2) energy and demand price blocks within tariffs;
10 and 3) principles underlying how individual tariff prices are determined. In addition,
11 customer composition is a determining factor; utilities with larger shares of residential
12 and commercial customers will generally have higher prices than utilities with a high
13 share of industrial load in the total mix of customers.

14 Total Factor Productivity (TFP) is a measure of the efficiency with which integrated
15 electricity services are provided. Essentially, TFP addresses the question, “How well is a
16 utility using its resources?” TFP is determined for each of the unbundled services
17 including generation, transmission, distribution, and customer service, and for integrated
18 service as a whole. In turn, generation involves the several generation segments
19 including fossil steam, nuclear, hydro (including conventional, run-of-river, and pumped
20 storage), fossil non-steam generation, and purchased power. Customer service includes
21 metering and billing, customer service, and sales.

1 For each of the four elements of integrated electricity service, including the individual
2 generation technology classes, the implied physical quantities of inputs of capital, labor,
3 fuels, and quasi-materials (other inputs) are estimated.

4 Estimates of TFP involve the aggregation of inputs and outputs for utilities and for
5 comparable utilities. The methodology to determine TFP is more fully described in the
6 technical discussion paper, as attached.

7 Cost Diagnostics refers to cost categories normalized according to other inputs such as
8 estimates of the capital stock, and to levels of the services provided (MWhs of energy,
9 MWs of peak demand, number of customers served). The specific cost diagnostics
10 incorporated into our study of performance are as follows:

- 11 • Generation Services:
 - 12 ○ Real capital stock, per unit of energy supplied (MWhs).
 - 13 ○ O&M expenses, per unit of investment in generation facilities.
- 14 • Transmission Service:
 - 15 ○ Real capital stock, per unit of peak demand (MWs).
 - 16 ○ O&M expenses, per unit of investment in transmission facilities.
- 17 • Distribution Service:
 - 18 ○ Real capital stock, per unit of peak demand.
 - 19 ○ Real capital stock, per customer served.
 - 20 ○ O&M expenses, per unit of investment in distribution facilities.
- 21 • Customer Services:
 - 22 ○ O&M expenses, per customer served.

1 Scorecard Metrics incorporated into the study of KCPL's performance include the results
2 of the J. D. Power national survey of *Customer Satisfaction*; delivered service reliability
3 measured as the *System Average Interruption Duration Index* (SAIDI); and customer
4 service measured as the expedience with which incoming customer inquiries are
5 answered by KCPL. The SAIDI measure of reliability is equal to the total interruption
6 time of power outages divided by the average number of customers served.

7 **Q. You have mentioned that, for the defined metrics, the assessment process involves**
8 **criteria to gauge relative performance. Please discuss.**

9 A. The performance assessment utilizes the identified metrics. As mentioned, the metrics
10 should be relevant to and align with the perspective of the identified stakeholders—retail
11 consumers for the immediate study. However, there is no completely objective basis to
12 rate or gauge performance. For this reason, the study of the performance of KCPL is
13 assessed with reference to the performance of other utilities. That is, the performance of
14 the comparable utilities provides the basis to gauge the performance of KCPL.

15 **Q. For the comparison utility metrics how is the group of comparable utilities (peer**
16 **group) determined?**

17 A. Along with the broad base of electric utilities, a peer group of comparable electricity
18 service providers is identified for purposes of gauging the utility performance of KCPL.
19 The peer group is determined using cluster analysis techniques. Also, KCPL is compared
20 to utilities that reside in the region that surrounds its service territory.

21 The methodology used to determine the group of comparable service providers is referred
22 to as hierarchical clustering, where investor-owned utilities are organized into a peer
23 group according to five pre-defined cluster variables. The variables used to cluster the

1 utilities are the share of nuclear assets in total assets where assets are measured as the real
2 capital stock; the share of wholesale energy sales in total sales (MWh); a measure of
3 market density; the level of energy sales (MWh); and the number of retail customers
4 served. The final two cluster variables are scale variables where the number of retail
5 customers, when coupled with MWh sales, tends to implicitly capture the load factor of
6 the utilities, at least to the degree that smaller customers have lower load factors than
7 larger customers. Because load factor is negatively correlated with average cost, holding
8 other factors constant, it is appropriate to group (cluster) the utilities using these two
9 output variables that capture the relative scale of operation of the utilities. The cluster
10 variables reflect the 2003 experience of the utilities.

11 **Q. What are the data sources used in the study of KCPL performance?**

12 A. The Balanced Scorecard information is reported internally by the various departments
13 and organizations of KCPL. The other performance metrics including retail prices, total
14 factor productivity, and cost diagnostics rely upon the revenue, sales quantities, costs, and
15 input price data for the period 1994 – 2004. However, the development of the initial
16 balance of the real capital stock for 1994 involves data reaching back to 1965. The
17 revenues, sales quantities, capital assets, annual investment amounts, non-fuel operating
18 expenses, purchased power, labor compensation, fuel costs, peak demands, depreciation
19 rates, and property taxes of electricity service providers are reported to the Federal
20 Energy Regulatory Commission. The data are available in the public domain, and the
21 immediate study draws upon the reported data for 239 utilities. The study uses primary
22 fuel price data including regional price differences, as obtained from the Energy
23 Information Administration. Capital input prices are obtained from the survey of utility

1 cost experience conducted and published by Handy-Whitman, and are specific to the
2 various types of capital employed in providing integrated services. The price series for
3 quasi-material inputs is the U.S. GDP deflator.

4 **Q. For the defined metrics, please review the performance of Kansas City Power and**
5 **Light Company.**

6 A. For the defined metrics, Kansas City Power and Light has performed exceptionally well.
7 Pages 1 and 2 of Exhibit 2 show the level and trends in annual residential prices and
8 overall retail prices for the industry, the comparison utility groups, and for KCPL. As
9 can be observed, KCPL residential prices were above the industry average at the
10 beginning the period, 1994. KCPL largely through its substantial rate of productivity
11 growth, has steadily reduced the effective prices paid by retail consumers and, as a
12 consequence, KCPL is currently very competitive. As shown on page 2 of Exhibit 2,
13 overall retail prices show similar declines, where prices for retail service provided by
14 KCPL have declined about 1.5% faster than that of the industry, 1.75% faster than the
15 peer group, and 0.70% faster than utilities in the contiguous region.

16 Exhibit 3 shows the study results for Total Factor Productivity. As mentioned, TFP is a
17 comprehensive measure of productivity that accounts for all of the inputs used to provide
18 electricity services. Total Factor Productivity is the single most important measure of
19 performance, and Exhibit 3 compares the TFP performance of KCPL with the TFP
20 performance for the industry, the peer group, and utilities of the surrounding region. As
21 mentioned, TFP analysis involves the determination of output levels, and inputs
22 measured and estimated for the types of inputs (fuel, capital, labor, quasi-materials) for
23 each of the service categories.

1 Page 1 of Exhibit 3 shows the TFP performance in generation, transmission, and
2 distribution operations. Since generation operations are the largest segment of electric
3 services, generation TFP will be a major determinant of overall TFP performance for
4 integrated services. Over the 1994 – 2004 timeframe, KCPL realized a rate of TFP
5 growth of 2.5%, which substantially exceeded the TFP growth achieved by the industry
6 (0.1%), peer group (-0.5%), or the contiguous area (0.5%). The productivity of KCPL in
7 generation services is near the top of the industry for the 1994 – 2004 and 1998 – 2004
8 timeframes. For the earlier years 1994 – 1998, KCPL’s performance is generally good,
9 though it is largely limited by exceptionally slow growth of energy sales. All sectors
10 showed improved TFP growth through 1998; following 1998, however, KCPL’s TFP
11 growth contrasts sharply with the TFP decreases found in the other sectors.

12 Since transmission operations are a much smaller component of retail electric services,
13 these results are a smaller determinant of overall TFP performance. KCPL transmission
14 TFP declined 0.9% per year over the 1994 – 2004 period, while the other groups
15 experienced TFP increases. Differences between KCPL and the other sectors were
16 largest before 1998, as all comparison groups including the peer group saw TFP declines
17 after 1998. For distribution operations, KCPL’s TFP growth is nearly double the TFP
18 growth for the comparison groups. Specifically, KCPL’s TFP increased at an average
19 annual rate of 1.5%, while peer group TFP and contiguous area TFP increased 0.8% per
20 year, and industry wide TFP increased 0.7% per year. As is the case with transmission
21 TFP, all sectors showed larger TFP gains before 1998 than they did after 1998.

22 Page 2 of Exhibit 3 presents the total factor productivity study results for customer
23 services and for integrated services as a whole. As mentioned, customer service includes

1 customer accounts, customer service and information, and sales operations categories.
2 Once again, KCPL's TFP growth greatly exceeded that achieved by the industry, the peer
3 group, and the contiguous area. Particularly noteworthy is the fact that KCPL's TFP for
4 customer service operations increased at an average annual rate of 6.4% after 1998, more
5 than doubling the rates obtained by the industry. Also shown on page 2 is TFP analysis
6 for integrated services. Since KCPL outperformed the industry, peer group, and
7 contiguous region in most elements, we expect that KCPL's company wide performance
8 would demonstrate similar high levels. This is indeed the case. As shown, KCPL's
9 company wide TFP has increased at an average annual rate of 2.6% for 1994 – 2004.
10 This far surpasses the 1.0% per year rate achieved by the contiguous area. The industry
11 as a whole realized a 0.6% increase in TFP, while the peer group experienced no change
12 over the 1994 – 2004 period.

13 Exhibit 4 shows the levels and trends for various cost diagnostics. Pages 1-4 provide
14 measures of the relative concentration of capital per unit of output for generation,
15 transmission, and distribution services. The measure of output is specific to each of the
16 service categories, and reflects the most relevant attribute of service for the category. For
17 generation, the relevant measure of output is energy (MWhs). Hence, the intensity of
18 capital use in generation is normalized (divided by) the quantity of MWhs produced. In
19 the case of transmission and distribution services, a relevant measure of output is peak
20 demand, which is also a main driver of power delivery services. Accordingly, the
21 measure of capital employed in transmission and distribution, for each of the utilities
22 used in the study including KCPL, is normalized by peak demands. Distribution capital
23 is also measured with respect to the level of customers served because, in addition to

1 peak demand, the number of customers is a major driver of investment in distribution
2 services.

3 Exhibit 4, page 1 (generation services) shows that KCPL uses capital more intensively
4 than the comparison groups, largely because of a high share of nuclear power within its
5 generation mix. The comparison groups and KCPL reveal steady declines in the use of
6 capital per unit of output during all periods, which contributes to productivity, suggesting
7 increases in resource use—i.e., greater output per unit of input. For the more recent
8 timeframe, 1998 – 2004, and the entire period (1994 – 2004) KCPL has obtained a
9 greater use of capital utilization than the industry, peer group, or the contiguous region.
10 While KCPL’s level of capital use in generation is comparatively high because of the
11 presence of nuclear power, KCPL’s gains in resource utilization sharply narrowed the
12 difference with respect to the other utilities by 2004. KCPL reduced the amount of
13 generation capital per megawatt-hour at a rate of 3.40% per year over the entire period.

14 Page 2 of Exhibit 4 presents the intensity of capital use in transmission, while page 3
15 presents the capital intensity measure for distribution. Whereas KCPL uses less
16 transmission capital per unit of peak demand than the comparison groups, KCPL uses
17 comparatively more distribution capital. The sharp difference in the relative levels of
18 transmission and distribution capital stated on a per-unit-of-output (MW) basis suggests
19 differences in the classification of power delivery facilities as transmission and
20 distribution. As mentioned earlier, it is more important to focus on the general trends,
21 where KCPL has experienced substantial gains at rates that are roughly equivalent to or
22 better than the industry, the peer group, and the utilities of the contiguous region.

1 Page 4 of Exhibit 4 shows O&M performance for distribution services on a per customer
2 basis. Page 5 of Exhibit 4 presents relative fuel costs and, as can be seen, KCPL has a
3 large advantage in level over all periods and in trends over 1998 – 2004 and 1994 – 2004.
4 The final set of cost diagnostics, as shown on pages 6 through 9 of Exhibit 4, present the
5 intensity of operations and maintenance (O&M) expenses per unit of capital. For
6 generation services, KCPL’s non-fuel O&M levels are at the lower side of the levels for
7 the comparison groups through the year 2000, and are below the comparison group from
8 2000 forward. The trends in non-fuel O&M expenses per unit of capital reveal that
9 KCPL’s experience is fairly high over the 1994 – 1998 timeframe, to be followed by
10 sharply improved performance for 1998 – 2004, which is also the case for the utilities of
11 the surrounding region. Over the entire period, the contiguous region out-performed
12 KCPL by 0.60%. Pages 7 and 8 of Exhibit 4 present the results for transmission and
13 distribution. KCPL’s O&M expenses in transmission are fairly low until 2004 and, as
14 with O&M expenses for other utilities of the region, show substantial increases over the
15 entire period. For distribution, KCPL’s O&M expenses are equivalent to that of the
16 industry, the peer group, and the contiguous region, on a unit of capital basis, and are
17 rising more rapidly than other utilities on average. While it is useful to examine
18 individual cost diagnostics of power delivery, the most relevant measure of overall
19 performance is the total bundle of resources employed including both capital and O&M
20 expenses and, on the basis, KCPL demonstrates substantial gains in resource utilization,
21 and productivity as well.

22 In terms of the customer service area, the operations and maintenance costs per customer
23 served, for KCPL at the beginning of the study period, were at a level equivalent to the

1 industry and the comparison groups. This advantage was eliminated in the late 1990's.
2 Since then, however, the very large gains in cost performance sharply reduced KCPL's
3 customer service operations and maintenance costs by the end of the study period, stated
4 on a per customer basis. Over the entire study period, KCPL reduced customer service
5 operations and maintenance costs substantially, and has sharply out-performed the
6 industry and the comparison groups. For the industry, customer service operations and
7 maintenance costs per customer increased over the study period, although only slightly.
8 Exhibit 5 shows results for four key indicators of KCPL's Corporate Scorecard process.
9 As can be seen, KCPL has satisfied its target levels for *Customer Satisfaction*, and we
10 observe increases in performance according to the metric *% Customers Returned to*
11 *Service in 2 Hours*, where performance has increased from 72% for 2004 to 79% for
12 2005. Similarly, *Customer Service and Call Speed of Response* also shows slightly
13 improved performance between 2004 (75%) and 2005 (77%). On the other hand, the
14 *System Average Interruption Duration Index* metric shows that, as expected at November
15 2005, the Company would fall short of the target level of 60.8 for 2005, with an
16 estimated score of 56.4. The SAIDI index of reliability is sensitivity to random weather
17 events, and reliability performance should only be gauged over several years.

18 **Q. Please summarize the results of the performance study of Kansas City Power and**
19 **Light Company.**

20 A. Our analyses reveal that, for the defined metrics most relevant to retail markets, with
21 particular emphasis on the trends over time, Kansas City Power and Light has performed
22 near the top of the electric services industry for the 1994 – 2004 timeframe. As I
23 discussed earlier, the most important and revealing measure of overall long-term

1 performance is total factor productivity, which is literally process efficiency; indeed,
2 growth in productivity along with innovation is the key driver of the success of firms,
3 industries, and economies. For these years, Kansas City Power and Light has achieved
4 one of the highest levels of productivity improvement in the U.S. electric industry.

5 From the outset, the purpose of the study was to perform an independent and objective
6 assessment of KCPL's performance. Accordingly, the study approach takes a fairly
7 comprehensive view in its assessment of performance, including the relative costs,
8 productivity, and service prices of KCPL with respect to comparable electricity service
9 providers. To ensure comparability, the assessment relies to a substantial extent on data
10 and information that is available within the public domain. The study results including
11 the quantitative assessment as well as other evidence affirm that, without question,
12 Kansas City Power and Light Company has obtained a very high level of performance
13 from the perspective of retail consumers over recent years.

14 **Q. Please review recent changes in the electric utility industry and how are such**
15 **changes impacting capital risks, the cost of equity, and the need for an adequate rate**
16 **of return.**

17 **A.** It is perhaps useful to begin with a review of events, changes, and the renewed challenges
18 that confront the electricity services industry. Generally, structural change refers to
19 changes in government policy, technology, and market rules. Most relevant to the
20 electric industry today are the changes that reach back to the Public Utility Regulatory
21 Policies Act (PURPA) of 1978. PURPA incorporated a number of provisions. In
22 particular, PURPA established so-called Qualifying Facilities (QFs) status, and assigned
23 the authority for determination of QF status to the Federal Energy Regulatory

1 Commission (FERC). QF status is set aside for certain renewable resources, and is
2 mostly targeted at cogeneration facilities. Once awarded QF status, such facilities are
3 entitled to sell power to the incumbent service provider at avoided costs, as determined
4 by state regulatory authorities. QF generators evolved and expanded to include
5 wholesale power merchants referred to as Non-Utility Generators (NUGs) that, within a
6 few years, became a sizable sector of wholesale markets. In brief, QFs allowed for
7 market entry into wholesale generation services, and ushered in an era of competition.

8 The introduction of NUGs such as AES Corporation and Sythe Industries appeared to be
9 successful and, given the comparatively high cost of embedded generation of the
10 incumbent service provider at the time, the notion of competitive generation services held
11 substantial appeal during the late 1980s. The apparent success of competitive entry
12 coupled with the growing interest in regulatory reform gave rise to Title VII of the
13 Energy Policy Act of 1992, which created Exempt Wholesale Generators (EWGs) and
14 required incumbent transmission service providers, mostly integrated electric utilities, to
15 open their networks to third parties that wished to wheel power among wholesale power
16 suppliers and purchasers.

17 Though initially small, wholesale transaction volume expanded rapidly beginning about
18 1996. Flourishing wholesale markets by 1997 precipitated a number of private
19 generation companies, many of which were subsidiaries of integrated electric companies,
20 and power trading operations run by commodity trading firms such as Williams Energy,
21 Morgan Stanley, and Enron to name a few. Even public authorities such as TVA
22 established wholesale trading floors. During this timeframe, the sheer volume of
23 transactions, coupled with the expanding growth of retail loads due to the robust

1 economy of the late 1990s, challenged system reliability within both the Eastern and
2 Western Interconnections. Importantly, the narrowing of supply margins and the
3 appearance of congested networks, as evidenced by a sharp rise in Transmission Load
4 Relief (TLR) actions of transmission providers, caused a huge increase in the volatility in
5 regional wholesale market prices, thus exposing buyers and sellers (including utilities,
6 and investors in utilities and energy companies involved in wholesale power markets) to
7 sharply higher risks.

8 Market participants including some regulators, perceived the need for the reform of
9 wholesale market arrangements in order to obtain price discovery, to ensure efficient
10 management of congestion, and to achieve efficient transaction scheduling. In response,
11 the Federal Energy Regulatory Commission expended a decade in implementing waves
12 of market reform, as evidenced in key initiatives including the Open Access
13 Transmission Tariff of Order 888, OASIS Sites of Order 889, the Capacity Reservation
14 Tariff (CRT), Order 2000 giving rise to Regional Transmission Organizations (RTOs),
15 and Standard Market Design (SMD) of 2002, which now appears to be effectively closed.
16 The experience of the industry regarding market restructuring which assets sales by
17 incumbent utilities, a much larger presence of independent generation, and highly volatile
18 wholesale markets, has not gone unnoticed by shareholders. The essential point is that
19 perceived risks are currently higher for the industry than in the past. A few highlights are
20 noteworthy:

21 1) The restructuring of the wholesale electricity market may potentially provide gains
22 to retail consumers. Getting there is proving to be challenging. Key attributes of
23 power systems, including non-storability and network externalities, imply that

1 wholesale power prices can demonstrate unusually high levels of price volatility.
2 Volatility of market prices increases risks, real and perceived, of investment in the
3 industry.

4 2) Transmission issues abound. Concerns include potential overlap in jurisdiction
5 regarding transmission, the implications for recovery of investment cost in
6 transmission, and the impact of transmission costs on the earnings of service
7 providers. As an example, under mandates contained in the Energy Policy Act of
8 2005, the FERC will apparently assume an enlarged role in electric reliability and
9 the expansion of transmission networks at the regional level. Transmission limits
10 can continue to impede delivery over the foreseeable future.

11 3) There is significant uncertainty about the future path of the industry. At one
12 point, it appeared that a structure involving locational pricing, unbundled
13 generation services, and an overlay of financial transmission rights was the only
14 feasible path for wholesale market design. However, that view may not represent
15 a consensus, and there is considerable uncertainty regarding the path and end state
16 of wholesale market restructuring. Locational markets have been adopted in some
17 regions of U.S. markets. However, there appears to be considerable interest in
18 alternative approaches in the organization of wholesale markets at this time.

19 I wish to emphasize that investors understand risks, and appreciate the various
20 dimensions of risk within the electricity industry, particularly where considerable new
21 construction is on the horizon. While the outcomes regarding some of these issues are
22 uncertain, the implications are clear. Specifically, private investors, commercial banks,
23 mutual funds, investment bankers, and financial rating agencies are increasingly

1 concerned about financial stability in view of the risks discussed above. Arguably, the
2 electricity services industry as whole carries larger business, regulatory, and financial
3 risks currently than in previous eras.

4 **Q. Do these considerations regarding investment in the electric industry warrant the**
5 **concern of the Kansas Corporation Commission and the setting of electricity prices?**

6 A. Yes, absolutely. As we discuss in detail above, the financial risks harbored by investors
7 relate to the more uncertain business and regulatory environment confronting electricity
8 service providers currently. These higher risks are present at a time when KCPL must
9 raise substantial amounts of external capital in order to fund its investment needs.

10 **Q. Are there other considerations that the Kansas Corporation Commission should use**
11 **to determine the return on equity?**

12 A. Yes. I encourage the Commission to make special recognition of the high standard of
13 productivity and overall performance achieved by KCPL over recent years, in its
14 deliberation of the return on equity and revenue requirement in the immediate docket.
15 The Company has adopted and implemented business practices and procedures that have
16 enabled the Company to sustain a clear cost advantage through high growth and
17 improvement of productivity. In the long term, the actions of the Company translate
18 directly into benefits to retail customers through lower customer bills, which have been
19 and are realized without compromise to delivered reliability and service.

20 **Q. Are there circumstances where the Commission should depart from estimates of the**
21 **cost of equity capital in setting the rate of return, and are such circumstances**
22 **currently present?**

1 A. Yes. In determining the rate of return level, the Commission should take a broad view
2 that fully accounts for the long-term interests of retail consumers and the region, while
3 also providing an adequate and fair return to investors. The interests of the community
4 are particularly important in KCPL's immediate filing in view of the resource plan.

5 What sets this situation apart, however, is the strong, positive link and interdependency
6 between the interests of the region, and adequate returns to shareholders.

7 More specifically, the schedule for implementation of KCPL's resource plan, as reached
8 through its collaborative process with stakeholders, is vital to retail markets and
9 consumers served by the Company, and to the larger region. As discussed elsewhere in
10 our filing, the resource plan requires substantial investment. To raise the needed external
11 capital at reasonable terms, the Company must satisfy defined credit requirements during
12 current periods for financial reporting. During these periods, however, the Company and
13 investors face considerable uncertainty and risks in the form of outside events—gas
14 markets, weather, and unit availability to name a few. Consequently, it is absolutely
15 necessary that the Commission set the authorized return at a sufficient level, so that the
16 construction program can proceed without delay in the presence of uncertain future
17 events. In short, adequate rate of return provides the necessary means to manage and
18 accommodate risks, thus enabling the implementation of the new resources in timely
19 fashion.

20 **Q. If the Commission is to depart from the estimated cost of capital in setting the**
21 **authorized rate of return, how is that to be implemented? What mechanism is**
22 **available to the Commission?**

1 A. A potential mechanism is to incorporate a performance allowance into the rate of return.
2 A performance allowance is of substantial value to retail consumers in the current
3 timeframe, where the Company is in the midst of implementing the Resource Plan. The
4 benefits arising from an allowance in the rate of return assume three dimensions:

5 1. Management and accommodation of Risk. The performance allowance
6 contributes to the resource plan by providing assurance that the returns to capital
7 are sufficient to enable the Company to raise new capital on reasonable terms, in
8 view of the heightened uncertainty associated with such construction and other
9 factors, such as those discussed above.

10 2. Endorsement. An allowance by the regulatory agency overseeing electricity
11 markets in Kansas conveys to capital markets that the regulators are behind the
12 Resource Plan, as assembled and agreed to by stakeholders and KCPL, and
13 approved by the Commission.

14 3. Alignment of Long-term Performance with the Interests of Consumers. An
15 allowance identifies the importance of market performance by utilities, as a basis
16 for realized returns to capital.

17 **Q. If the Kansas Corporation Commission is to consider a performance allowance for**
18 **the rate of return on common equity, what criteria and guideline should the**
19 **Commission use to determine the level for the allowance?**

20 A. We recommend that the Commission apply a rational principle and criterion in the
21 determining the appropriate level of a performance allowance inclusion within the rate of
22 return. In brief, the Commission should ensure that the net benefits to electricity
23 consumers, as obtained by the allowance, are sufficient to cover the allowance itself. By

1 satisfying this criterion, consumers and the State of Kansas are better off, and thus well
2 served. Second, the allowance should be of sufficient magnitude that it provides real
3 benefits as mentioned above, and is not lost in the noise of routine business operations.
4 In essence, the Commission should establish an allowance that is adequate to the task at
5 hand, in the suggested range of 50 – 100 basis points.

6 **Q. Can you please summarize your analysis, findings, and recommendations as**
7 **regarding the performance assessment of Kansas City Power and Light and the**
8 **implications for the return on equity recommendations?**

9 A. Yes. Kansas City Power and Light, as our study amply demonstrates, has obtained a very
10 high standard of market performance from the perspective of retail consumers. Our
11 performance study utilizes four categories of metrics. The most important of these is
12 total factor productivity, which captures the on-going improvement in resource efficiency
13 and utilization. By this measure, KCPL has achieved a high standard of overall
14 performance during the
15 1994 – 2004 timeframe. The Commission should recognize the performance of KCPL
16 and take account of the special circumstances attending the Resource Plan and the need
17 for external capital for its implication. To this end, I recommend that the Kansas
18 Corporation Commission consider the incorporation of a performance allowance into the
19 allowed rate of return on equity for the applicant Kansas City Power and Light, in the
20 determination of the revenue requirement in the current docket.

21 **Q. Does this conclude your testimony?**

22 A. Yes, it does.

**BEFORE THE KANSAS CORPORATION COMMISSION
OF THE STATE OF KANSAS**

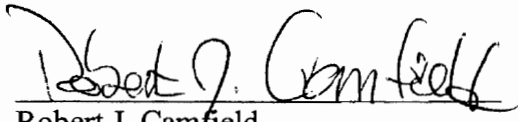
In the Matter of the Application of Kansas City)
Power & Light Company to Modify Its Tariff to) Case No. ER-2006-____
Begin the Implementation of Its Regulatory Plan)

AFFIDAVIT OF ROBERT J. CAMFIELD

STATE OF WISCONSIN)
COUNTY OF DANE)

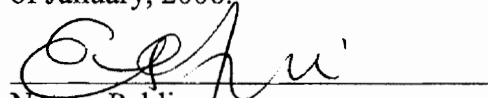
Robert J. Camfield, being first duly sworn on his oath, states:

1. My name is Robert J. Camfield. I work in Madison, Wisconsin, and I am employed by Christensen Associates Energy Consulting LLC as Vice President
2. Attached hereto and made a part hereof for all purposes is my Direct Testimony on behalf of Kansas City Power & Light Company consisting of thirty two (32) pages, having been prepared in written form for introduction into evidence in the above-captioned docket.
3. I have knowledge of the matters set forth therein. I hereby swear and affirm that my answers contained in the attached testimony to the questions therein propounded, including any attachments thereto, are true and accurate to the best of my knowledge, information and belief.



Robert J. Camfield

Subscribed and sworn before me this 27 day of January, 2006.



Notary Public

My commission expires: June 22, 2008

**Names of Utilities Incorporated In the Performance Study
(Industry Wide, Peer Group, and Contiguous Region)**

Industry Wide

Alabama Power Company
Allete, Inc.
Appalachian Power Company
Aquila, Inc.
Arizona Public Service Company
Avista Corporation
Black Hills Power, Inc.
Carolina Power & Light Company
Central Vermont Public Service Corporation
Cleco Power LLC
Columbus Southern Power Company*
Dayton Power and Light Company*
Duke Energy Corporation
El Paso Electric Company
Empire District Electric Company
Entergy Arkansas, Inc.*
Entergy Gulf States, Inc.
Entergy Louisiana, Inc.
Entergy Mississippi, Inc.*
Entergy New Orleans, Inc.
Florida Power & Light Company
Florida Power Corporation
Georgia Power Company
Green Mountain Power Corporation
Gulf Power Company
Hawaiian Electric Company, Inc.
Idaho Power Company*
Indianapolis Power & Light Company*
Kansas Gas and Electric Company
Kentucky Utilities Company*
Louisville Gas and Electric Company
MDU Resources Group, Inc.
Mississippi Power Company
Monongahela Power Company*
Nevada Power Company*
Northern Indiana Public Service Company*
Northern States Power Company
(Minnesota)
Ohio Power Company
Oklahoma Gas and Electric Company*
Otter Tail Corporation
Portland General Electric Company*
PSI Energy, Inc.
Public Service Company of Colorado
Public Service Company of New Mexico

Public Service Company of Oklahoma*
Sierra Pacific Power Company
South Carolina Electric & Gas Company*
Southern Indiana Gas and Electric Company
Southwestern Electric Power Company*
Southwestern Public Service Company*
Tampa Electric Company*
Tucson Electric Power Company
Union Electric Company
Virginia Electric and Power Company
Westar Energy, Inc.

Peer Group

Columbus Southern Power Company
Dayton Power and Light Company
Entergy Arkansas, Inc.
Entergy Mississippi, Inc.
Idaho Power Company
Indianapolis Power & Light Company
Kentucky Utilities Company
Monongahela Power Company
Nevada Power Company
Northern Indiana Public Service Company
Oklahoma Gas and Electric Company
Portland General Electric Company
Public Service Company of Oklahoma
South Carolina Electric & Gas Company
Southwestern Electric Power Company
Southwestern Public Service Company
Tampa Electric Company

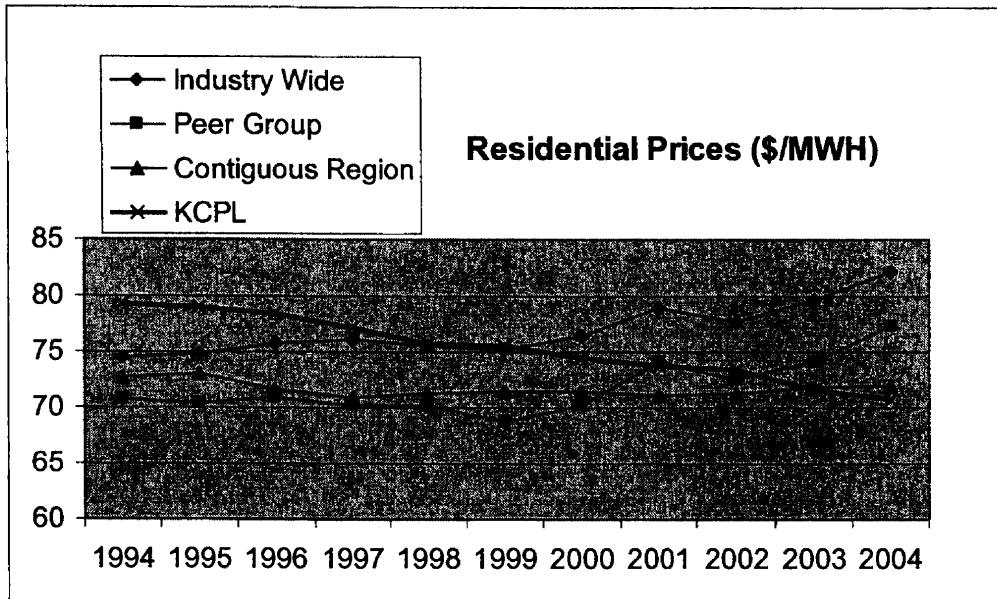
Contiguous Region

Aquila, Inc.
Empire District Electric Company
Kansas Gas and Electric Company
Oklahoma Gas and Electric Company
Union Electric Company
Westar Energy, Inc.

*Also a member of the Peer Group.

Retail Price Performance

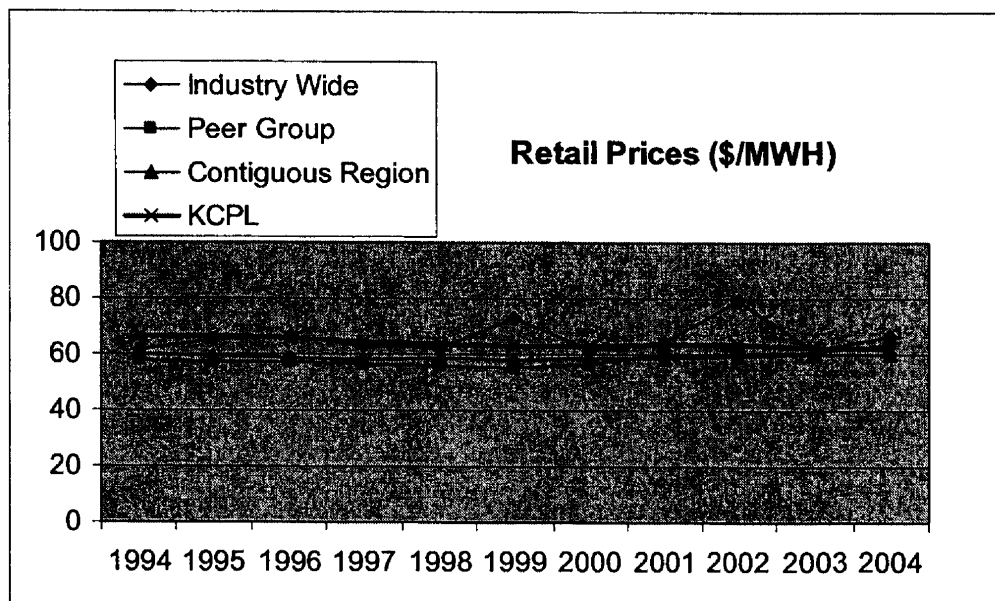
	Annual Rate of Change		
	1994-1998	1998-2004	1994-2004
Industry Wide	0.36%	1.40%	0.98%
Peer Group	-0.18%	1.61%	0.90%
Contiguous Region	-0.47%	0.15%	-0.09%
KCPL	-1.14%	-1.12%	-1.13%



Retail Price Performance

Annual Rate of Change

	1994-1998	1998-2004	1994-2004
Industry Wide	0.47%	1.14%	0.87%
Peer Group	-0.73%	2.15%	1.00%
Contiguous Region	-0.61%	0.37%	-0.02%
KCPL	-1.34%	-0.35%	-0.74%



Productivity

Generation TFP Growth Rates									
	1994-1998			1998-2004			1994-2004		
	TFP	Output	Input	TFP	Output	Input	TFP	Output	Input
Industry Wide	3.0%	3.9%	0.9%	-1.8%	-0.2%	1.5%	0.1%	1.4%	1.3%
Peer Group	2.5%	3.7%	1.2%	-2.6%	-1.6%	1.0%	-0.5%	0.5%	1.1%
Contiguous Area	1.3%	2.6%	1.3%	-0.1%	1.3%	1.4%	0.5%	1.8%	1.4%
KCPL	1.6%	0.6%	-1.1%	3.1%	3.7%	0.5%	2.5%	2.4%	-0.1%

Transmission TFP Growth Rates									
	1994-1998			1998-2004			1994-2004		
	TFP	Output	Input	TFP	Output	Input	TFP	Output	Input
Industry Wide	2.0%	1.9%	0.0%	-0.6%	0.6%	1.1%	0.4%	1.1%	0.7%
Peer Group	2.5%	2.2%	-0.3%	-1.5%	0.4%	2.0%	0.1%	1.2%	1.1%
Contiguous Area	6.2%	6.0%	-0.2%	-2.0%	0.3%	2.3%	1.3%	2.6%	1.3%
KCPL	0.3%	2.0%	1.7%	-1.7%	0.8%	2.5%	-0.9%	1.3%	2.2%

Distribution TFP Growth Rates									
	1994-1998			1998-2004			1994-2004		
	TFP	Output	Input	TFP	Output	Input	TFP	Output	Input
Industry Wide	1.6%	2.5%	0.9%	0.1%	1.4%	1.3%	0.7%	1.8%	1.1%
Peer Group	2.0%	2.9%	0.9%	0.0%	1.4%	1.4%	0.8%	2.0%	1.2%
Contiguous Area	2.7%	3.4%	0.7%	-0.4%	0.8%	1.2%	0.8%	1.9%	1.0%
KCPL	3.3%	2.6%	-0.6%	0.3%	1.3%	1.0%	1.5%	1.8%	0.3%

Productivity

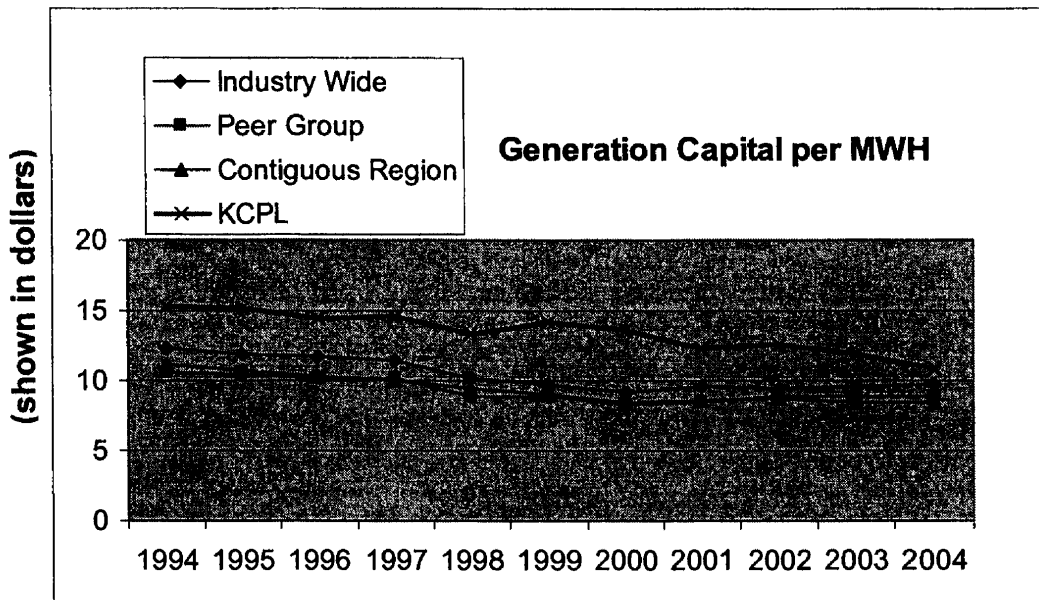
Customer Service TFP Growth Rates									
	1994-1998			1998-2004			1994-2004		
	TFP	Output	Input	TFP	Output	Input	TFP	Output	Input
Industry Wide	2.8%	1.7%	-1.1%	3.2%	1.5%	-1.7%	3.0%	1.6%	-1.5%
Peer Group	4.0%	1.8%	-2.1%	3.0%	1.6%	-1.3%	3.4%	1.7%	-1.6%
Contiguous Area	5.5%	1.4%	-4.1%	2.4%	1.0%	-1.4%	3.6%	1.1%	-2.5%
KCPL	2.1%	1.4%	-0.8%	6.6%	1.6%	-5.0%	4.8%	1.5%	-3.3%

Total Company TFP Growth Rates									
	1994-1998			1998-2004			1994-2004		
	TFP	Output	Input	TFP	Output	Input	TFP	Output	Input
Industry Wide	2.8%	4.5%	1.7%	-0.8%	1.0%	1.8%	0.6%	2.4%	1.8%
Peer Group	2.4%	4.4%	2.1%	-1.6%	0.0%	1.6%	0.0%	1.8%	1.8%
Contiguous Area	2.4%	3.5%	1.2%	0.2%	1.0%	0.9%	1.0%	2.0%	1.0%
KCPL	3.7%	3.1%	-0.7%	1.9%	2.3%	0.4%	2.6%	2.6%	0.0%

Cost Diagnostics

Annual Rate of Change

	1994-1998	1998-2004	1994-2004
Industry Wide	-5.05%	-0.68%	-2.43%
Peer Group	-4.15%	-0.18%	-1.77%
Contiguous Region	-4.31%	-1.82%	-2.82%
KCPL	-3.58%	-3.29%	-3.40%



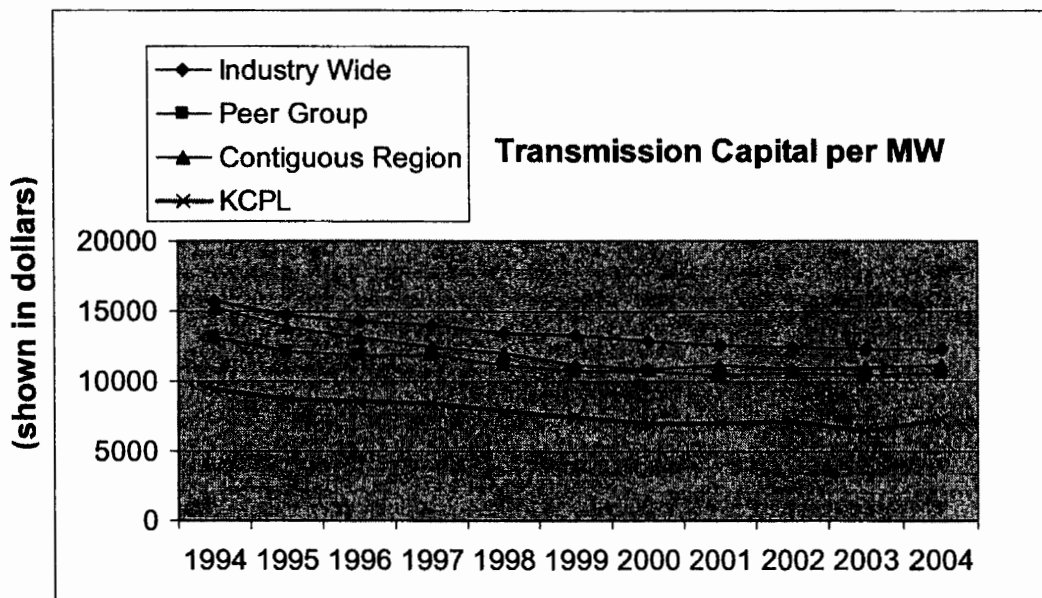
NOTE: The values shown above are the per unit of output-based rental value of capital resources, where the rental values reflect capital valued in 1984 dollars. As discussed in the technical appendix, rental value of capital is developed by employing the Christensen-Jorgensen methodology, which has been widely applied in productivity analysis in the United States and worldwide.

As an example, presume a load factor of 0.60, so that 1 MW of peak load translates into 5256 MWh of energy, annually. A rental value of capital of, say, \$12,000, is equal to \$2.28 per MWh, or 2.3 mills per kWh. With a capital charge rate including returns to capital, income taxes, and property taxes of approximately 14%, the implied value of the stock, which is equal to the per unit price of the stock times the quantity, is equal to \$16 per MWh or about \$85 per kW of demand.

Cost Diagnostics

Annual Rate of Change

	1994-1998	1998-2004	1994-2004
Industry Wide	-3.79%	-1.46%	-2.39%
Peer Group	-4.09%	-0.82%	-2.13%
Contiguous Region	-5.96%	-1.40%	-3.23%
KCPL	-4.45%	-1.22%	-2.51%



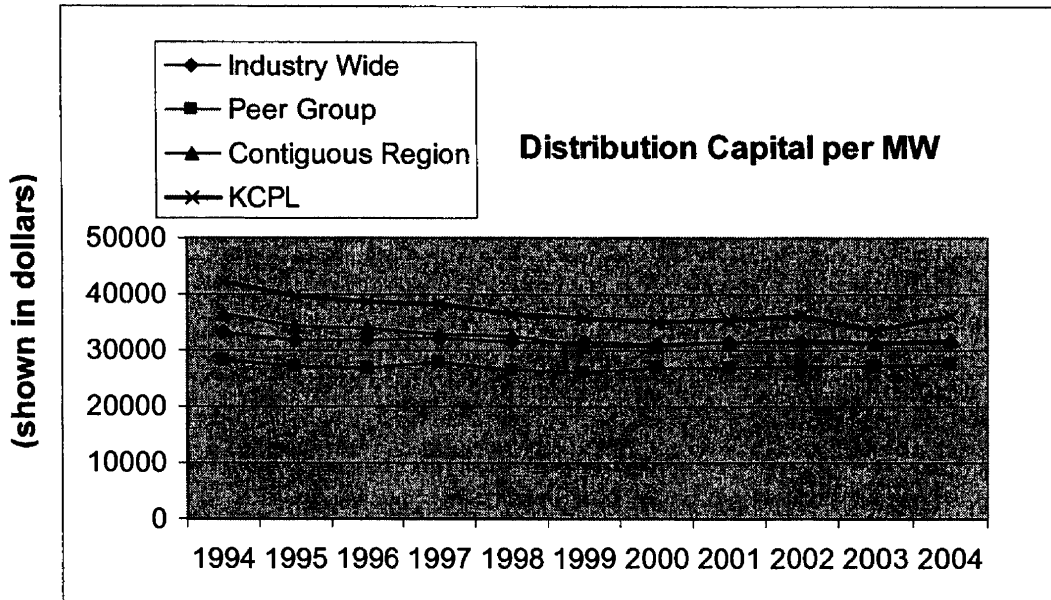
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Cost Diagnostics

Annual Rate of Change

	1994-1998	1998-2004	1994-2004
Industry Wide	-1.29%	-0.04%	-0.54%
Peer Group	-1.53%	0.45%	-0.34%
Contiguous Region	-3.07%	-0.34%	-1.44%
KCPL	-3.70%	-0.23%	-1.61%



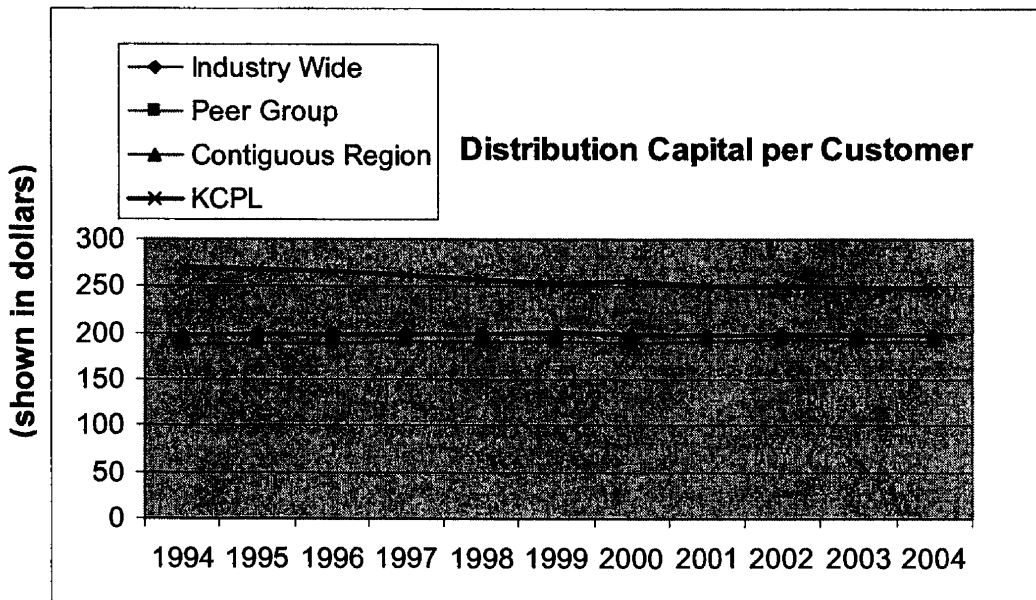
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Cost Diagnostics

Annual Rate of Change

	1994-1998	1998-2004	1994-2004
Industry Wide	0.16%	-0.12%	-0.01%
Peer Group	0.60%	-0.06%	0.20%
Contiguous Region	0.32%	-0.12%	0.06%
KCPL	-1.13%	-0.75%	-0.90%



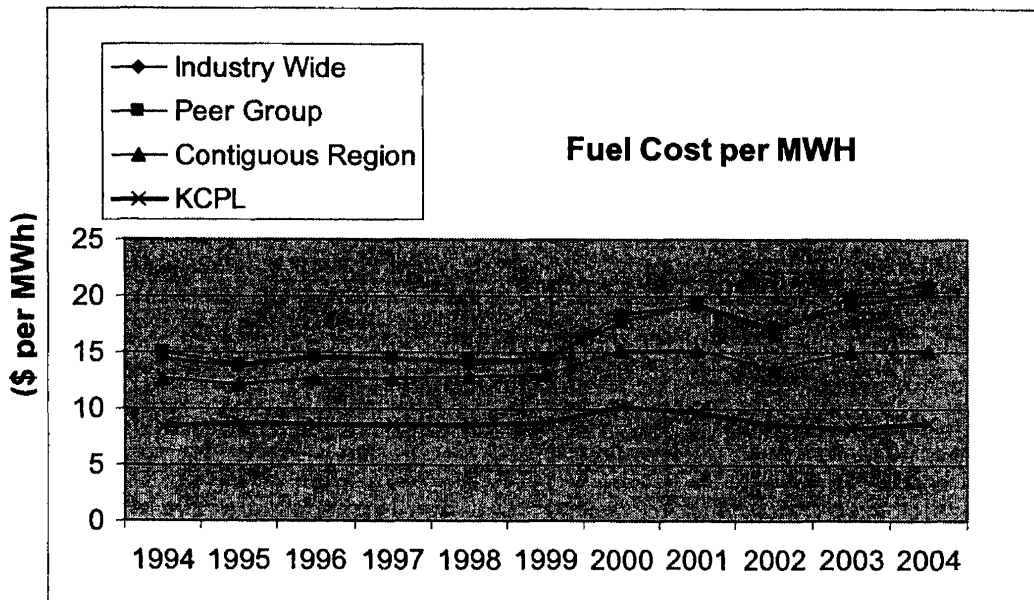
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Cost Diagnostics

Annual Rate of Change

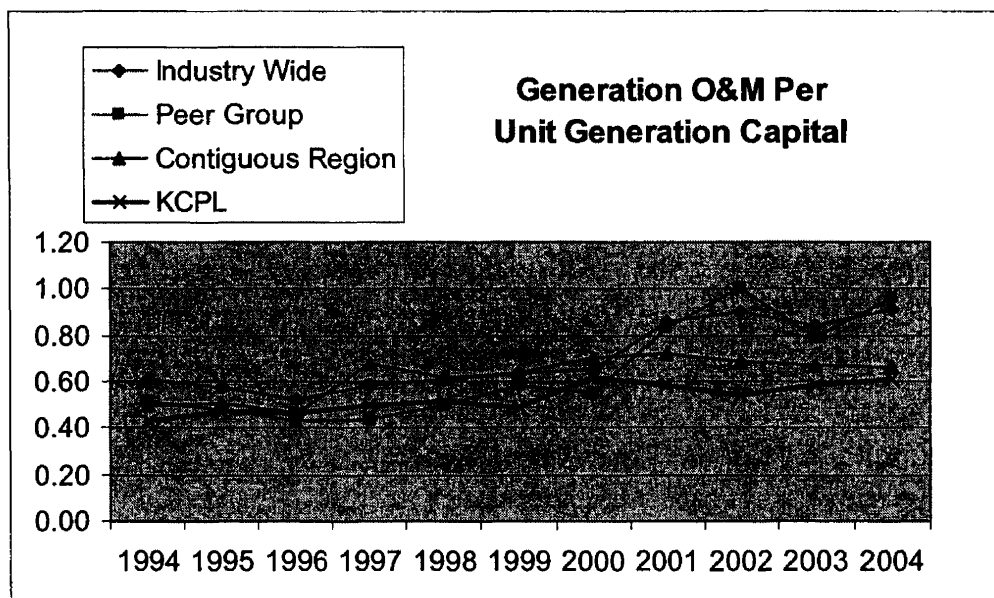
	1994-1998	1998-2004	1994-2004
Industry Wide	-0.77%	6.82%	3.79%
Peer Group	-1.41%	5.93%	2.99%
Contiguous Region	0.62%	2.77%	1.91%
KCPL	0.73%	0.19%	0.40%



Cost Diagnostics

Annual Rate of Change

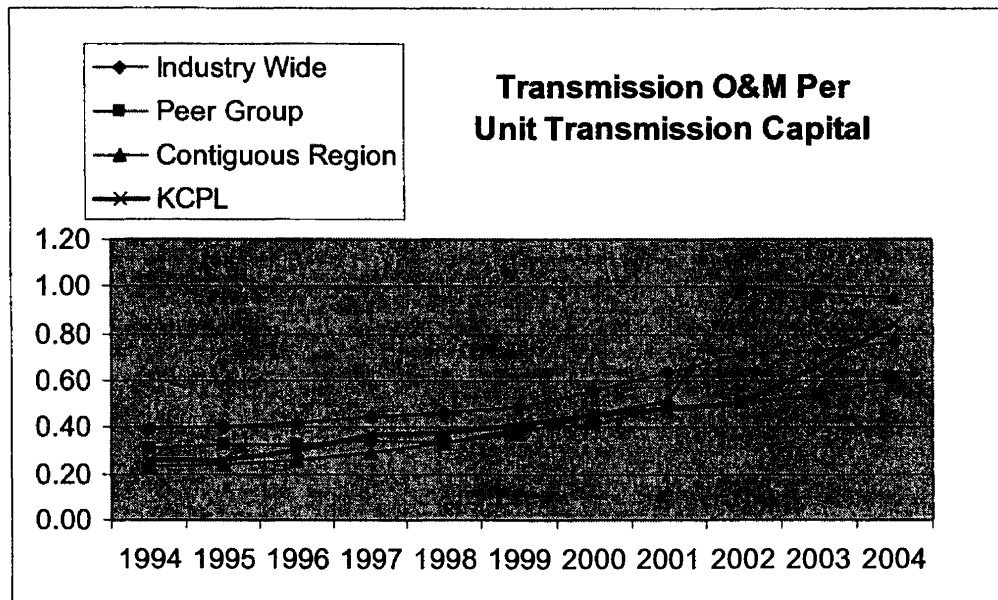
	1994-1998	1998-2004	1994-2004
Industry Wide	-0.03%	6.80%	4.07%
Peer Group	-1.04%	11.12%	6.26%
Contiguous Region	5.40%	1.27%	2.92%
KCPL	4.57%	2.78%	3.50%



Cost Diagnostics

Annual Rate of Change

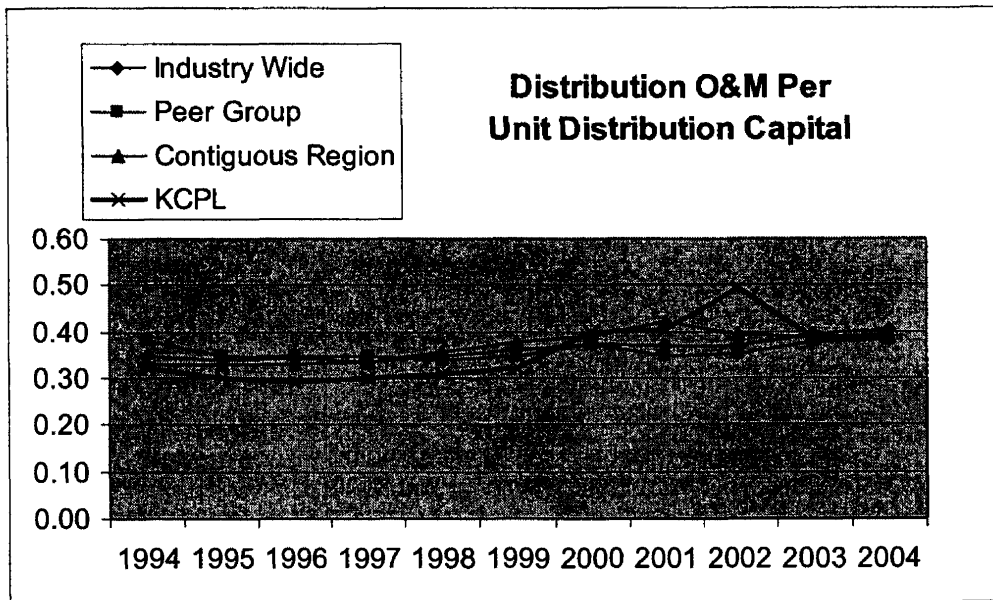
	1994-1998	1998-2004	1994-2004
Industry Wide	4.48%	8.20%	6.71%
Peer Group	1.67%	9.88%	6.60%
Contiguous Region	9.28%	17.46%	14.18%
KCPL	10.16%	13.14%	11.95%



Cost Diagnostics

Annual Rate of Change

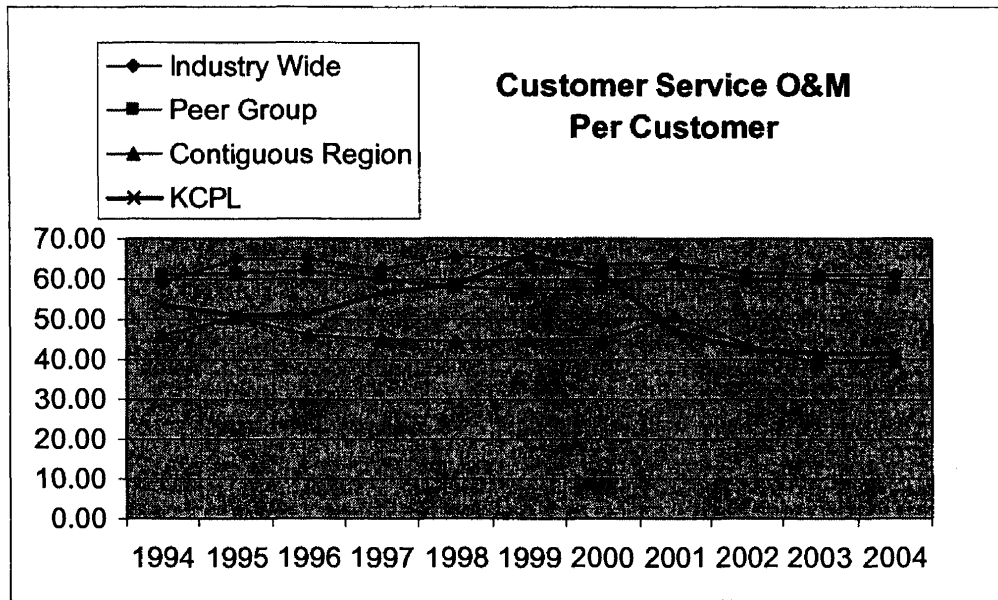
	1994-1998	1998-2004	1994-2004
Industry Wide	-0.02%	2.44%	1.46%
Peer Group	-2.90%	1.92%	-0.01%
Contiguous Region	2.06%	1.51%	1.73%
KCPL	-1.03%	3.87%	1.91%



Cost Diagnostics

Annual Rate of Change

	1994-1998	1998-2004	1994-2004
Industry Wide	2.59%	-1.21%	0.31%
Peer Group	-1.30%	-0.04%	-0.54%
Contiguous Region	-0.85%	-1.84%	-1.45%
KCPL	2.33%	-5.83%	-2.57%



Selected Metrics of Kansas City Power and Light's Balanced Scorecard

	<u>2004</u>	<u>2005</u>
Customer Satisfaction Index	97	97 – 101
SAIDI Index of Reliability	68.9	56.4
% Customers Returned to Service In 2 Hours	72%	79%
Customer Service and Call Speed of Response (% within 30 sec)	75%	77%