

Approved: Feb. 24, 1998
Date

MINUTES OF THE SENATE COMMITTEE ON UTILITIES.

The meeting was called to order by Chairperson Pat Ranson at 1:00 p.m. on February 12, 1998 in Room 313-S of the Capitol.

All members were present except:
Sen. Hensley was excused

Committee staff present: Lynne Holt, Legislative Research Department
Mary Torrence, Revisor of Statutes
Jeanne Eudaley, Committee Secretary

Conferees appearing before the committee:
Louis Stroup, Kansas Municipal Utilities
Barbara Hueter, Enron
Chris Giles, Kansas City Power and Light
Mike Taylor, City of Wichita
Earnest Lehman, Western Resources
Kim Gulley, League of Municipalities
Dave Dittmore, Kansas Corporation Commission
J. C. Long, Utilicorp United
Jon Miles, Kansas Electric Cooperatives
Walker Hendrix, Citizens' Utility Ratepayer Board

Others attending: See attached list

Sen. Ranson announced copies of "Project DESERVE Three-Year Summary" (Attachment 1) have been distributed to committee members. She also acknowledged members of the Kansas State Nurses Association who are guests of the committee today.

Sen. Ranson then announced the committee will hear:
SB 502-concerning retail electric bills to consumers; providing for disclosure of certain components

The following appeared as proponents:

Louis Stroup, (Attachment 2) (includes amendment);
Barbara Hueter, (Attachment 3) (includes amendment);
Chris Giles, (Attachment 4)
Mike Taylor, (Attachment 5)
Earnest Lehman, (Attachment 6) (includes amendment);
Kim Gulley, (Attachment 7)
David Dittmore, (Attachment 8)
J. C. Long, (Attachment 9)
Jon Miles, (Attachment 10)
Walker Hendrix, (Attachment 11)

There were no opponents.

Committee members questioned Mr. Stroup about amendments discussed in his testimony, especially the listing of the three components to be disclosed and also his amendment regarding inside and outside the three mile radius and voting rights. In answer to a question from Sen. Barone, Mr. Stroup stated that companies involved in this legislation would voluntarily unbundle and are supportive of unbundling, even if it has not been ordered by the Corporation Commission. Sen. Clark asked Mr. Stroup if any of the electrical coops hired outside firms to do their billing, and Mr. Stroup answered he does not know since other utilities, such as water and sewer, are billed on the same bill; he added that would be for the cities to determine.

CONTINUATION SHEET

MINUTES OF THE SENATE COMMITTEE ON UTILITIES, Room 531- -N, Statehouse, at 1:30 p.m. on February 12, 1998.

In answer to a question from Sen. Barone, Ms. Hueter stated in her testimony that she referred to rates as meaning the same as electric service. She also explained to the committee what "smart meters" are and how widespread they are being used. She also explained reasons for adding "customer service" charges as one of the components to be unbundled. Mr. Giles stated support for the amendment which will be proposed by Western Resources and emphasized two items of concern, the first being to allow two years after the Corporation Commission issues Rules to unbundle, and the second is to allow recovery of the costs, possibly through a surcharge. Sen. Ranson discussed "transactional taxes" and Ms. Torrence stated that would include sales, use and franchise taxes; Sen. Ranson suggested the term "transactional taxes" be defined in the bill.

Mr. Lehman stated support of the bill and referred to the amendment attached to his testimony, which involves the changes Mr. Giles suggested, to allow additional time after the Rules are completed for the recovery of reasonable costs. Sen. Ranson questioned Mr. Lehman regarding redesign of the billing system and how involved that will be. Mr. Lehman discussed the problems and stated Western Resources would probably have to redesign their billing system, once or twice; he also discussed the time involved and costs. He also proposed a waiver process that could be granted by the Corporation Commission and stated extreme concern in meeting the deadline as it exists in the bill. Sen. Ranson indicated interest in inserting a waiver process in the bill and requested staff to work on a draft. Sen. Ranson also questioned Ms. Gulley regarding representation of all cities in this process, and Ms. Gulley assured her that the League of Municipalities represents 527 member cities out of 627; that they also represent the 100, who aren't members, in cases as this one.

Mr. Dittmore stated support from the Corporation Commission for the bill and outlined two major reasons - it is a vehicle to provide customer education and it requires the Commission to establish prices for unbundled services, prior to implementing generation competition. He also recommended additional time for implementation of the bill, in Subsections B and C and also recommended that indirect taxes be eliminated as a separate line item on customer bills. Mr. Long also stressed support for the bill and stated the importance of customer education. He spoke of costs to his company in redesigning the billing system and pointed out that the fewer components required to be broken apart on the bill, the less expensive it would be.

Mr. Miles stated his hope that the rulemaking by the Corporation Commission be a collaborative effort with industry given opportunities to participate and have input into the process. He rejected the suggestion of metering being included in the components, as many of his associations' customers read their own meter and encouraged the committee to focus on restructuring the generation portion. Mr. Hendrix endorsed the amendment suggested by Ms. Hueter regarding the customer service charge and spoke of developing billing formats and future technology involving use of the Internet and other devices. He stated that meter reading should reduce costs to the customer. He referred to an article from the Public Utilities Fortnightly, February 1, 1998 issue entitled, "Integrating Metering & Information Systems", which is attached to his testimony. He encouraged the committee to look to technology and what it may offer in the future. He added that an important issue is how to allocate stranded costs/investment.

Meeting adjourned at 2:30.

The next meeting is scheduled for February 16, 1998.

SENATE UTILITIES COMMITTEE GUEST LIST

DATE: Feb. 12, 1998

NAME	REPRESENTING
Michelle Giovagnoli	KSNA: Avila College
Andert Kidwell	KSNA: Avila College
Mary Heft	KSNA: Avila College
Kathy Bayless	KSNA: Washburn University
DAVID BYBEE	KDOCH
Bruce Graham	KEPCO
Earlie Lehman	Western Resources
Jim Bradley	City of Ottawa
Sarah Plinsky	City of Ottawa
Kim Gulley	League of KS Municipalities
Louis Stroup Jr.	KANSAS Municipal Utilities
Wayne Kitcher	Western Resources
Joe Dick	BPU KCK
Chris Giles	KCPK
Melody McCracken	KSNA: Bethel College
Martha Grant	KSNA: Bethel College
	KSNA: Yubin Chu
Doris Stroup	Sumner Co. Leadership
William Graves	Bethel College KSNA

SENATE UTILITIES COMMITTEE GUEST LIST

DATE: Feb. 12, 1998

NAME	REPRESENTING
Stacy Roberts	Washburn Univ. Nrsq. Student
Amy Keimig	Washburn Univ. Nsg. Student
Randi Hamm RN	KSNA
THOMAS BOWES	BUTLER COMM. COLLEGE Nsg. Student
Eda B... Becky Cole	Wichita State University
Rilekah A. Birdall	NCCC Nrsq. Student
Janell Gonzalez	* Nsg. Student New Madrid Univ. Nursing
ED SCHAUB	WESTERN RESOURCES
Jon K Miles	KEC
Lester Murphy	KEC
Larrie Ann Brown	Kans. Govt Consulting
Amy Campbell	Midwest Energy
Walker Hendrix	CURB
Tracy Dittmore	
Kd My	Smith
Stephanie Blome	Washburn Univ. Nursing

Attach. 1
 Sum
 Ed Schaub

Project DESERVE Three-Year Summary

	<u>1995</u>	<u>1996</u>	<u>1997</u>
Source of Contributions Received			
Western Resources customers through monthly bills	\$313,385	\$250,402	\$296,703
Western Resources, WR employees, Wolf Creek employees	67,957	70,884	70,945
United Cities Gas Co., United Cities Gas Co. customers	14,332	39,810	33,778
Other, i.e., special gifts, etc.	6,758	48,945	3,988
Project DESERVE Trust Fund and interest	<u>48,339</u>	<u>62,983</u>	<u>39,185</u>
Totals	\$450,771	\$473,024	\$444,599

Western Resources Foundation Project DESERVE Giving History

Foundation gift for grants	\$52,000	\$57,400	\$59,000
Foundation gift for administration	<u>31,200</u>	<u>34,000</u>	<u>36,000</u>
Total Foundation gift	\$83,200	\$91,400	\$95,000

Dollars Awarded by Need Classification

Electric Service	\$223,713	\$204,444	\$234,953
Gas Service	154,528	156,225	164,965
Other Energy Related Needs	<u>48,597</u>	<u>35,782</u>	<u>35,354</u>
Totals	\$426,838	\$396,451	\$435,272

Number of Grants Awarded

	3,174	3,113	3,343
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Since Project DESERVE was started in 1982, \$4,038,056 has been awarded through December 31, 1997. These voluntary contributions have provided help 29,386 times.

Project DESERVE is administered by the Midway-Kansas Chapter American Red Cross in Wichita. In partnership with 26 other Red Cross chapters and nine social service agencies throughout KPL and KGE service territories, the program is administered.

Senate Utilities
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 1-1

Attach. 2

TESTIMONY ON SB 502

Before Senate Utilities Committee

February 12, 1998

Madam Chairman, members of the committee, I am Louis Stroup, Jr., executive director of Kansas Municipal Utilities, Inc., a statewide association of municipal electric, gas and water cities which was founded in 1928 and whose members provide utility services to more than 1 million Kansans.

KMU SUPPORTS UNBUNDLING, SB 502 WITH PROPOSED AMENDMENTS

KMU supports electric cost unbundling. We feel, however, it is inappropriate to develop a one-size fits all unbundling formula. We do have concerns about the impact the bill as written will have on many of the 121 cities operating municipal electric systems-- 77 of which are cities of the third class with populations under 2,000 and the fact that it places 17 of our electric cities under the jurisdiction of the Kansas Corporation Commission for unbundling.

Therefore, we are requesting two amendments (attachment A) to assist cities in complying with unbundling while keeping costs down to the cities and their electric customers.

KMU feels the primary goal of unbundling is one of education. **We feel our municipal electric bills should be kept as simple as possible, yet provide the essential basic components.** This would lower the confusion factor as well as reduce the cost of unbundling to our customers.

Currently, we are working with the Kansas Municipal Energy Agency to develop a cost unbundling package for the 121 cities. A consulting firm in Wichita has already completed pilot projects for the cities of Kingman and Winfield and we were extremely pleased with the outcome of the pilots. I also might add that the cities of Chanute, Iola and Ottawa are proceeding to unbundle their costs as soon as possible and have contacted the Wichita firm. Although this work only involves distribution costs, we expect to begin developing the generation cost package sometime this summer. The Wichita firm is doing similar work for the Iowa and Minnesota state associations, as well as for the American Public Power Association. A copy of the "work scope" of our unbundling project is attached.

CONCERNS

(1) We will strive to accomplish cost unbundling by the deadline of January 1, 2000; but this date may not be realistic.

Kansas Municipal Utilities, Inc.

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(2) Cost. It is our best estimate that consulting services to unbundle distribution costs for 120 of our cities could be between \$400,000 and \$500,000. Generation cost unbundling could add another \$50,000 or so. These estimates do not include figures for our largest electric utility, the Kansas City Board of Public Utilities. BPU officials said the utility would have to totally reprogram and purchase an entire new computer system. The estimated cost at this point would be about \$7 million. I stress this is BPU's estimate based on preliminary studies -- the actual cost to BPU could be higher or lower.

But to comply is not simply a matter of hiring a consultant to assist in unbundling of cost components. Unless you simplify the data that bills must contain, most cities will have to purchase new billing systems, develop new record keeping procedures, train personnel, etc. These could be major expenses and we have no estimate of what it would cost to comply with the detailed information mandated in SB 502.

A previous KMU Billing Practices Survey indicated only 9 of 142 KMU member cities responding use envelope billing, the remaining 133 utilize post cards. Of those 9, only 5 were electric cities. Many of the smaller municipal electric cities have very limited revenue sources to direct toward these mandated changes. Radium had gross electric revenues in 1995 of \$39,000 (before expenses), Vermillion \$54,000 (see Attachment B).

Radium has 21 customers, therefore cost of unbundling could be a large financial burden to these customers:

Cost to unbundle:	Cost per customer
\$4,000	\$190.48
\$10,000	\$476.19
\$15,000	\$714.29

(3) SB 502 places 17 municipal electric utilities under the Kansas Corporation Commission for this purpose (K.S.A. 66-104). We strongly object to being under the KCC for unbundling purposes. That usurps local control and just adds another cost layer.

REQUESTED AMENDMENTS

Our amendments are shown on attachment A:

2-3

SENATE BILL No. 502

By Committee on Utilities

1-26

9 AN ACT concerning retail electric bills to consumers; providing for dis-
10 closure of certain components.

11
12 *Be it enacted by the Legislature of the State of Kansas:*

13 Section 1. (a) As used in this section:

14 (1) "Commission" means the state corporation commission.

15 (2) "Competitive transition charges" means any charges authorized
16 by law to be assessed to retail electric consumers to recover costs, liabil-
17 ities and investments that an electric public utility, electric cooperative
18 or municipal electric utility would reasonably expect to recover under the
19 existing regulatory structure but that would not otherwise be recovered
20 as a result of implementation of competition in retail sales of generation
21 service.

22 (3) "Distribution services" means services provided from the point
23 where electricity enters the distribution system to the point at which the
24 electricity is delivered to consumers.

25 (4) "Generation services" means provision of electricity and capacity
26 to generate electricity but does not include transmission or distribution
27 services.

28 (5) "Electric cooperative" means an electric cooperative public utility
29 that is not subject to the jurisdiction of the commission.

30 (6) "Electric public utility" means an electric public utility, as defined
31 by K.S.A. 66-101a and amendments thereto, that is subject to the juris-
32 diction of the commission

33 (7) "Transmission services" means services provided from the point
34 where electricity is generated to the point at which the electricity enters
35 the distribution system.

36 (8) "Universal service charges" means any charges authorized by law
37 to be assessed to retail electric consumers to recover costs of public ben-
38 efits related to provision of electricity.

39 (b) Before January 1, 1999, the commission shall adopt rules and
40 regulations requiring that, on and after January 1, 2000, an electric public
41 utility's retail electric bills to consumers shall disclose the components
42 specified by subsection (d) and such other components as the commission
43 determines will adequately inform consumers.

; but does not include any municipal electric utility or any portion thereof.

2-4

1 (c) On and after January 1, 2000:

2 (1) An electric cooperative public utility's retail electric bills to con-
3 sumers shall disclose the components specified by subsection (d) and such
4 additional components as the cooperative determines will adequately in-
5 form consumers; and

6 (2) a municipal electric utility's retail electric bills to consumers shall
7 disclose the ~~components specified by subsection (d)~~, the component at-
8 tributable to budgeted transfers to the city general fund, and such addi-
9 tional components as the governing body of the municipality determines
10 will adequately inform consumers.

**following three components:
generation service charges and
purchase power costs, distribution and
transmission service charges,**

11 (d) The following components are required to be disclosed pursuant
12 to subsections (b) and (c):

- 13 (1) Generation service charges;
- 14 (2) distribution service charges;
- 15 (3) transmission service charges;
- 16 (4) competitive transition charges, if any;
- 17 (5) universal service charges, if any;
- 18 (6) transactional taxes relating to the sale or furnishing of electricity
19 at retail; and
- 20 (7) the portion of the bill attributable to other taxes included in rates.

21 Sec. 2. This act shall take effect and be in force from and after its
22 publication in the statute book.



DAVID M. GRIFFITH & ASSOCIATES, LTD.
Professional Services for the Public Sector
940 N. Tyler Road, Suite 204
Wichita, Kansas 67212
316-729-0732 Fax: 316-729-0733
January 2, 1998

Louis Stroup, Jr.
Executive Director
Kansas Municipal Utilities, Inc.
P.O. Box 1225
McPherson, Kansas 67460

James R. Widener
General Manager
Kansas Municipal Energy Agency
6330 Lamar Avenue, Suite 110
Overland Park, Kansas 66202-4247

Gentlemen:

As you are aware, our pilot project to unbundle the service costs for two Kansas municipal electric utilities has been successfully completed. Pursuant to your request, I have prepared the following proposal letter to expand the unbundling project state wide, to potentially include all KMU and KMEA members.

Work Scope

David M. Griffith & Associates, Ltd. (DMG) proposes to complete the unbundling process on behalf of any KMU/KMEA member utility that desires such services.

As you are aware, the unbundling process that we utilize conforms with the method recommended by the American Public Power Association (APPA). In fact, we can claim to have "written the book" on unbundling for municipal electric utilities since we actually authored the APPA manual now available on that subject. *In addition, we believe that the process that we utilize will provide the municipal utilities with the information necessary to satisfy the disclosure clause within the legislation being considered regarding "retail wheeling".* This means that municipals that elect to go through the unbundling process will have at their disposal the detailed cost components necessary to adequately inform consumers as is required in the pending legislation.

As part of the unbundling service offered by DMG, our staff will:

- 1) Unbundle the costs of providing utility services by customer class and specific service. The format of the results of this process will vary somewhat from utility to utility depending upon the customer classes presently in place as well as the types of services offered.



However, at a minimum **each customer class** will be unbundled to reflect the costs associated with -

- a) Distribution system usage
- b) Metering activity
- c) Customer records and billing
- d) Production related services

A generic example of the summary information to be provided is shown as Attachment A of this proposal. Also, as recommended within the APPA manual, DMG will further identify the cost of each service by resource component. This allows for the determination of cost drivers, factors crucial to the effective management of a given service. An example of this information is provided in Attachment B.

- 2) Provide the computerized software utilized in the unbundling process. This DMG copyrighted PC based software will be licensed to each participating municipal utility, enabling them to internally update the study or perform "what-if" scenario modeling if so desired.
- 3) Provide to KMU/KMEA a comparative summary report and database which includes the unbundled cost data for each municipal utility that chooses to participate.

General Approach/Member Responsibilities

Under this proposal, DMG is responsible for all tasks necessary to complete the work scope previously described. KMU/KMEA member utilities that decide to participate in this program should be prepared to devote between 4 to 8 hours of time to assist in the cost analysis. This commitment includes providing financial and operational information, answering general questions regarding current policy/procedures and reviewing draft cost results.

From our prior experiences, it appears that we can obtain all necessary information from two different sources. First of all, we receive operational information from the Utility Director/Superintendent or an equivalent position. Financial and billing data normally can be supplied by the City Clerk or a key individual from that office.



We urge those member utilities concerned about this process to contact one of the individuals listed below. The following people served as our liaisons during our pilot unbundling projects:

City of Winfield

Colin Whitley (316) 221-5505

Diane Rosecrans (316) 221-5514

Director of Electric Utility

City Clerk

City of Kingman

Ira Hart (316) 532-2147

Cindy Conrardy (316) 532-2147

Electric Superintendent

City Clerk

Staffing/Schedule

Jerry McKenzie, a Vice President for DMG and author of the American Public Power Association's unbundling manual, will serve as a Project Director for this engagement. Bill Maus, a Senior Manager for DMG based out of our Wichita office, will also be a Project Director. Both individuals have extensive specific experience in both electric utility operations and cost accounting. (Resumes are attached.)

Other DMG professionals will be involved in data gathering and information processing depending upon project volume. However, either Mr. McKenzie or Mr. Maus will be responsible for cost analysis, quality control and serve as the primary contact with each participating utility.

The unbundling process normally requires about two weeks to complete for each utility. However, depending upon location and the volume of participants this may vary. Regardless, draft results could be expected to be available within one month of the initiation of the unbundling efforts for each participant.

Fees

DMG will complete all aspects of this proposal for a fee of four thousand dollars (\$4,000) *per participating member utility*. This represents a fixed fee that includes the completion of the unbundling cost analysis and provides each participant with a licensed copy of the DMG designed software necessary to update the cost study.



DMG

Benefits/Closing

There are a variety of benefits that KMU/KMEA member utilities can expect as an outcome of participating in this project:

- The creation of an unbundled cost structure for each participating utility based on their actual operational characteristics.
- Adherence to the “disclosure clause” within the pending legislation regarding retail wheeling.
- The cost analysis can serve as an aid in assessing the impact of retail competition on the City and its utility. The detailed study results can even be used to determine the impact assuming the loss of a retail customer.
- The unbundling project will provide valuable management information that can assist the utility in enhancing its competitive position.
- Once all participants data is assembled into a comparative database, KMU/KMEA member utilities will have the benchmark data essential in establishing strategy in the competitive, market-driven environment of the future.

David M. Griffith & Associates, Ltd. is confident that KMU/KMEA members will benefit from participating in this project and we are committed to satisfying the need that has arisen regarding the unbundling of municipal electric utility services.

Sincerely,

DAVID M. GRIFFITH & ASSOCIATES, LTD.

Jerry McKenzie
Vice President

Attachments

ATTACHMENT A

2-9

ANY CITY MUNICIPAL ELECTRIC UTILITY ELECTRIC UTILITY UNBUNDLING SUMMARY		Residential	Commercial	Large Power	City	Totals	
Customer Class Statistics:							
Section One	Revenue	\$ 835,000	\$ 465,000	\$ 870,000	\$ 52,000	\$ 2,222,000	
	Energy- KWH	13,000,000	8,000,000	18,000,000	1,000,000	40,000,000	
	Number of customers	1,500	300	10	50	1,860	
	Number of meters	1,525	310	10	55	1,900	
Fiscal 1996 Unbundled Activity Costs:							
Production Related-							
Section Two	Energy	\$ 575,000	68%	\$ 350,000	74%	\$ 575,000	
	Demand	-		-		65,000	
	Distribution Related-						
	System Usage	169,000	20%	104,000	22%	234,000	27%
	Metering	27,450	3%	5,580	1%	180	0%
	Customer Records/Billing	72,000	9%	14,400	3%	480	0%
Total	\$ 843,450	100%	\$ 473,980	100%	\$ 874,660	100%	
Fuel Adjustment						20,000	
Area Lights						2,000	
Grand Total Expenditures (Ks Form E6)						<u>\$ 2,268,480</u>	
Average Unbundled Costs- kWh Billing Basis:							
Production Related-							
Section Three	Energy/Demand	\$0.0442	68%	\$0.0438	74%	\$0.0356	
	Distribution Related-						
	System Usage	\$0.0130	20%	\$0.0130	22%	\$0.0130	27%
	Metering	\$0.0021	3%	\$0.0007	1%	\$0.0000	0%
	Customer Records/Billing	\$0.0055	9%	\$0.0018	3%	\$0.0000	0%
Total Average Cost	\$0.0649	100%	\$0.0592	100%	\$0.0486	100%	
Average Revenue per kWh		\$0.0642		\$0.0581		\$0.0483	
Cost Recovery Level		99.0%		98.1%		99.5%	
Unbundled Costs- per Unit of Service:							
Production Related-							
Section Four	Energy (per kWh)	\$0.0442		\$0.0438		\$0.0319	
	Demand (per kW)	-		-		present structure	
	Distribution Related-						
	System Usage (per kWh)	\$0.0130		\$0.0130		\$0.0130	\$0.0130
	Metering (monthly, per meter)	\$1.50		\$1.50		\$1.50	\$1.50
Cust. Rec/Bill (mo., per cust.)	\$4.00		\$4.00		\$4.00	\$4.00	
** SEE ATTACHMENT B							

2-

ATTACHMENT B

ANY CITY MUNICIPAL ELECTRIC UTILITY UNBUNDLED COST COMPOSITION

SERVICE: DISTRIBUTION SYSTEM USAGE

COST COMPONENT		DISTRIBUTION SYSTEM USAGE		
		ANNUAL COST (column 1)	COST PER UNIT (column 2)	PERCENT OF TOTAL (column 3)
Attributable Costs:				
1	Salaries and wages	\$ 125,000	\$ 0.0031	24%
2	Fringe benefits	35,000	\$ 0.0009	7%
3	Insurance	14,000	\$ 0.0004	3%
4	Prof. services	6,000	\$ 0.0002	1%
5	Training/printing/etc	5,000	\$ 0.0001	1%
6	Equip. maint.	6,000	\$ 0.0002	1%
7	Bldg/Radio Maint.	12,000	\$ 0.0003	2%
8	Gen'l supplies	7,000	\$ 0.0002	1%
9	Line supplies	38,000	\$ 0.0010	7%
10	New vehicles	102,000	\$ 0.0026	20%
11	Improvements	8,000	\$ 0.0002	2%
12	Vehicle costs	7,000	\$ 0.0002	1%
13	Equip. repairs	10,000	\$ 0.0003	2%
	Subtotal	\$ 375,000	\$ 0.0094	72%
Non-Attributable Costs:				
14	Tsf-cash working capital	\$ 40,000	\$ 0.0010	8%
15	Tsf-franchise/admin chg	\$ 100,000	\$ 0.0025	19%
16	City administration	5,000	\$ 0.0001	1%
	Subtotal	\$ 145,000	\$ 0.0036	28%
17	TOTAL COST OF SERVICE	\$ 520,000	\$ 0.0130	100%
UNIT OF MEASURE (billing basis):				
18	<u>total kWh thru system</u>	40,000,000	- annual units of usage	
19	IDENTIFIED COST DRIVER:	<u>salaries and franchise charge</u>		

West Bend, City of ■
 Box 37
 West Bend, Iowa 50597-0037
 (street address: City Hall: zip: 50597)
 (515) 887-5585 fax: (515) 887-6412
 Mary Steil, City Administrator
 ultimate customers: 654
 nameplate capacity (kW): oil: 4,447
 1995 MWh generated: 280
 1995 MWh purchased: 12,585
 1995 MWh sold: retail: 11,104
 1995 revenues: retail: \$779,000
 est. 1915; electric employees: 5 or less
 NERC region: MAPP

West Liberty, City of
 409 N. Calhoun St.
 West Liberty, Iowa 52776-1344
 (319) 627-2418
 William T. Powers, City Manager
 ultimate customers: 1,384
 nameplate capacity (kW): oil: 6,356
 1995 MWh generated: 469
 1995 MWh purchased: 45,581
 1995 MWh sold: retail: 44,143
 1995 revenues: retail: \$2,572,000
 est. 1897; electric employees: 5 or less
 NERC region: MAPP

West Point, City of
 313 Fifth St.
 West Point, Iowa 52656-9402
 (319) 837-6313 fax: (319) 837-6010
 Jim Bethurem, City Administrator
 ultimate customers: 672
 1995 MWh generated: 0
 1995 MWh purchased: 11,683
 1995 MWh sold: retail: 10,961
 1995 revenues: retail: \$772,000
 NERC region: MAPP

Westfield, Town of
 Box 5
 Westfield, Iowa 51062-0005
 (712) 568-2631
 Barbetta Grimm, Clerk
 ultimate customers: 85
 1995 MWh generated: 0
 1995 MWh purchased: 780
 1995 MWh sold: retail: 780
 1995 revenues: retail: \$67,000
 NERC region: MAPP

Whitemore, City of
 Box 127
 Whitemore, Iowa 50598-0127
 (515) 884-2265
 Michael D. Elbert, Superintendent
 ultimate customers: 321
 nameplate capacity (kW): oil: 2,064
 1995 MWh generated: 36
 1995 MWh purchased: 5,095
 1995 MWh sold: retail: 4,913
 1995 revenues: retail: \$319,000
 est. 1915; electric employees: not reported
 NERC region: MAPP

Wilton, City of ■
 104 W. 4th St.
 Wilton, Iowa 52778-9496
 (319) 732-2929
 Collin Proctor, Electric Superintendent
 ultimate customers: 1,322
 nameplate capacity (kW): oil: 5,800
 1995 MWh generated: 134
 1995 MWh purchased: 23,145
 1995 MWh sold: retail: 21,376
 1995 revenues: retail: \$1,549,000
 est. 1893; electric employees: not reported
 NERC region: MAPP

Winterset Utilities ■
 321 N. John Wayne Drive
 Winterset, Iowa 50273-1504
 (515) 462-2152
 email: timm1@netins.net
 Tim Slavin, Electric Superintendent
 ultimate customers: 2,166
 nameplate capacity (kW): oil: 8,480
 1995 MWh generated: 281
 1995 MWh purchased: 43,860
 1995 MWh sold: retail: 36,434
 1995 revenues: retail: \$2,651,000
 est. 1889; electric employees: not reported
 NERC region: MAPP

Woodbine Municipal Light & Power * ■
 517 Walker St.
 Woodbine, Iowa 51579-1262
 (712) 647-2340 fax: (712) 647-2341
 Rory Weis, Superintendent
 ultimate customers: 755
 1995 MWh generated: 0
 1995 MWh purchased: 13,516
 1995 MWh sold: retail: 12,713
 1995 revenues: retail: \$554,000
 est. 1941; electric employees: 5 or less
 NERC region: MAPP

Woolstock, City of
 Box 57
 Woolstock, Iowa 50599-0057
 (515) 839-5531
 Hazel Brock, Clerk
 ultimate customers: 114
 1995 MWh generated: 0
 1995 MWh purchased: 1,561
 1995 MWh sold: retail: 1,435
 1995 revenues: retail: \$126,000
 NERC region: MAPP

Kansas

Alma, City of
 326 Missouri Ave.
 Alma, Kan. 66401-9776
 (913) 765-3922 fax: (913) 765-3323
 Max Kraus, Superintendent
 ultimate customers: 470
 1995 MWh generated: 0
 1995 MWh purchased: 6,559
 1995 MWh sold: retail: 6,055
 1995 revenues: retail: \$497,000
 est. 1938; electric employees: 5 or less
 NERC region: SPP

Altamont, City of
 Box 305
 Altamont, Kan. 67330-0305
 (street address: 407 S. Houston; zip: 67330)
 (316) 784-5612 fax: (316) 784-5882
 Denzil Davidson, Superintendent
 ultimate customers: 523
 1995 MWh generated: 0
 1995 MWh purchased: 7,426
 1995 MWh sold: retail: 7,156
 1995 revenues: retail: \$500,000
 est. 1934; electric employees: not reported
 NERC region: SPP

Anthony, City of ■
 124 S. Bluff Ave.
 Anthony, Kan. 67003-2512
 (316) 842-5960
 Grant K. Sechler, Jr., Superintendent
 ultimate customers: 1,996
 nameplate capacity (kW): gas: 11,100
 1995 MWh generated: 7,733
 1995 MWh purchased: 20,082
 1995 MWh sold: retail: 23,964
 1995 revenues: retail: \$1,443,000
 est. 1909; electric employees: 6 to 10
 NERC region: SPP

Arcadia, City of
 Box 126
 Arcadia, Kan. 66711-0126
 (316) 638-4344
 Yvonne Esquerio, City Clerk
 ultimate customers: 198
 1995 MWh generated: 0
 1995 MWh purchased: 1,832
 1995 MWh sold: retail: 1,448
 1995 revenues: retail: \$169,000
 est. 1913; electric employees: 5 or less
 NERC region: SPP

Arma, City of
 Box 829
 Arma, Kan. 66712-0829
 (street address: 701 E. Washington; zip: 66712)
 (316) 347-4125 fax: (316) 347-4492
 Marlin Lentz, Electrical Superintendent
 ultimate customers: 810
 1995 MWh generated: 0
 1995 MWh purchased: 10,463
 1995 MWh sold: retail: 8,882
 1995 revenues: retail: \$893,000
 est. 1909; electric employees: 5 or less
 NERC region: SPP

Ashland, City of
 Box 547
 Ashland, Kan. 67831-0547
 (street address: 703 Main St.; zip: 67831)
 (316) 635-2205 fax: (316) 635-2944
 A. Dean Rial, City Administrator
 ultimate customers: 694
 nameplate capacity (kW): gas: 4,075;
 oil: 900
 1995 MWh generated: 511
 1995 MWh purchased: 9,316
 1995 MWh sold: retail: 7,934
 1995 revenues: retail: \$603,000
 est. 1909; electric employees: 11 to 25
 NERC region: SPP

Attica, City of
 Box 421
 Attica, Kan. 67009-0421
 (316) 254-7228 fax: (316) 254-7866
 Ken Dixon, City Superintendent
 ultimate customers: 461
 nameplate capacity (kW): oil: 3,180
 1995 MWh generated: 413
 1995 MWh purchased: 5,820
 1995 MWh sold: retail: 6,218
 1995 revenues: retail: \$388,000
 est. 1915; electric employees: 6 to 10
 NERC region: SPP

Augusta, City of
 Box 489
 Augusta, Kan. 67010-0489
 (street address: Sixth & School Sts.; zip: 67010)
 (316) 775-7051
 Bill Webster, Superintendent
 ultimate customers: 3,973
 nameplate capacity (kW): gas: 22,636; oil: 1,106
 1995 MWh generated: 7,767
 1995 MWh purchased: 57,058
 1995 MWh sold: retail: 55,737
 1995 revenues: retail: \$3,501,000
 est. 1911; electric employees: not reported
 NERC region: SPP

Axtell, City of
 Box A
 Axtell, Kan. 66403-0130
 (street address: 401 Maple St.; zip: 66403)
 (913) 736-2834
 Roger Koch, Superintendent
 ultimate customers: 240
 1995 MWh generated: 0
 1995 MWh purchased: 2,572
 1995 MWh sold: retail: 2,199
 1995 revenues: retail: \$153,000
 NERC region: SPP

Baldwin City, City of
 Box 86
 Baldwin City, Kan. 66006-0086
 (913) 594-3261
 Rick Anderson, Director of Electric Utility
 ultimate customers: 1,281
 nameplate capacity (kW): oil: 6,120
 1995 MWh generated: 1,099
 1995 MWh purchased: 19,875
 1995 MWh sold: retail: 19,345
 1995 revenues: retail: \$1,644,000
 est. 1906; electric employees: 11 to 25
 NERC region: SPP

Belleville, City of ■
 Box 280
 Belleville, Kan. 66935-0280
 (street address: 1819 L St.; zip: 66935-2739)
 (913) 527-2288
 Roger W. Mock, City Manager
 ultimate customers: 1,503
 nameplate capacity (kW): oil: 13,125
 1995 MWh generated: 5,918
 1995 MWh purchased: 18,253
 1995 MWh sold: retail: 20,700
 1995 revenues: retail: \$1,533,000
 est. 1923; electric employees: 11 to 25
 NERC region: SPP

Beloit, City of ■
 Box 567
 Beloit, Kan. 67420-0567
 (street address: 119 N. Hersey Ave.; zip: 67420-2310)
 (913) 738-3551
 City Administrator
 ultimate customers: 2,057
 nameplate capacity (kW): oil: 19,350
 1995 MWh generated: 3,002
 1995 MWh purchased: 43,173
 1995 MWh sold: retail: 36,414
 wholesale: 696
 1995 revenues: retail: \$2,350,000
 est. 1890; electric employees: not reported
 NERC region: SPP

Blue Mound, City of
 Blue Mound, Kan. 66010-9999
 (913) 756-2281
 Ralph Kastl, Mayor
 ultimate customers: 170
 1995 MWh generated: 0
 1995 MWh purchased: 1,644
 1995 MWh sold: retail: 1,538
 1995 revenues: retail: \$131,000
 NERC region: SPP

Bronson, City of
 Box 54
 Bronson, Kan. 66716-0054
 (street address: 505 Clay St.; zip: 66716-3068)
 (316) 939-4578
 Ellen Harper, Clerk
 ultimate customers: 186
 1995 MWh generated: 0
 1995 MWh purchased: 2,218
 1995 MWh sold: retail: 1,800
 1995 revenues: retail: \$150,000
 est. 1926; electric employees: 5 or less
 NERC region: SPP

Burlingame, City of
 101 E. Santa Fe Ave.
 Burlingame, Kan. 66413-1203
 (913) 654-2414 fax: (913) 654-3612
 Cheryl Holloway, Clerk
 ultimate customers: 627
 nameplate capacity (kW): oil: 4,600
 1995 MWh generated: 1,357
 1995 MWh purchased: 7,609
 1995 MWh sold: retail: 7,294
 1995 revenues: retail: \$651,000
 est. 1902; electric employees: 5 or less
 NERC region: SPP

Iowa - Kansas

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Kansas continued

Burlington, City of
Box 207
Burlington, Kan. 66839-0207
(street address: 301 Neosho St.; zip: 66839-1940)
(316) 364-5334 fax: (316) 364-2996
Daniel K. Allen, Clerk
ultimate customers: 1,541
nameplate capacity (kW): gas: 7,900; oil: 600
1995 MWh generated: 2,398
1995 MWh purchased: 28,101
1995 MWh sold: retail: 27,624
1995 revenues: retail: \$1,988,000
est. 1935; electric employees: 6 to 10
NERC region: SPP

Cawker City, City of
804 Locust St.
Cawker City, Kan. 67430-0002
(913) 781-4713 fax: (913) 781-4436
Bennie Schmitt, Electric Superintendent
ultimate customers: 434
1995 MWh generated: 0
1995 MWh purchased: 4,769
1995 MWh sold: retail: 4,302
1995 revenues: retail: \$352,000
est. 1913; electric employees: 5 or less
NERC region: SPP

Centralia, City of
517 Fourth St.
Centralia, Kan. 66415-9640
(913) 857-3764
G. L. Luebbe
ultimate customers: 305
1995 MWh generated: 0
1995 MWh purchased: 3,455
1995 MWh sold: retail: 3,100
1995 revenues: retail: \$293,000
est. 1911; electric employees: 5 or less
NERC region: SPP

Chanute, City of ■
101 S. Lincoln Ave.
Chanute, Kan. 66720-2431
(316) 431-5200 fax: (316) 431-5209
Nancy A. Scott, City Manager
ultimate customers: 5,542
nameplate capacity (kW): gas: 19,700; oil: 32,865
1995 MWh generated: 3,712
1995 MWh purchased: 156,312
1995 MWh sold: retail: 161,940
1995 revenues: retail: \$8,973,000
est. 1903; electric employees: 11 to 25
NERC region: SPP

Chapman, City of
Box 321
Chapman, Kan. 67431-0321
(street address: 402 Marshall St.; zip: 67431)
(913) 922-6582
James Murrison, Superintendent
ultimate customers: 625
1995 MWh generated: 0
1995 MWh purchased: 7,739
1995 MWh sold: retail: 5,185
1995 revenues: retail: \$620,000
est. 1911; electric employees: 5 or less
NERC region: SPP

★ Member: DEED
(Demonstration of Energy-Efficient Developments)

■ Member: American Public Power Association

Chetopa, City of
Box 203
Chetopa, Kan. 67336-0203
(street address: 332 Maple St.; zip: 67336)
(316) 236-7511
Mary Addis, City Clerk
ultimate customers: 752
1995 MWh generated: 0
1995 MWh purchased: 10,640
1995 MWh sold: retail: 3,840
1995 revenues: retail: \$582,000
est. 1937; electric employees: not reported
NERC region: SPP

Cimarron, City of
Box 467
Cimarron, Kan. 67835-0467
(street address: 119 S. Main St.; zip: 67835)
(316) 855-2322 fax: (316) 855-3183
Larry Lubbers, City Superintendent
ultimate customers: 914
1995 MWh generated: 0
1995 MWh purchased: 14,225
1995 MWh sold: retail: 12,342
1995 revenues: retail: \$1,121,000
est. 1913; electric employees: 5 or less
NERC region: SPP

Clay Center Public Utilities ■
Box 117
Clay Center, Kan. 67432-0117
(street address: 427 Court St.; zip: 67432-2531)
(913) 532-2137 fax: (913) 632-3943
D. D. Diarling, Superintendent-Utilities
ultimate customers: 2,743
nameplate capacity (kW): gas: 17,600
1995 MWh generated: 16,414
1995 MWh purchased: 28,277
1995 MWh sold: retail: 40,482
1995 revenues: retail: \$2,827,000
est. 1907; electric employees: 11 to 25
NERC region: SPP

Coffeyville, City of ■
Box 1629
Coffeyville, Kan. 67337-0949
(316) 252-6180 fax: (316) 252-6172
Ron Sandusky, Director of Electric Utility
ultimate customers: 7,399
nameplate capacity (kW): gas: 58,500
1995 MWh generated: 76,665
1995 MWh purchased: 114,026
1995 MWh sold: retail: 176,447
1995 revenues: retail: \$11,450,000
est. 1901; electric employees: 26 to 50
NERC region: SPP

Colby, City of ■
585 N. Franklin St.
Colby, Kan. 67701
(913) 462-4400 fax: (913) 462-4444
Leonard Delzeit, Director of Public Power
ultimate customers: 2,792
nameplate capacity (kW): oil: 17,360
1995 MWh generated: 599
1995 MWh purchased: 55,986
1995 MWh sold: retail: 46,992
1995 revenues: retail: \$2,397,000
est. 1910; electric employees: 11 to 25
NERC region: SPP

Dighton, City of
Box 348
Dighton, Kan. 67839-0848
(316) 397-5541
Bill Dutoit, Superintendent
ultimate customers: 310
1995 MWh generated: 0
1995 MWh purchased: 9,952
1995 MWh sold: retail: 8,697
1995 revenues: retail: \$998,000
est. 1916; electric employees: not reported
NERC region: SPP

Ellinwood, City of
Box 278
Ellinwood, Kan. 67526-0278
(316) 564-2211 fax: (316) 564-3375
Daryle Nielsen, Electrical Superintendent
ultimate customers: 1,246
nameplate capacity (kW): oil: 8,500
1995 MWh generated: 898
1995 MWh purchased: 13,503
1995 MWh sold: retail: 13,272
1995 revenues: retail: \$1,337,000
est. 1948; electric employees: 6 to 10
NERC region: SPP

Elsmore, City of
Elsmore, Kan. 66732-9999
(316) 754-3875
Peggy Stewart, Clerk
ultimate customers: 60
1995 MWh generated: 0
1995 MWh purchased: 442
1995 MWh sold: retail: 335
1995 revenues: retail: \$33,000
NERC region: SPP

Elwood, City of
Box 357
Elwood, Kan. 66024-0357
(913) 365-6871 fax: (913) 365-0025
Bobby Hall, City Supervisor
ultimate customers: 431
1995 MWh generated: 0
1995 MWh purchased: 4,825
1995 MWh sold: retail: 3,222
1995 revenues: retail: \$411,000
NERC region: SPP

Enterprise, City of
Box 245
Enterprise, Kan. 67441-0245
(street address: 206 S. Factory; zip: 67441)
(913) 253-8323
Gene Flaagle, Mayor
ultimate customers: 382
1995 MWh generated: 0
1995 MWh purchased: 4,909
1995 MWh sold: retail: 4,145
1995 revenues: retail: \$344,000
est. 1910; electric employees: 5 or less
NERC region: SPP

Erie Municipal Light & Power
224 S. Main St.
Erie, Kan. 66733-1335
(316) 244-3488
Larry Gates, City Superintendent
ultimate customers: 696
nameplate capacity (kW): oil: 4,800
1995 MWh generated: 222
1995 MWh purchased: 10,541
1995 MWh sold: retail: 9,583
1995 revenues: retail: \$653,000
est. 1915; electric employees: not reported
NERC region: SPP

Eudora, City of
5th & Oak
Eudora, Kan. 66025
(913) 542-3100
Gary Matburg, Superintendent
ultimate customers: 1,584
1995 MWh generated: 0
1995 MWh purchased: 29,344
1995 MWh sold: retail: 24,705
1995 revenues: retail: \$1,881,000
NERC region: SPP

Fredonia Municipal Power Plant
314 N. 7th St.
Fredonia, Kan. 66736-1337
(316) 378-2231 fax: (316) 378-2693
Karen Shinn, Clerk
ultimate customers: 1,720
nameplate capacity (kW): oil: 7,425
1995 MWh generated: 654
1995 MWh purchased: 27,207
1995 MWh sold: retail: 22,138
1995 revenues: retail: \$2,243,000
est. 1901; electric employees: not reported
NERC region: SPP

Galva, City of
208 S. Main St.
Galva, Kan. 67443-0223
(316) 654-3561
Geoff C. Shafer, City Superintendent
ultimate customers: 344
1995 MWh generated: 0
1995 MWh purchased: 4,039
1995 MWh sold: retail: 3,529
1995 revenues: retail: \$295,000
est. 1918; electric employees: 5 or less
NERC region: SPP

Garden City, City of
Box 499
Garden City, Kan. 67846-0499
(street address: 301 N. Eighth St.; zip: 67846-5340)
(316) 276-1290 fax: (316) 276-1169
Richard Craft, Director, Electric Utility
ultimate customers: 9,427
1995 MWh generated: 0
1995 MWh purchased: 178,761
1995 MWh sold: retail: 156,716
1995 revenues: retail: \$12,447,000
NERC region: SPP

Gardner, City of
Box 225
Gardner, Kan. 66030-0225
(street address: 1150 E. Santa Fe; zip: 66030-1502)
(913) 856-7029 fax: (913) 856-7325
James L. Cole, Public Works Director
ultimate customers: 2,292
nameplate capacity (kW): oil: 39,200
1995 MWh generated: 7,326
1995 MWh purchased: 41,280
1995 MWh sold: retail: 39,781
wholesale: 7,326
1995 revenues: retail: \$2,682,000
wholesale: \$549,000
est. 1918; electric employees: 6 to 10
NERC region: SPP

Garnett, City of ■
Box H
Garnett, Kan. 66032-0230
(street address: 131 W. Fifth Ave.; zip: 66032-1321)
(913) 448-5496 fax: (913) 448-5555
Richard G. Doran, City Manager
ultimate customers: 1,801
nameplate capacity (kW): gas: 6,392; oil: 2,900
1995 MWh generated: 4,011
1995 MWh purchased: 23,734
1995 MWh sold: retail: 21,175
1995 revenues: retail: \$1,619,000
est. 1918; electric employees: 11 to 25
NERC region: SPP

Girard, City of ■
100 S. Ozark St.
Girard, Kan. 66743-1530
(316) 724-8918 fax: (316) 724-8060
William W. Crawford, City Administrator
ultimate customers: 1,608
nameplate capacity (kW): gas: 10,325
1995 MWh generated: 427
1995 MWh purchased: 29,689
1995 MWh sold: retail: 26,514
1995 revenues: retail: \$2,249,000
est. 1904; electric employees: 11 to 25
NERC region: SPP

Glasco, City of
Box 356
Glasco, Kan. 67445-0356
(913) 568-2705
Carl Adkins, Mayor
ultimate customers: 396
1995 MWh generated: 0
1995 MWh purchased: 3,729
1995 MWh sold: retail: 3,443
1995 revenues: retail: \$307,000
est. 1910; electric employees: not reported
NERC region: SPP

Glen Elder, City of
 Box 55
 Glen Elder, Kan. 67446-0055
 (street address: 101 S. Market St.; zip: 67446)
 (913) 545-3322 fax: (913) 545-3342
 Geneva Winkel, City Clerk
 ultimate customers: 364
 1995 MWh generated: 0
 1995 MWh purchased: 3,778
 1995 MWh sold: retail: 3,678
 1995 revenues: retail: \$302,000
 est. 1905; electric employees: not reported
 NERC region: SPP

Goodland, City of ★ ■
 Box 59
 Goodland, Kan. 67735-0059
 (street address: 1701 Cherry Street; zip: 67735-3251)
 (913) 899-4530
 Ed Wolak, Superintendent
 ultimate customers: 2,926
 nameplate capacity (kW): gas: 17,170; oil: 70
 1995 MWh generated: 8,108
 1995 MWh purchased: 38,220
 1995 MWh sold: retail: 42,193
 1995 revenues: retail: \$3,198,000
 est. 1937; electric employees: 11 to 25
 NERC region: SPP

Greensburg, City of
 239 S. Main St.
 Greensburg, Kan. 67054-1727
 (316) 723-2691
 Melvin Simmons, Superintendent
 ultimate customers: 1,049
 nameplate capacity (kW): gas: 7,300
 1995 MWh generated: 1,948
 1995 MWh purchased: 13,238
 1995 MWh sold: retail: 12,624
 1995 revenues: retail: \$916,000
 est. 1911; electric employees: not reported
 NERC region: SPP

Haven, City of
 120 S. Kansas St.
 Haven, Kan. 67543-8001
 (316) 465-3613 fax: (316) 465-3617
 Allen Andresen, Superintendent
 ultimate customers: 652
 1995 MWh generated: 0
 1995 MWh purchased: 10,467
 1995 MWh sold: retail: 9,066
 1995 revenues: retail: \$789,000
 est. 1908; electric employees: 5 or less
 NERC region: SPP

Herington, City of
 Box 31
 Herington, Kan. 67449-0031
 (street address: 19 N. Broadway; zip: 67449-2401)
 (913) 258-2271 fax: (913) 258-3552
 John Carder, City Manager
 ultimate customers: 1,549
 nameplate capacity (kW): gas: 8,900; oil: 840
 1995 MWh generated: 2,503
 1995 MWh purchased: 21,153
 1995 MWh sold: retail: 20,121
 1995 revenues: retail: \$1,460,000
 est. 1888; electric employees: not reported
 NERC region: SPP

Herndon, City of
 Box 98
 Herndon, Kan. 67739-0098
 (913) 322-5341
 Donald E. Grafel, Mayor
 ultimate customers: 170
 nameplate capacity (kW): oil: 300
 1995 MWh generated: 0
 1995 MWh purchased: 1,183
 1995 MWh sold: retail: 1,011
 1995 revenues: retail: \$118,000
 est. 1937; electric employees: 5 or less
 NERC region: SPP

Hill City, City of
 205 N. Pomeroy St.
 Hill City, Kan. 67642-1815
 (913) 674-5613 fax: (913) 674-3678
 Darrel A. Williams, Plant Superintendent
 ultimate customers: 1,100
 nameplate capacity (kW): gas: 7,265
 1995 MWh generated: 325
 1995 MWh purchased: 13,357
 1995 MWh sold: retail: 11,170
 1995 revenues: retail: \$1,277,000
 est. 1900; electric employees: 6 to 10
 NERC region: SPP

Hillsboro, City of
 116 E. Grand St.
 Hillsboro, Kan. 67063
 (316) 947-3188 fax: (316) 947-3482
 Lloyd Anderson, Electric Superintendent
 ultimate customers: 1,450
 1995 MWh generated: 0
 1995 MWh purchased: 20,368
 1995 MWh sold: retail: 17,427
 1995 revenues: retail: \$1,443,000
 est. 1930; electric employees: 5 or less
 NERC region: SPP

Hoisington, City of
 Box 418
 Hoisington, Kan. 67544-0418
 (street address: 164 S. Elm St.; zip: 67544-2538)
 (316) 653-4125 fax: (316) 653-2422
 City Manager
 ultimate customers: 1,810
 nameplate capacity (kW): gas: 13,000; oil: 200
 1995 MWh generated: 2,034
 1995 MWh purchased: 18,731
 1995 MWh sold: retail: 17,584
 1995 revenues: retail: \$1,307,000
 est. 1940; electric employees: 11 to 25
 NERC region: SPP

Holton, City of ■
 430 Pennsylvania Ave.
 Holton, Kan. 66436-1803
 (913) 364-2721 fax: (913) 364-3887
 Bradley J. Mears, City Manager
 ultimate customers: 2,220
 nameplate capacity (kW): oil: 16,270
 1995 MWh generated: 6,044
 1995 MWh purchased: 33,030
 1995 MWh sold: retail: 31,483
 1995 revenues: retail: \$2,609,000
 est. 1909; electric employees: 11 to 25
 NERC region: SPP

Holyrood, City of ■
 Box 67
 Holyrood, Kan. 67450-0067
 (street address: 110 S. Main St.; zip: 67450)
 (913) 252-3652
 Clarence Munsey, Superintendent
 ultimate customers: 316
 1995 MWh generated: 0
 1995 MWh purchased: 3,062
 1995 MWh sold: retail: 2,795
 1995 revenues: retail: \$235,000
 est. 1913; electric employees: not reported
 NERC region: SPP

Horton, City of
 Box 30
 Horton, Kan. 66439-0030
 (street address: 205 E. Eighth St.; zip: 66439-1826)
 (913) 486-2681 fax: (913) 486-2961
 Theodore M. Hauser, City Administrator
 ultimate customers: 1,060
 nameplate capacity (kW): unavailable
 1995 MWh generated: 808
 1995 MWh purchased: 19,857
 1995 MWh sold: retail: 10,426
 1995 revenues: retail: \$879,000
 est. 1912; electric employees: not reported
 NERC region: SPP

Hugoton, City of ■
 Box 788
 Hugoton, Kan. 67951-0788
 (street address: 114 E. Fifth St.; zip: 67951-2410)
 (316) 544-8531
 Jerry Leonard, Superintendent
 ultimate customers: 1,850
 nameplate capacity (kW): oil: 15,800
 1995 MWh generated: 26,857
 1995 MWh purchased: 0
 1995 MWh sold: retail: 23,348
 1995 revenues: retail: \$2,196,000
 est. 1919; electric employees: not reported
 NERC region: SPP

Iola, City of ■
 2 W. Jackson St.
 Iola, Kan. 66749-2832
 (316) 365-4900 fax: (316) 365-4906
 email: iolacity@midusa.net
 URL: www.midusa.net/allen/iola/start.html
 Weldon M. Padgett, City Administrator
 ultimate customers: 3,957
 nameplate capacity (kW): gas: 8,500; oil: 20,000
 1995 MWh generated: 6,280
 1995 MWh purchased: 93,699
 1995 MWh sold: retail: 89,661
 1995 revenues: retail: \$4,672,000
 est. 1900; electric employees: 11 to 25
 NERC region: SPP

Isabel, City of
 Box 97
 Isabel, Kan. 67065-0097
 (316) 739-4347
 Carolyn Armstrong, Clerk
 ultimate customers: 83
 1995 MWh generated: 0
 1995 MWh purchased: 973
 1995 MWh sold: retail: 826
 1995 revenues: retail: \$83,000
 NERC region: SPP

Juka, City of
 Box 127
 Juka, Kan. 67066-0127
 (316) 546-2552 fax: (316) 546-2404
 Jonell Kaessler, City Clerk
 ultimate customers: 123
 1995 MWh generated: 0
 1995 MWh purchased: 1,723
 1995 MWh sold: retail: 1,625
 1995 revenues: retail: \$124,000
 est. 1916; electric employees: 5 or less
 NERC region: SPP

Jetmore, City of
 501 S. Main St.
 Jetmore, Kan. 67854
 (316) 357-8344
 Dean Hertel, Utility Superintendent
 ultimate customers: 572
 nameplate capacity (kW): oil: 6,000
 1995 MWh generated: 58
 1995 MWh purchased: 7,713
 1995 MWh sold: retail: 6,844
 1995 revenues: retail: \$493,000
 est. 1914; electric employees: not reported
 NERC region: SPP

Johnson City, City of
 206 S. Main
 Johnson, Kan. 67855
 (316) 492-2322
 Alan Schweitzer, Superintendent
 ultimate customers: 770
 nameplate capacity (kW): gas: 1,275; oil: 5,506
 1995 MWh generated: 1,946
 1995 MWh purchased: 11,245
 1995 MWh sold: retail: 11,671
 1995 revenues: retail: \$923,000
 est. 1938; electric employees: not reported
 NERC region: SPP

Kansas City Board of Public Utilities ■
 700 Minnesota Ave.
 Kansas City, Kan. 66101-2704
 (913) 573-9000 fax: (913) 573-9990
 URL: www.bpu.com/
 E. Leon Daggett, General Manager
 ultimate customers: 65,807
 nameplate capacity (kW): coal: 661,380;
 oil: 145,490
 1995 MWh generated: 2,407,045
 1995 MWh purchased: 264,215
 1995 MWh sold: retail: 2,070,857
 wholesale: 404,348
 1995 revenues: retail: \$109,555,000
 wholesale: \$12,513,000
 est. 1929; electric employees: 501 to 1,000
 NERC region/control area: SPP/BPU

Kansas Municipal Energy Agency ■
 6330 Lamar Ave., Suite 110
 Overland Park, Kan. 66202-4247
 (913) 677-2884 fax: (913) 677-0804
 Gilbert E. Hanson Jr., General Manager
 customers: wholesale only
 1995 MWh generated: 0
 1995 MWh purchased: 304,342
 1995 MWh sold: wholesale: 304,342
 1995 revenues: wholesale: \$8,798,000
 est. 1978; agency employees: 10
 NERC region: SPP
 (see expanded joint action agency section, page 150)

Kingman, City of
 332 N. Main St.
 Kingman, Kan. 67068-1303
 (316) 532-3111 fax: (316) 532-2147
 Ira Hart, Superintendent
 ultimate customers: 1,920
 nameplate capacity (kW): gas: 21,550
 1995 MWh generated: 44,246
 1995 MWh purchased: 0
 1995 MWh sold: retail: 40,988
 1995 revenues: retail: \$2,406,000
 est. 1913; electric employees: 11 to 25
 NERC region: SPP

Kiowa, City of
 Box 206
 Kiowa, Kan. 67070-0206
 (street address: 618 Main St.; zip: 67070-1414)
 (316) 325-4128
 City Administrator
 ultimate customers: 805
 1995 MWh generated: 0
 1995 MWh purchased: 10,427
 1995 MWh sold: retail: 9,425
 1995 revenues: retail: \$858,000
 est. 1976; electric employees: not reported
 NERC region: SPP

La Crosse, City of
 Box 339
 La Crosse, Kan. 67548-0339
 (913) 222-2511 fax: (913) 222-2654
 City Manager
 ultimate customers: 821
 nameplate capacity (kW): oil: 7,060
 1995 MWh generated: 0
 1995 MWh purchased: 10,534
 1995 MWh sold: retail: 8,755
 1995 revenues: retail: \$815,000
 est. 1906; electric employees: 11 to 25
 NERC region: SPP

La Harpe, City of
 Box 121
 La Harpe, Kan. 66751-0121
 (316) 495-2241
 Bill Beasley, Superintendent
 ultimate customers: 324
 1995 MWh generated: 0
 1995 MWh purchased: 2,867
 1995 MWh sold: retail: 2,541
 1995 revenues: retail: \$238,000
 est. 1899; electric employees: not reported
 NERC region: SPP

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Kansas continued

Lakin, City of
Box 148
Lakin, Kan. 67860-0148
(street address: 121 N. Main St.; zip: 67860)
(316) 355-6252
Frank Soukup, City Administrator
ultimate customers: 983
nameplate capacity (kW): gas: 4,400
1995 MWh generated: 2,000
1995 MWh purchased: 10,000
1995 MWh sold: retail: 11,000
1995 revenues: retail: \$1,431,000
est. 1915; electric employees: 5 or less
NERC region: SPP

Larned, City of ■
Box 70, 417 Broadway
Larned, Kan. 67550-0070
(316) 285-8500
Donald Gaeddert, City Manager
ultimate customers: 2,596
nameplate capacity (kW): gas: 14,100; oil: 6,450
1995 MWh generated: 15,458
1995 MWh purchased: 24,544
1995 MWh sold: retail: 34,810
1995 revenues: retail: \$2,887,000
est. 1916; electric employees: 11 to 25
NERC region: SPP

Lincoln Center, City of
Box 126
Lincoln Center, Kan. 67455-0126
(street address: 153 W. Lincoln Ave.; zip: 67455-1917)
(913) 524-4280
Ron Mason, City Superintendent
ultimate customers: 910
nameplate capacity (kW): gas: 4,650; oil: 6,000
1995 MWh generated: 617
1995 MWh purchased: 13,251
1995 MWh sold: retail: 11,869
1995 revenues: retail: \$849,000
est. 1906; electric employees: not reported
NERC region: SPP

Lindsborg, City of
Box 70
Lindsborg, Kan. 67456-0070
(street address: 101 S. Main St.; zip: 67456)
(913) 227-3355
Gary L. Meagher, City Administrator
ultimate customers: 1,512
1995 MWh generated: 0
1995 MWh purchased: 24,436
1995 MWh sold: retail: 20,904
1995 revenues: retail: \$1,717,000
est. 1904; electric employees: 5 or less
NERC region: SPP

Lucas, City of
Box 308
Lucas, Kan. 67648-0308
(913) 525-6353 fax: (913) 525-6289
Billy W. Harlow, Superintendent
ultimate customers: 330
1995 MWh generated: 0
1995 MWh purchased: 3,673
1995 MWh sold: retail: 3,316
1995 revenues: retail: \$273,000
NERC region: SPP

Luray, City of
Luray, Kan. 67649-9999
(913) 698-2302
Robert Rose, City Superintendent
ultimate customers: 166
1995 MWh generated: 0
1995 MWh purchased: 1,431
1995 MWh sold: retail: 1,308
1995 revenues: retail: \$126,000
est. 1915; electric employees: 5 or less
NERC region: SPP

Mankato, City of
202 E. Jefferson St.
Mankato, Kan. 66956-2033
(913) 378-3141
Marvin E. Loomis, City Administrator
ultimate customers: 668
1995 MWh generated: 0
1995 MWh purchased: 7,306
1995 MWh sold: retail: 6,844
1995 revenues: retail: \$518,000
est. 1950; electric employees: 5 or less
NERC region: SPP

Marion, City of
203 N. 3rd St.
Marion, Kan. 66861-1652
(316) 382-3703
Junior Bredemeier, City Superintendent
ultimate customers: 1,103
1995 MWh generated: 0
1995 MWh purchased: 16,102
1995 MWh sold: retail: 14,502
1995 revenues: retail: \$1,128,000
est. 1928; electric employees: not reported
NERC region: SPP

McPherson Board of Public Utilities ■
400 E. Kansas Ave.
McPherson, Kan. 67460-4438
(316) 245-2525 fax: (316) 245-2529
R. N. Anderson, General Manager
ultimate customers: 7,654
nameplate capacity (kW): gas: 163,100; oil: 57,400
1995 MWh generated: 16,386
1995 MWh purchased: 557,373
1995 MWh sold: retail: 517,987
wholesale: 39,083
1995 revenues: retail: \$17,789,000
wholesale: \$3,116,000
est. 1909; electric employees: 51 to 100
NERC region: SPP

Meade, City of ■
132 S. Fowler Ave.
Meade, Kan. 67864
(316) 873-2091 fax: (316) 873-2635
Dennis Eckhoff, City Administrator
ultimate customers: 926
nameplate capacity (kW): oil: 8,700
1995 MWh generated: 4,324
1995 MWh purchased: 9,648
1995 MWh sold: retail: 11,609
1995 revenues: retail: \$1,021,000
est. 1910; electric employees: 11 to 25
NERC region: SPP

Minneapolis, City of
218 N. Rock St.
Minneapolis, Kan. 67467-2427
(913) 392-2176 fax: (913) 392-2177
Lowell Parrish, Clerk/Administrator
ultimate customers: 1,085
nameplate capacity (kW): gas: 7,800; oil: 2,400
1995 MWh generated: 3,486
1995 MWh purchased: 12,821
1995 MWh sold: retail: 13,929
1995 revenues: retail: \$914,000
est. 1921; electric employees: 6 to 10
NERC region: SPP

Montezuma, City of
Box 37
Montezuma, Kan. 67867-0037
(316) 846-2264
Dwight Watson Jr., City Superintendent
ultimate customers: 457
1995 MWh generated: 0
1995 MWh purchased: 7,252
1995 MWh sold: retail: 6,472
1995 revenues: retail: \$561,000
est. 1921; electric employees: 5 or less
NERC region: SPP

Moran, City of
Box 236
Moran, Kan. 66755-0236
(316) 237-4301
Michael E. Stodgell, Superintendent
ultimate customers: 303
1995 MWh generated: 0
1995 MWh purchased: 4,648
1995 MWh sold: retail: 4,229
1995 revenues: retail: \$295,000
est. 1900; electric employees: 5 or less
NERC region: SPP

Morrill, City of
Box 146
Morrill, Kan. 66515-0146
(913) 459-2231
Greg Duryea, Utility Superintendent
ultimate customers: 161
1995 MWh generated: 0
1995 MWh purchased: 1,312
1995 MWh sold: retail: 1,165
1995 revenues: retail: \$90,000
est. 1927; electric employees: not reported
NERC region: SPP

Moundridge, City of
Box 636
Moundridge, Kan. 67107-0636
(316) 345-8246
Norman Unruh, Utility Superintendent
ultimate customers: 813
1995 MWh generated: 0
1995 MWh purchased: 18,658
1995 MWh sold: retail: 17,385
1995 revenues: retail: \$1,296,000
est. 1909; electric employees: not reported
NERC region: SPP

Mount Hope, City of
Box 56
Mount Hope, Kan. 67108-0056
(street address: 112 W. Main; zip: 67108)
(316) 667-2560
Chris Rasmussen, Superintendent
ultimate customers: 345
1995 MWh generated: 0
1995 MWh purchased: 4,712
1995 MWh sold: retail: 4,301
1995 revenues: retail: \$400,000
est. 1920; electric employees: 5 or less
NERC region: SPP

Mulberry Municipal Light Plant
Box 206
Mulberry, Kan. 66756-0206
(316) 764-3815
Jim Scholes, Superintendent
ultimate customers: 300
1995 MWh generated: 0
1995 MWh purchased: 2,580
1995 MWh sold: retail: 2,345
1995 revenues: retail: \$235,000
est. 1915; electric employees: not reported
NERC region: SPP

Mulvane, City of ■
Box 211
Mulvane, Kan. 67110-0211
(street address: N. Second St.; zip: 67110)
(316) 777-1143 fax: (316) 777-4178
Gary Rambo, Superintendent
ultimate customers: 1,962
nameplate capacity (kW): gas: 1,360; oil: 4,930
1995 MWh generated: 700
1995 MWh purchased: 29,025
1995 MWh sold: retail: 27,536
1995 revenues: retail: \$2,023,000
est. 1902; electric employees: not reported
NERC region: SPP

Muscotah, City of
Muscotah, Kan. 66058-9999
(913) 872-3585
Debbie Liggett, City Clerk
ultimate customers: 104
1995 MWh generated: 0
1995 MWh purchased: 855
1995 MWh sold: retail: 727
1995 revenues: retail: \$63,000
NERC region: SPP

Neodesha, City of
102 S. Fourth St.
Neodesha, Kan. 66757-1706
(316) 325-2925 fax: (316) 325-2481
Terry L. Johnson, Superintendent
ultimate customers: 1,706
nameplate capacity (kW): oil: 8,150
1995 MWh generated: 695
1995 MWh purchased: 36,501
1995 MWh sold: retail: 37,196
1995 revenues: retail: \$2,766,000
est. 1922; electric employees: not reported
NERC region: SPP

Norton, City of ■
301 E. Washington St.
Norton, Kan. 67654-2100
(913) 877-5020 fax: (913) 877-5095
Allen Loyd, City Administrator
ultimate customers: 1,777
nameplate capacity (kW): gas: 8,750; oil: 2,500
1995 MWh generated: 472
1995 MWh purchased: 28,485
1995 MWh sold: retail: 22,947
1995 revenues: retail: \$1,938,000
est. 1912; electric employees: 6 to 10
NERC region: SPP

Oakley, City of ■
209 Hudson Ave.
Oakley, Kan. 67748-1725
(913) 872-3136 fax: (913) 672-3324
Allen J. Dinkel, City Administrator
ultimate customers: 1,274
nameplate capacity (kW): oil: 8,165
1995 MWh generated: 559
1995 MWh purchased: 19,142
1995 MWh sold: retail: 15,753
1995 revenues: retail: \$1,102,000
est. 1910; electric employees: 11 to 25
NERC region: SPP

Oberlin, City of
107 W. Commercial St.
Oberlin, Kan. 67749-2009
(913) 475-2217 fax: (913) 475-2536
Gary Shike, City Superintendent
ultimate customers: 1,301
nameplate capacity (kW): gas: 6,975
1995 MWh generated: 0
1995 MWh purchased: 16,900
1995 MWh sold: retail: 13,426
1995 revenues: retail: \$1,237,000
est. 1901; electric employees: 5 or less
NERC region: SPP

Osage City, City of ■
Fifth & Main Sts.
Osage City, Kan. 66523
(913) 528-3851
George Rice, Electrical Superintendent
ultimate customers: 1,495
nameplate capacity (kW): oil: 9,450
1995 MWh generated: 2,593
1995 MWh purchased: 19,877
1995 MWh sold: retail: 20,226
1995 revenues: retail: \$1,325,000
est. 1890; electric employees: not reported
NERC region: SPP

★ Member, DEED
(Demonstration of Energy-Efficient Developments)

■ Member, American Public Power Association

Osawatimie, City of ■
 Box 37
 Osawatimie, Kan. 66064-0037
(street address: Main at Fifth; zip: 66064)
 (913) 755-4138 fax: (913) 755-4164
 Jim Rickerson, City Manager
 ultimate customers: 2,092
 nameplate capacity (kW): oil: 7,000
 1995 MWh generated: 183
 1995 MWh purchased: 28,327
 1995 MWh sold: retail: 23,123
 1995 revenues: retail: \$2,209,000
 est. 1913; electric employees: 6 to 10
 NERC region: SPP

Osborne, City of
 133 W. Main St.
 Osborne, Kan. 67473-2402
 (913) 346-2722 fax: (913) 346-2522
 Norman B. Christie, Light Plant
 Superintendent
 ultimate customers: 1,128
 nameplate capacity (kW): gas: 1,750; oil:
 5,435
 1995 MWh generated: 312
 1995 MWh purchased: 14,953
 1995 MWh sold: retail: 13,343
 1995 revenues: retail: \$1,067,000
 est. 1921; electric employees: 6 to 10
 NERC region: SPP

Ottawa, City of ■
 101 S. Hickory
 Ottawa, Kan. 66067
 (913) 242-2190
 James Bradley, Director of Utilities
 ultimate customers: 5,507
 nameplate capacity (kW): gas: 30,750
 1995 MWh generated: 5,328
 1995 MWh purchased: 102,861
 1995 MWh sold: retail: 97,031
 1995 revenues: retail: \$7,225,000
 est. 1906; electric employees: 26 to 50
 NERC region: SPP

Oxford, City of
 121 N. Sumner St.
 Oxford, Kan. 67119-9705
 (316) 455-2223
 Robert Spoon, Superintendent
 ultimate customers: 641
 nameplate capacity (kW): oil: 5,500
 1995 MWh generated: 373
 1995 MWh purchased: 8,773
 1995 MWh sold: retail: 8,199
 1995 revenues: retail: \$648,000
 est. 1923; electric employees: not reported
 NERC region: SPP

Pomona, City of
 Box 67
 Pomona, Kan. 66076-0067
 (913) 566-3522
 Carl E. Waltman, Electric Superintendent
 ultimate customers: 525
 1995 MWh generated: 0
 1995 MWh purchased: 6,021
 1995 MWh sold: retail: 5,722
 1995 revenues: retail: \$390,000
 est. 1914; electric employees: 5 or less
 NERC region: SPP

Pratt, City of
 Box 307
 Pratt, Kan. 67124-0807
*(street address: 321 W. Tenth St.; zip:
 67124-2566)*
 (316) 672-2022 fax: (316) 672-6415
 Arlyn Bradford, Superintendent
 ultimate customers: 4,101
 nameplate capacity (kW): gas: 8,000; oil:
 23,500
 1995 MWh generated: 58,254
 1995 MWh purchased: 12,903
 1995 MWh sold: retail: 64,770
 wholesale: 1,631
 1995 revenues: retail: \$4,500,000
 wholesale: \$81,000
 est. 1910; electric employees: not reported
 NERC region: SPP

Prescott, City of
 Main St.
 Prescott, Kan. 66767
 (913) 471-4521
 Irma Bloomfield, Clerk
 ultimate customers: 157
 1995 MWh generated: 0
 1995 MWh purchased: 1,585
 1995 MWh sold: retail: 1,494
 1995 revenues: retail: \$123,000
 est. 1921; electric employees: 5 or less
 NERC region: SPP

Radium, City of
 Box 162, Route 2
 Radium, Kan. 67550-0162
 (316) 982-4695
 John Paden, City Clerk
 ultimate customers: 21
 1995 MWh generated: 0
 1995 MWh purchased: 1,585
 1995 MWh sold: retail: 1,400
 1995 revenues: retail: \$39,000
 est. 1935; electric employees: not reported
 NERC region: SPP

Robinson, City of
 Box 36
 Robinson, Kan. 66532-0036
 (913) 544-6537
 Loren Davenport, Mayor
 ultimate customers: 191
 1995 MWh generated: 0
 1995 MWh purchased: 1,764
 1995 MWh sold: retail: 1,521
 1995 revenues: retail: \$119,000
 NERC region: SPP

Russell, City of
 Box 112
 Russell, Kan. 67665-0112
*(street address: Eighth & Maple Sts.; zip:
 67665)*
 (913) 483-7112 fax: (913) 483-4397
 Earl Homewood, Director
 ultimate customers: 3,262
 nameplate capacity (kW): gas: 25,383; oil:
 5,000
 1995 MWh generated: 40,302
 1995 MWh purchased: 25,945
 1995 MWh sold: retail: 55,937
 1995 revenues: retail: \$3,708,000
 est. 1910; electric employees: 11 to 25
 NERC region: SPP

Sabetha Municipal Light Department
 Box 187
 Sabetha, Kan. 66534-0187
 (913) 284-2158 fax: (913) 284-2112
 Ted Hayden, City Administrator
 ultimate customers: 1,579
 nameplate capacity (kW): oil: 18,036
 1995 MWh generated: 4,329
 1995 MWh purchased: 35,924
 1995 MWh sold: retail: 37,309
 1995 revenues: retail: \$2,437,000
 est. 1901; electric employees: 6 to 10
 NERC region: SPP

St. Francis, City of
 Box 517
 St. Francis, Kan. 67756-0517
 (913) 332-3031 fax: (913) 332-2778
 John Larson, Plant Foreman
 ultimate customers: 1,087
 nameplate capacity (kW): oil: 5,900
 1995 MWh generated: 372
 1995 MWh purchased: 10,360
 1995 MWh sold: retail: 9,043
 1995 revenues: retail: \$994,000
 est. 1914; electric employees: 11 to 25
 NERC region: SPP

St. John, City of
 Box 367
 St. John, Kan. 67576-0367
 (316) 549-3800
 Mel Chesbro, City Superintendent
 ultimate customers: 861
 nameplate capacity (kW): oil: 4,600
 1995 MWh generated: 562
 1995 MWh purchased: 9,380
 1995 MWh sold: retail: 8,753
 1995 revenues: retail: \$836,000
 est. 1910; electric employees: 6 to 10
 NERC region: SPP

St. Marys, City of
 Box 130
 St. Marys, Kan. 66536-0130
 (913) 437-2311 fax: (913) 437-2354
 Steven W. Archer, City Manager
 ultimate customers: 951
 1995 MWh generated: 0
 1995 MWh purchased: 15,895
 1995 MWh sold: retail: 13,747
 1995 revenues: retail: \$1,116,000
 est. 1908; electric employees: 6 to 10
 NERC region: SPP

Savonburg, City of
 Savonburg, Kan. 66772-9999
 (316) 754-3278
 Earlene Johnson, Clerk
 ultimate customers: 63
 1995 MWh generated: 0
 1995 MWh purchased: 484
 1995 MWh sold: retail: 415
 1995 revenues: retail: \$43,000
 est. 1902; electric employees: not reported
 NERC region: SPP

Scranton, City of
 Box 218
 Scranton, Kan. 66537-0218
 (913) 793-2814 fax: (913) 793-2332
 Donald J. Grubb, City Foreman
 ultimate customers: 310
 1995 MWh generated: 0
 1995 MWh purchased: 3,786
 1995 MWh sold: retail: 3,559
 1995 revenues: retail: \$273,000
 est. 1919; electric employees: 5 or less
 NERC region: SPP

Seneca, City of
 531 Main St.
 Seneca, Kan. 66538-1927
 (913) 336-2747
 Robert Ackerman, Clerk
 ultimate customers: 1,184
 1995 MWh generated: 0
 1995 MWh purchased: 20,563
 1995 MWh sold: retail: 19,217
 1995 revenues: retail: \$1,360,000
 est. 1903; electric employees: 5 or less
 NERC region: SPP

Severance, City of
 RR 1, Box 102
 Severance, Kan. 66087-9736
 (913) 359-6696
 Phyllis Simmons, City Clerk
 ultimate customers: 60
 1995 MWh generated: 0
 1995 MWh purchased: 480
 1995 MWh sold: retail: 416
 1995 revenues: retail: \$28,000
 NERC region: SPP

Seward, City of
 Box 256
 Seward, Kan. 67576-0256
 (316) 458-5931
 Janice Becker, Clerk
 ultimate customers: 46
 1995 MWh generated: 0
 1995 MWh purchased: 412
 1995 MWh sold: retail: 412
 1995 revenues: retail: \$38,000
 NERC region: SPP

Sharon Springs, City of ■
 Box 490
 Sharon Springs, Kan. 67758-0490
 (913) 852-4232 fax: (913) 852-4687
 Dan Cutright, Plant Operator
 ultimate customers: 582
 nameplate capacity (kW): oil: 3,117
 1995 MWh generated: 43
 1995 MWh purchased: 6,189
 1995 MWh sold: retail: 5,169
 1995 revenues: retail: \$606,000
 est. 1918; electric employees: 6 to 10
 NERC region: SPP

Stafford, City of
 112 W. Broadway St.
 Stafford, Kan. 67578-1404
 (316) 234-5561
 Bill Kirkpatrick, Supervisor
 ultimate customers: 810
 nameplate capacity (kW): oil: 5,100
 1995 MWh generated: 643
 1995 MWh purchased: 8,638
 1995 MWh sold: retail: 7,669
 1995 revenues: retail: \$806,000
 est. 1910; electric employees: not reported
 NERC region: SPP

Sterling, City of ■
 114 N. Broadway St.
 Sterling, Kan. 67579
 (316) 278-3411
 Randy Riggs, City Manager
 ultimate customers: 1,204
 nameplate capacity (kW): oil: 6,155
 1995 MWh generated: 817
 1995 MWh purchased: 15,687
 1995 MWh sold: retail: 14,204
 1995 revenues: retail: \$1,331,000
 est. 1916; electric employees: 6 to 10
 NERC region: SPP

Stockton, City of
 Box 512
 Stockton, Kan. 67669-0512
 (913) 425-6703 fax: (913) 425-6424
 City Manager
 ultimate customers: 1,031
 nameplate capacity (kW): gas: 6,294
 1995 MWh generated: 962
 1995 MWh purchased: 13,690
 1995 MWh sold: retail: 12,981
 1995 revenues: retail: \$1,066,000
 est. 1908; electric employees: 6 to 10
 NERC region: SPP

Summerfield, Town of
 Summerfield, Kan. 66541-9999
 (913) 244-6227
 Dallas Bowhay, Mayor
 ultimate customers: 140
 1995 MWh generated: 0
 1995 MWh purchased: 1,380
 1995 MWh sold: retail: 1,115
 1995 revenues: retail: \$82,000
 NERC region: SPP

Toronto, City of
 Box 235
 Toronto, Kan. 66777-0235
 (316) 637-2605
 Dale Chilcott, Mayor
 ultimate customers: 226
 1995 MWh generated: 0
 1995 MWh purchased: 2,280
 1995 MWh sold: retail: 1,587
 1995 revenues: retail: \$139,000
 est. 1917; electric employees: not reported
 NERC region: SPP

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State & Local Electric Utilities

Kansas continued

Troy, City of
137 W. Walnut
Troy, Kan. 66087
(913) 985-2265
Paul Dittmore, City Supervisor
ultimate customers: 599
1995 MWh generated: 0
1995 MWh purchased: 7.005
1995 MWh sold: retail: 6.002
1995 revenues: retail: \$481,000
est. 1911; electric employees: not reported
NERC region: SPP

Udall, City of
110 S. Main St.
Udall, Kan. 67146
(316) 782-3512 fax: (316) 782-3474
Larry B. Dale, City Superintendent
ultimate customers: 401
1995 MWh generated: 0
1995 MWh purchased: 4.886
1995 MWh sold: retail: 4.449
1995 revenues: retail: \$368,000
est. 1939; electric employees: 5 or less
NERC region: SPP

Vermillion, City of
Box 127
Vermillion, Kan. 66544-0127
(street address: Second & Main Sts.; zip: 66544)
(913) 382-6224
Robert F. Lee, Mayor
ultimate customers: 93
1995 MWh generated: 0
1995 MWh purchased: 7.16
1995 MWh sold: retail: 6.31
1995 revenues: retail: \$54,000
NERC region: SPP

Wamego, City of ■
Box 86
Wamego, Kan. 66547-0086
(street address: 430 Lincoln St.; zip: 66547-1632)
(913) 456-9119 fax: (913) 456-2016
Mark Arbutnot, City Manager
ultimate customers: 1,838
nameplate capacity (kW): oil: 8,100
1995 MWh generated: 2,607
1995 MWh purchased: 29.602
1995 MWh sold: retail: 29.352
1995 revenues: retail: \$2,221,000
est. 1908; electric employees: 6 to 10
NERC region: SPP

Washington Municipal Power Plant
Box 296
Washington, Kan. 66968-0296
(street address: Park Road; zip: 66968)
(913) 325-2231 fax: (913) 325-2678
Glenn A. Mills, Plant Supervisor
ultimate customers: 751
nameplate capacity (kW): oil: 9,136
1995 MWh generated: 868
1995 MWh purchased: 10.447
1995 MWh sold: retail: 9.229
1995 revenues: retail: \$818,000
est. 1938; electric employees: 6 to 10
NERC region: SPP

Waterville, City of
204 S. East St.
Waterville, Kan. 66548-9062
(913) 785-2367
Alson C. Tryon, Superintendent
ultimate customers: 442
1995 MWh generated: 0
1995 MWh purchased: 4.871
1995 MWh sold: retail: 4.472
1995 revenues: retail: \$375,000
NERC region: SPP

Wathena, City of
Box 27
Wathena, Kan. 66090-0027
(street address: 206 St. Joseph St.; zip: 66090)
(913) 989-4711 fax: (913) 989-4830
Laralee L. Miller, Clerk
ultimate customers: 676
1995 MWh generated: 0
1995 MWh purchased: 7.933
1995 MWh sold: retail: 7.150
1995 revenues: retail: \$621,000
est. 1937; electric employees: 5 or less
NERC region: SPP

Webber, City of
Webber, Kan. 66970-9999
(913) 753-4401
Norma Thomas, City Clerk
ultimate customers: unavailable
1995 MWh generated: unavailable
1995 MWh purchased: unavailable
1995 MWh sold: unavailable
1995 revenues: unavailable
est. 1937; electric employees: not reported
NERC region: SPP

Wellington Municipal Utilities
504 S. Blaine St.
Wellington, Kan. 67152-3154
(316) 326-7211 fax: (316) 326-8506
Dewey J. Rhodd, Supt., Electric Distribution
ultimate customers: 4,416
nameplate capacity (kW): gas: 40,000; oil: 1,000
1995 MWh generated: 21,529
1995 MWh purchased: 77,734
1995 MWh sold: retail: 93,271
1995 revenues: retail: \$6,382,000
est. 1902; electric employees: 11 to 25
NERC region: SPP

Winfield, City of ■
Box 646
Winfield, Kan. 67156-0646
(street address: 2701 E. Ninth Ave.; zip: 67156-0646)
(316) 221-5500 fax: (316) 221-5591
Colin Whitley, Director of Electric Utility
ultimate customers: 7,052
nameplate capacity (kW): gas: 47,500
1995 MWh generated: 41,538
1995 MWh purchased: 213,807
1995 MWh sold: retail: 231,258
wholesale: 4,886
1995 revenues: retail: \$12,222,000
wholesale: \$212,000
est. 1904; electric employees: 26 to 50
NERC region: SPP

Kentucky

(Systems designated (TVA) are distributors of Tennessee Valley Authority power and purchase all of their power from TVA)

Barbourville, City of
Box 1600
Barbourville, Ky. 40906-5600
(street address: Daniel Boone Drive; zip: 40906)
(606) 546-3187
Randell Young, Manager
ultimate customers: 3,681
1995 MWh generated: 0
1995 MWh purchased: 89,592
1995 MWh sold: retail: 84,546
1995 revenues: retail: \$4,327,000
est. 1938; electric employees: not reported
NERC region: ECAR

Bardstown, City of ■
Box 368
Bardstown, Ky. 40004-1453
(street address: 220 N. Fifth St.; zip: 40004-1458)
(502) 348-5947 fax: (502) 348-2433
Lawrence A. Hamilton, City Administrator
ultimate customers: 3,808
1995 MWh generated: 0
1995 MWh purchased: 163,102
1995 MWh sold: retail: 148,554
1995 revenues: retail: \$6,820,000
est. 1895; electric employees: 11 to 25
NERC region: ECAR

Bardwell, City of
Box 277
Bardwell, Ky. 42023-0277
(502) 628-3833
Donald M. Terry, Manager
ultimate customers: 580
1995 MWh generated: 0
1995 MWh purchased: 8,136
1995 MWh sold: retail: 7,288
1995 revenues: retail: \$429,000
est. 1941; electric employees: not reported
NERC region: ECAR

Benham, City of
Box E
Benham, Ky. 40807-0804
(606) 848-5306
Jimmy Dale Hensley, Chairman, Power Board
ultimate customers: 317
1995 MWh generated: 0
1995 MWh purchased: 6,298
1995 MWh sold: retail: 5,685
1995 revenues: retail: \$391,000
NERC region: ECAR

Benton Electric System ■
Box 10
Benton, Ky. 42025-0010
(502) 527-3651 fax: (502) 527-3062
Larry Spears, Manager
ultimate customers: 2,289
1995 MWh generated: 0
1995 MWh purchased: 57,129 (TVA)
1995 MWh sold: retail: 54,135
1995 revenues: retail: \$3,473,000
est. 1945; electric employees: 11 to 25
NERC region: ECAR

Bowling Green Municipal Utilities
Box 10300
Bowling Green, Ky. 42102-7300
(street address: 801 Center St.; zip: 42101-2122)
(502) 782-1200 fax: (502) 782-4320
Eddie Beck, General Manager
ultimate customers: 21,986
1995 MWh generated: 0
1995 MWh purchased: 707,861 (TVA)
1995 MWh sold: retail: 680,424
1995 revenues: retail: \$39,392,000
est. 1942; electric employees: 51 to 700
NERC region: SERC

Corbin Utilities Commission
901 S. Main St.
Corbin, Ky. 40701-1899
(606) 528-4025 fax: (606) 528-4848
Daniel E. Rimmann, General Manager
ultimate customers: 3,759
1995 MWh generated: 0
1995 MWh purchased: 70,656
1995 MWh sold: retail: 61,426
1995 revenues: retail: \$3,198,000
est. 1948; electric employees: 6 to 10
NERC region: ECAR

Falmouth, City of
212 Main St.
Falmouth, Ky. 41040-1223
(606) 654-6937
Pete Lawson, Superintendent
ultimate customers: 1,358
1995 MWh generated: 0
1995 MWh purchased: 20,795
1995 MWh sold: retail: 16,636
1995 revenues: retail: \$1,157,000
NERC region: ECAR

Frankfort Electric & Water Plant Board ■
P.O. Box 308
Frankfort, Ky. 40602-0308
(street address: 317 W. Second St.; zip: 40601-2645)
(502) 223-3401
Warner J. Caines, General Manager
ultimate customers: 18,244
1995 MWh generated: 0
1995 MWh purchased: 660,358
1995 MWh sold: retail: 639,730
1995 revenues: retail: \$25,218,000
est. 1943; electric employees: 26 to 50
NERC region: ECAR

Franklin Electric Plant Board ■
Box 349
Franklin, Ky. 42135-0349
(street address: 309 N. High St.; zip: 42135-1868)
(502) 586-4441
Billy C. Austin, Superintendent
ultimate customers: 4,388
1995 MWh generated: 0
1995 MWh purchased: 199,026 (TVA)
1995 MWh sold: retail: 192,119
1995 revenues: retail: \$9,183,000
est. 1943; electric employees: 11 to 25
NERC region: SERC

Fulton Electric System ■ ■
Box 1348
Fulton, Ky. 42041-0348
(street address: 501 Walnut St.; zip: 42041-1663)
(502) 472-1362 fax: (502) 472-1546
David Moss, Manager
ultimate customers: 1,936
1995 MWh generated: 0
1995 MWh purchased: 65,511 (TVA)
1995 MWh sold: retail: 63,339
1995 revenues: retail: \$3,581,000
est. 1962; electric employees: 6 to 10
NERC region: ECAR

Glasgow, City of ■ ■
Box 1809
Glasgow, Ky. 42142-1809
(street address: 100 Mallory Drive; zip: 42141-1040)
(502) 651-8341 fax: (502) 651-1638
email: apb@glasgow-ky.com
URL: www.glasgow-ky.com
William J. Ray, Superintendent
ultimate customers: 6,330
1995 MWh generated: 0
1995 MWh purchased: 332,954 (TVA)
1995 MWh sold: retail: 315,491
1995 revenues: retail: \$16,214,000
est. 1962; electric employees: 26 to 50
NERC region: SERC

★ Member, DEED
(Demonstration of Energy-
Efficient Developments)

■ Member, American Public
Power Association

Senate Bill 502

Testimony to the Committee on Public Utilities

**Submitted by:
Barbara A. Hueter
Director, Government Affairs
Enron Corp.
February 12, 1998**

Enron Corp. supports the establishment of unbundled electricity rates contained in Senate Bill 502. The unbundling of electric rates is a first step in the right direction for making customer choice of electricity suppliers possible. Without unbundling, consumers will not have sufficient information to make informed choices of electricity suppliers.

While I would prefer to stand here today advocating for full-scale customer choice implementation to occur prior to January 1, 2000, I nonetheless support Senate Bill 502. This bill lays the beginning of a solid foundation for a fair and open competitive electricity market. Enron believes in moving quickly to open retail electricity markets, but we recognize the need for states to do it right.

I find it necessary to recommend that this committee amend the bill to include a component of electric rates that currently is missing from the components listed in the bill. That component is customer service charges which should be defined as metering, billing and collecting ('meter, bill, collect'). 'Meter, bill, collect' is a cost component of electricity that is separate and distinct from generation, transmission, distribution, taxes and universal service charges. **The inclusion or embedding of 'meter, bill, collect' in other components of electric service distorts the rates for those services and thus will thwart a competitive market.**

'Meter, bill, collect' is not a natural monopoly and should be opened to competition at the same time that the generation component is opened to competition. In fact, the only true barrier to making 'meter, bill, collect' competitive is legal. A growing market for metering technology exists today. Many utilities are investing in smart meters for some of their captive customers and many marketers are designing meters that they plan to sell to customers. As customers of all types and sizes prepare to obtain customer choice they are demanding more information on their electricity consumption (such as when, where and how they use power). **All competitive suppliers of electricity and metering companies must be free to furnish their customers with services that will enhance and in many cases improve customers' consumption of electricity. The legislature should establish the groundwork now so that customers can soon select the meters of their choice,** the information they need from the meters and the entity that will bill them.

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The Task Force on Retail Wheeling examined this issue to some extent but the issue merits lengthy discussion in the context of comprehensive customer choice legislation. The first step, however, is including 'meter, bill, collect' as a distinct component on customer bills.

Senate Bill 502 includes a universal service charge as an unbundled component of electric rates. While the legislature has not determined the specific components of such a charge, it must provide that that charges be reasonable, appropriate and recovered on a non-discriminatory and non-bypassable basis. By following these principles, the legislature will ensure that the cost of carrying out certain public policy initiatives is fairly allocated across all users of the power and is recovered in a competitively neutral manner.

While the KCC moves forward on unbundling proceedings, the General Assembly should move forward in considering many other matters contained in the Task Force's report. **The legislature must not wait until unbundling is complete before moving forward with comprehensive customer choice legislation.** Thus far, sixteen (16) states have made the decision to implement customer choice and nearly every remaining state is figuring out how to bring about customer choice. By January 1, 2000 more than half of all states in the union will be implementing choice. Kansas must not fall behind other states.

Amendment

Insert into Section 1 (a) definitions:

“customer services” means services to provide for the functions of metering and billing to customers, as well as administrative fees.

Insert into Section 1 (d)(6)

(6) customer service

Testimony before the Senate Utilities Committee
In Support of Senate Bill No. 502

By Chris B. Giles
Director Regulatory Affairs
Kansas City Power & Light Company
February 12, 1998

Madam Chairman and members of the Committee:

I am Chris Giles, Director of Regulatory Affairs for Kansas City Power & Light Company, (KCPL) and am appearing before you today to support the concept of ^{SB}HB 2679. ⁵⁰²

KCPL recognizes that providing information such as outlined in this bill is one of the many necessary steps in moving toward a competitive electricity market. Customers will need this information to have the ability to make informed choices about their electrical service.

There are two changes that KCPL would like to see made to the bill. First, ^{SB 502}HB 2679 requires the Commission to adopt rules and regulations by January 1, 1999. KCPL **respectively requests that implementation be set two years following issuance of final rules and regulations by the Commission rather than on January 1, 2000.** There are several reasons for this change. A substantial amount of effort is required any time utility rate structures are changed, and unbundling customer bills to this level of detail will require a dramatic change to existing rate structures. Even though the unbundled rates can be designed so that the utility is collecting the same amount of revenue from a given class of customers, individual customer bills may be impacted. Time is also needed to ensure that the utility's billing systems are programmed to correctly bill the new rates.

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A separate issue that needs to be kept in mind is that while it is possible to disclose the transactional- related taxes as they are customer specific, disclosing the proportion of the bill attributable to other taxes (such as income, property, payroll, taxes) can only be an estimate. At a minimum, it would be necessary to develop overall average estimates for the portion of the bill used to pay indirect taxes (income, property, payroll). It is extremely important to balance the need for information with the usefulness of that information. Confusion and complaints from consumers due too extremely complicated and detailed bills is not a desired outcome of this legislation.

Second, KCPL's support of this bill is conditioned upon an amendment which provides explicit assurance that costs of this act will be recoverable through regulated rates or through a surcharge to be established by the Commission. The proposed amendment, for this purpose, of Western Resources is acceptable to KCPL.

Thank you for providing me with an opportunity to appear before the Committee. I would be pleased to answer any questions.



City of Wichita

Testimony

SENATE BILL 502

DELIVERED TO
SENATE UTILITIES COMMITTEE
February 12, 1998

The City of Wichita supports free market competition and consumer choice in the electric utility industry. The Wichita City Council is convinced that competition will result in lower electric rates for residents, businesses and taxpayers in Wichita. It is unlikely a bill allowing consumer choice will pass the Legislature this year. From the City of Wichita's viewpoint, that is too bad, because it means Western Resources will continue charging hundreds of thousands of Wichita residents far more for electricity than it charges its other customers. And there will be nothing Wichita residents can do about it but continue paying the unfair rates.

There may not be support to approve competition and consumer choice this year, but there is no good reason to oppose the incremental step called for in Senate Bill 502. The "unbundling" of electric bills is a small, but important step, in helping consumers learn exactly what they're paying for. Anything that helps take the mystery out of those charges will give consumers more power. With most other things people buy, there is some information about what they're paying for. At the grocery store, cost per ounce information is provided. At a restaurant, each menu item is priced and total bill is broken down into food, drinks, tax and tip. At a car dealer, the various components of the sticker price are detailed and displayed right on the window.

And it doesn't cost extra to find out that information. Imagine if a car dealer told you could only see the sticker that is usually posted on the car window if you paid an extra fee. You'd probably buy a car from a different dealer, of course in this case, we don't have the option to go to different utility. Telling customers they can only see components of their electric bill if they pay a surcharge is a concept the Legislature should reject.

Many people, from elected leaders to utility executives, argue the move toward retail wheeling should be slow and cautious. Certainly the issue and its effects need to be studied, but please don't allow caution to become obstruction. It is hard to be patient when you live in Wichita and your electric provider unfairly charges homeowners 41.5% more and businesses 48.5% more for electricity than it charges its other customers around the state. The argument is also made that even with that rate disparity, Wichita residents are still charged rates below the national average. That's true, KGE rates are 3.7% below the national average. But KPL rates are 29.3% below the national average. And on any given day, it's the same electricity generated by the same nuclear power plant.

Senate Bill 502, calling for the unbundling of electric rates on consumer bills, won't correct the unfair rate structure used by Western Resources, but there is hope that it is at least a small step toward free market competition and consumer choice in the electric utility industry.

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Attach. 4

**TESTIMONY BEFORE THE
SENATE UTILITIES COMMITTEE
IN SUPPORT OF SB 502**

By Earnest A. Lehman,
Director, Rates - Western Resources

February 12, 1998

Madam Chair and members of the Committee:

I am Earnie Lehman, Director of Rates for Western Resources and its KGE subsidiary. We support the concept of SB 502, the "unbundling" bill. Implementation of this proposed legislation would provide new information to interested customers concerning the cost of the various components of the electric service we provide. It may help customers to better understand the ongoing discussion and debate concerning retail wheeling by tying vague concepts like "deregulation of generation" to the dollars they pay for the generation component of electric service. Breaking down the electric bill will also provide information to customers concerning the hidden cost of taxes in their electric bills. Since the scope and methodology for bill unbundling will not be known until the Kansas Corporation Commission (KCC) issues detailed rules at the beginning of 1999, we also request this bill be amended to provide an assurance of the recovery of our reasonable costs of implementation, as determined by the KCC.

The billing system used by Western Resources may require significant and costly modifications to accommodate the reporting required by SB 502. To provide some perspective, our current billing system was developed over a 3 and one half year period ending in November 1991 at a cost of \$17 million. The platform for the system is the same one used by at least eight other large electric and gas utilities across the country. Our system serves over 900,000

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customers and generates more than 11 million bills annually. If the rules and regulations issued by the KCC allow bills to be unbundled into only a few components that follow existing ratemaking procedures, and if the bill calculations can be based on overall average percentages, the overall implementation costs are expected to be reasonable. At the other extreme, the rules and regulations may be so complex as to require a significant redesign of our customer information and billing system at a cost of millions.

Because of these potentially large implementation costs Western Resources recommends that such costs be recoverable by the utility through a competitive transition charge if they cannot be collected through regulated rates. These costs may be the first of many transition costs incurred in moving to retail competition and retail wheeling. To deny their recovery is akin to an unfunded mandate. The amendment incorporating our proposal appears on page 2 of the attached markup of SB 502. This language is meant to clearly signal the intent of the legislature that the costs of unbundling utility bills are recoverable in a competitive environment.

The timing for beginning issuance of unbundled bills also needs to be modified from January 1, 2000 to January 1, 2001. This proposed amendment is shown on page 1 of the attached markup of SB 502. In its current form, SB 502 requires the KCC adopt rules and regulations by January 1, 1999. Utilities will then have only one year to bring their billing and customer information systems into compliance. The January 1, 2000 deadline is already critical. Like other computer users worldwide, we are making modifications to solve the Year 2000 problem; modifications that are a long way from being completed. These modifications affect not just our internal billing process, but also our interfaces with government agencies in administering energy assistance and other programs and suppliers. Once again, if the KCC's

rules and regulations conform to current ratemaking practices and allow use of simplified estimation techniques, implementation may be completed in twelve to eighteen months. Should the entire billing and customer information system have to be replaced, it would be impossible to comply in less than two years. For these reasons, Western Resources respectfully requests that the Committee amend SB 502 to require the unbundling of an electric public utility's retail bills on and after January 1, 2001, rather than on and after January 1, 2000.

A final point concerns the tax components of unbundled bills. At a minimum, it would be necessary to develop overall average estimates for the portion of the bill attributable to "other taxes included in rates" (income, property, payroll). Also, the tax component of the goods and services Western Resources purchases (for example, the sales taxes paid on transformers) is unknown and could not be included. Consumers are likely to have many questions and even complaints if extremely complicated and detailed bills emerge from this process.

Thank you again for providing me with an opportunity to appear before the Committee concerning this legislation. I would be pleased to answer your questions.

SENATE BILL No. 502

By Committee on Utilities

1-26

9 AN ACT concerning retail electric bills to consumers; providing for dis-
10 closure of certain components.

11
12 *Be it enacted by the Legislature of the State of Kansas:*

13 Section 1. (a) As used in this section:

14 (1) "Commission" means the state corporation commission.

15 (2) "Competitive transition charges" means any charges authorized
16 by law to be assessed to retail electric consumers to recover costs, liabil-
17 ities and investments that an electric public utility, electric cooperative
18 or municipal electric utility would reasonably expect to recover under the
19 existing regulatory structure but that would not otherwise be recovered
20 as a result of implementation of competition in retail sales of generation
21 service.

22 (3) "Distribution services" means services provided from the point
23 where electricity enters the distribution system to the point at which the
24 electricity is delivered to consumers.

25 (4) "Generation services" means provision of electricity and capacity
26 to generate electricity but does not include transmission or distribution
27 services.

28 (5) "Electric cooperative" means an electric cooperative public utility
29 that is not subject to the jurisdiction of the commission.

30 (6) "Electric public utility" means an electric public utility, as defined
31 by K.S.A. 66-101a and amendments thereto, that is subject to the juris-
32 diction of the commission.

33 (7) "Transmission services" means services provided from the point
34 where electricity is generated to the point at which the electricity enters
35 the distribution system.

36 (8) "Universal service charges" means any charges authorized by law
37 to be assessed to retail electric consumers to recover costs of public ben-
38 efits related to provision of electricity.

39 (b) Before January 1, 1999, the commission shall adopt rules and
40 regulations requiring that, on and after ~~January 1, 2000~~ January 1, 2001
41 utility's retail electric bills to consumers shall disclose the components
42 specified by subsection (d) and such other components as the commission
43 determines will adequately inform consumers.

SB 502

2

1 (c) On and after January 1, 2000: -----

2 (1) An electric cooperative public utility's retail electric bills to con-
3 sumers shall disclose the components specified by subsection (d) and such
4 additional components as the cooperative determines will adequately in-

6-4

5 form consumers; and
6 (2) a municipal electric utility's retail electric bills to consumers shall
7 disclose the components specified by subsection (d), the component at-
8 tributable to budgeted transfers to the city general fund and such addi-
9 tional components as the governing body of the municipality determines
10 will adequately inform consumers.

11 (d) The following components are required to be disclosed pursuant
12 to subsections (b) and (c):

- 13 (1) Generation service charges;
- 14 (2) distribution service charges;
- 15 (3) transmission service charges;
- 16 (4) competitive transition charges, if any;
- 17 (5) universal service charges, if any;
- 18 (6) transactional taxes relating to the sale or furnishing of electricity
19 at retail; and
- 20 (7) the portion of the bill attributable to other taxes included in rates.

21 Sec. 2. This act shall take effect and be in force from and after its
22 publication in the statute book.

(e) - All reasonable costs of complying with this Act shall be recoverable through a competitive transition charge to be determined by the Commission, except to the extent the Commission determines recovery will be completed through regulated rates.



League of
Kansas
Municipalities

Legal Department
300 SW 8th
Topeka, Kansas 66603
Phone: (785) 354-9565/ Fax: (785) 354-4186

To: Senate Utilities Committee
From: Kim Gulley, Assistant General Counsel
Date: February 12, 1998
Re: Support for SB 502

Thank you for allowing me to appear today on behalf of the League of Kansas Municipalities and our 527 member cities. Although the debate concerning electric deregulation is not a new one, SB 502 signals the first real step toward sorting out the details of retail electric competition.

Requiring electric utility providers to unbundle their billings is a crucial step in this debate. At a minimum, the generation component of electric utility billings must be isolated if consumers are going to be able to make informed choices among retail electric providers. Data resulting from an unbundled billing process will also be valuable to policy makers at all levels of government who will have to make decisions concerning the future of the electric industry in Kansas.

The League is committed to educating local leaders about the retail electric competition debate. We have sponsored and participated in numerous forums and discussion groups across the state. Further, we have tried to use publications in the *Kansas Government Journal* as a means of disseminating information on the subject to all levels of government in Kansas.

We have tried to emphasize to local leaders the importance of educating their citizens concerning this very important debate. In order to help them accomplish this task, we are developing a citizen's guide to retail wheeling which will be distributed to public officials across the state to help them begin the education process.

Because the unbundling required by SB 502 will provide valuable information to consumers and policy makers, we support the bill. We would, however, urge caution in that we must strike a balance between providing necessary information and creating unnecessary cost and confusion. For example, most of the 121 cities which operate a municipal electric utility use a simple, postcard billing system. In order to keep the cost of unbundling to a minimum, it is important that the requirements of SB 502 not be so detailed as to prevent the continued use of postcard billings. We believe that the amendments proposed by Kansas Municipal Utilities (KMU) with regard to municipal billings will accomplish this goal.

The League and KMU are committed to helping our municipal systems unbundle their billings. Further, we are committed to encouraging all cities to take a role in educating their citizens concerning this debate. SB 502 is an important first step in this direction.

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Before the House Utilities Committee
Comments by the
Staff of the Kansas Corporation Commission
February 12, 1998
Senate Bill 502

Good morning Mr. Chair and members of the Committee. I am David Dittmore, Director of Utilities for the KCC. My testimony this morning is presented on behalf of the Staff of the Kansas Corporation Commission. As you are aware, SB 502 is designed to provide customers with costing information for individual components of their electric bill.

I would like to make it very clear that the KCC Staff supports this bill. I will address what we believe are the positive aspects of this legislation and then provide an overview of a modification we believe will reduce the administrative burden of the bill for the KCC.

I believe this bill is beneficial for two major reasons. First, the bill provides a vehicle for customer education, and secondly, it requires the Commission to establish prices for unbundled services, a necessary step prior to implementing generation competition.

Consumers will benefit from this bill because it provides the opportunity to become more knowledgeable of the relative costs of their electric services prior to the actual onset of generation competition. The more knowledge the customer has about the cost of his/her electric service, the more informed their decisions will be in selecting a generation provider, thus improving competition.

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The impact of this legislation goes beyond customer information benefits. Unbundling of cost elements on customers bills is a necessary step toward implementing generation competition in the future. The distribution rate component of customer bills will remain rate regulated by the KCC, since it will continue to be a monopoly provided service. Establishing the appropriate distribution charge will be critical to the development of a truly competitive generation market.

If the distribution rate is set too high by the KCC, monopoly distribution customers will subsidize the competitive generation operations of the incumbent utility. The result would be a windfall for those incumbent utilities. Conversely, if the KCC establishes a distribution rate that is below costs, utility shareholders will be denied an adequate opportunity to earn a fair and reasonable return on their investment. During this transition to competition, utilities will have an incentive to maximize assignment of costs to the distribution function and minimize the assignment of costs to the generation function. The point I would like to emphasize is that the proper price determinations between these functions is a precursory step in establishing a truly competitive electric generation market.

Establishing these prices will involve a great deal of quantitative analysis. A large portion of utility costs are readily identifiable between the different functions, however, there are also other common costs which must be allocated to specific services. This allocation process has not been previously addressed by the Commission, since KCC approved rates have been bundled and therefore, there has not been any need to assign common overhead costs between services.

I recommend that Section (d) (7), requiring identification of the portion of the bill attributable to other taxes included in rates, be stricken from the bill. I believe the goal of this bill should be to provide consumers with a generation cost benchmark upon which they

could compare with price quotes from competitors in choosing their generation provider. This generation cost benchmark should include all costs to the incumbent, which necessarily includes a portion of indirect taxes, such as ad valorem and income. Certainly when competitors quote prices to consumers, they will not provide a distinct cost for indirect taxes, but rather it will be a rolled-in rate including all of the competitors' costs.

Notwithstanding the language of this bill, the Commission will be required to arrive at a distribution rate prior to the date of competition. In other words, when competition arrives, the Commission will be required to assign a portion of indirect taxes to the distribution function, since it would be anti-competitive and totally unreasonable to allow an incumbent to recover indirect taxes associated with its generation operations through regulated distribution rates. Therefore, it is merely a question of when these types of taxes must be assigned between the functions. For simplicity and to avoid a duplication of KCC effort, **I recommend that indirect taxes be eliminated as a distinct line item on customer bills.**

Finally, I would like to request that Subsections B and C be changed from January 1, 2000, to July 1, 2000, thus providing the KCC an additional six months to approve the pricing requirements in this bill. The KCC will likely be involved in a number of restructuring activities, putting a strain on existing staff resources. This project is important and will result in a sizable work effort on behalf of Staff. I believe that the requested additional six months is reasonable given the size and scope of this project.

Thank You.

Senate Utilities Committee

Testimony on Senate Bill 502

by

J. C. Long

UtiliCorp United Inc.

Madam Chair and members of the Committee:

Thank you for the opportunity to appear before you today in support of Senate Bill 502 which would direct the KCC to adopt rules and regulations requiring electric public utilities to unbundle retail electric bills.

I am J. C. Long representing UtiliCorp United which has electric utility operations in Kansas by the name of West Plains Energy.

UtiliCorp believes that customer education is vital in restructuring the electric industry and that unbundling our customer's electric bills is a good first step in the educational process. Allowing customers to know the costs of generation, transmission, distribution, universal service fund charges, competitive transition charges and taxes will help our customers make an informed choice on choosing their electric generation supplier when customer choice is finally allowed.

UtiliCorp fully supports our customers to see the costs of running an electric utility. Unbundling our electric bills could be an expensive and time consuming project. We would point out that the more components that are required to be unbundled in this bill, the more expensive and time consuming this change will require. Many billing systems, including ours, only allow so many "fields" or "buckets" in which to put these costs; the more items this bill and the Commission requires, the more "fields" or "buckets"

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will be needed. This directly equates to additional monetary resources and employee time.

UtiliCorp supports the passage of an unbundling bill this year, but if this legislature decides in future that electric restructuring will not go forward, then Senate Bill 502 will be confusing to our customers and an unnecessary expenditure of our costs .

TESTIMONY OF KANSAS ELECTRIC COOPERATIVES, INC.
KANSAS STATE SENATE
COMMITTEE ON UTILITIES

SENATE BILL 502
February 12, 1998

Good afternoon, Madam Chair and members of the committee. My name is Jon Miles and I am Director of Governmental Relations for Kansas Electric Cooperatives, Inc., the statewide association of rural electric cooperatives in Kansas. I am testifying in favor of the concepts contained in SB 502. SB 502 requires that the components of electric service be "unbundled" for the purpose of consumer bills. Currently, regulations do not require that generation, transmission, and distribution components be separated. In fact, there was no apparent need to require unbundled bills under the current regulatory structure. This bill is a precursor to the establishment of competitive electric generation markets in Kansas. It is an interim measure that can be taken while the Legislature studies the merits of retail wheeling.

We are supportive of the purpose of SB 502, but have reservations about the time line for implementation of unbundling.

SB 502 requires the Kansas Corporation Commission to adopt rules and regulations that would implement unbundling. It is our hope that this rulemaking effort by the Commission will be a collaborative effort with each industry participant being given an opportunity to participate through comments and an exchange of information. SB 502 requires the implementation of the adopted rule on and after January 1, 2000. The rule, at a minimum, will require that electric bills contain separate components for generation service charges, distribution service charges, transmission service charges, and transactional taxes. The unbundling requirements will require an investment in computer systems, the training of personnel, and the testing of the service. Until

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the utilities know what will be required as part of the rule, they will not likely be able to begin preparation for unbundling. Assuming that the final rule is adopted on January 1, 1999, utilities will have only one year, or until January 1, 2000, to obtain the necessary computer capability, to train personnel, to bring the system on-line, and to work out the bugs.

The cost and the time involved in this undertaking may merit a longer phase-in, perhaps two to three years. Instead of mandating implementation of unbundling on or after January 1, 2000, perhaps a better approach would be to require compliance reports to the Kansas Corporation Commission showing progress toward the implementation of unbundled billing with a requirement that unbundled billing be fully implemented on the effective date of the implementation of retail competition in Kansas, if ever.

I would be happy to answer any questions you may have.



Submitted
Feb. 13, 1998

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Attach. 11

SENATE UTILITIES COMMITTEE

S.B. 502

By Walker Hendrix

February 12, 1998

Whether Kansas implements retail wheeling or not, Senate Bill No. 502 is consistent with the philosophy of the Board to allow consumers a right to know what they are paying for the different components of electric service. If Kansas does implement some form of retail wheeling, an informed public is essential to having efficient electric markets. From the testimony before this committee, it appears that there is unanimity for more complete disclosure.

If full disclosure is the sine qua non for eventual deregulation, why wait? It would appear that the Kansas Corporation Commission could initiate proceedings immediately to determine what information should be included in the different categories designated for disclosure. Consequently, CURB would encourage the Committee to act with dispatch in adopting a requirement for disclosure.

Some utilities have expressed some concern over unbundling customer charges on the bills of consumers. Why is there so much defensiveness in disclosing to customers how much it takes to meter and bill them? Is it the case that utilities are reluctant to allow consumers to know the costs for metering and billing, when the cost of information technology is declining at historically significant rates? Even if it is not economical to convert to smart meters in the absence of deregulation, won't it be in the consumers best interests to know the costs in the event that information technology affords a cheaper method than what your local utility is charging?

Reference should be made to a recent article in the Public Utility Fortnightly (February 1, 1998, which is attached). This article is entitled "Integrating Metering & Information Systems" and foreshadows the synthesis of information systems and metering technology. The article describes "smart" meters and holds out the promise that metering and billing will be much more efficient than it is today.

Additionally, CURB would oppose any funding mechanism for public utilities which would specially allow them to collect for converting to a new billing format. All providers will be developing billing formats to enable them to compete and disclose essential information. Competitors will not be permitted a pass-through for their billing expenses and will have to

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include their costs as part of the delivered service. Consequently, special treatment for utilities is anti-competitive. Moreover, by foregoing an analysis of overall earnings for the utilities through the use of a pass-through mechanism, there is considerable risk that the utility will be allowed to overearn as a consequence of a direct pass-through. Therefore, the only prudent way to determine the cost of billing is in a utility rate case.

Integrating Metering & Information Systems

Why public communications networks will ease meter unbundling and data transmission.

By Ralph D. Masiello

YEAR 2000. MILLENNIUM. DEREGULATION.

Each word strikes fear into the heart of meter manufacturers and utilities alike. Like the turning of the century, deregulation is coming for the electric utility industry, and sooner than we think. How will it affect the metering industry?

The first real indication can be found in California. There, by order of the state public utilities commission, the customer's energy supplier (the energy service provider or the utility distribution company) will, for the time being, own the meter. The ESP or UDC will choose its own "meter data management agent" to read it and manage the data. Other states are considering similar ideas (see sidebar, *California Metering Rules*).

The California model has changed the face of the utility industry, helping to

create a new variety of companies. Enron, for example, which now owns Portland General Electric, plans voluntarily to move to open access by establishing the "power supply coordinator." The company has proposed that ESPs should contract independently with metering companies to obtain metering services.

What are these new entities, the power supply coordinator, and the meter bill collect company or meter data management agent? What are their functions? Modeled after the California Independent System Operator, the power supply coordinator will forecast load, manage schedules, provide settlements, acquire ancillary services, act as an ISO for distribution and probably manage service outages. It will not read meters—that function will fall to the meter bill collect company, which may, perhaps, install as well as own the meters. This MBC will supply billing-ready data and may even process bills for the ESPs, competing for that business against other MBCs.

But how will the infrastructure work with all these new entities?

Here lie some fundamental questions. How will ESPs, UDCs, MBCs and MDMAs transmit this sensitive data back and forth between each other? What sort of communications networks will they use?

Some vendors in the automated meter reading business have already come to rely on proprietary communications networks to receive and transmit data. However, a switch to public networks would allow the industry to escape from this monopolistic and closed model. In fact, these public networks already exist and provide almost complete coverage of the United States.

Consumer Credit: A Model for Meters

The future of electricity metering is best understood not by looking at the telecom industry, but by looking at the whole process of consumer retail credit.

In retail markets generally, the bank acts as credit provider. Through credit cards and other deals, it offers consumer credit and acts as intermediary for cash transactions between consumers and the retail establishment. The ESP can also act as a "bank" (as do Sears and AT&T through their Discover and Universal cards). The ESP sells energy to the consumer, makes deals and handles the cash between the consumer and the supplier.

The Visa or MasterCard system uses an information technology infrastructure to process applications for credit at the point-of-sale terminal and then processes transactions to the bank. Visa takes no financial position in the transaction but collects a transaction fee. The metering company acts like Visa. It provides the IT infrastructure to process the data but does not take a financial position in the transaction.

Will consumer metering go the way of the credit industry, operating with just a few large players? The answer may depend on the size of the customer.

For large customers or for large, special-purpose suppliers, branded metering will exist analogous to supplier-specific credit cards, such as those offered by large department stores, oil companies, and the like. Large ESPs may even tie value-added services to branded metering—the equivalent of frequent-flyer miles, or the American Express corporate card with its special usage billing reports. However, most retail establishments that offer their own branded cards will also accept stand-alone credit cards, such as Visa, MasterCard or American Express, and it is likely that residential meters will follow this pattern—a few large metering companies, unaffiliated with any ESPs.

The UDC, meanwhile, is a bit like the retail store: It sells goods (energy) under the manufacturer's (ESPs) branding

and linking into the credit (metering) system. There is, of course, a subtle difference. The UDC must "carry" energy offered by all interested suppliers, perhaps including other UDCs, whereas the retail store can select the goods it offers, leaving the customer the choice of which store to patronize.

Thus, the UDC operates like a shipper, as does the ISO. Their customers are the ESPs—not consumers. This role change will lead to different supplier relationships as consumers learn to take service problems to the ESPs. And, just as carriers such as FedEx allow shippers to access their IT systems to identify problems, UDCs will have to allow ESPs to access systems (like trouble call management) to identify and handle customer problems. The meter then looks like a key part of the seller's IT system, which functions like the point-of-sale terminal. It has automatic links to the credit (metering) systems and to the store (ESP and UDC) systems. The retail store uses its POS terminal to drive inventory management and ordering. The UDC and the ESP will use the meter to drive scheduling, forecasting and value-added services. The metering companies use it just as banks and Visa use POS information.

This analogy implies that standards will come along for metering data exchange that will allow any meter to be read by different metering companies or "store" systems. Meter manufacturers will focus on ease of use and consumer features just as POS terminals have focused on bar-code reader design and check clearing and checking systems. Metering systems companies will focus on the information they can provide to ESPs and UDCs.

Finally, note that the store no longer has to buy the card reader from the credit card company as they used to with American Express. Today, the store is free to buy the card reader as part of its IT systems, adapted in many cases to the type of store (i.e., groceries have different bar code

readers than hardware stores, for instance). This pattern suggests that at the end of electric restructuring, energy customers will have a say in selecting their meter, so long as it meets standards.

The Meter Appliance: "Smart" or "Dumb"?

Just as superior electronic phones replaced the rotary telephone, the modern "smart" meter will replace the "dumb" electromechanical meter omnipresent in American homes and businesses today.

Smart meters will incorporate the latest microprocessors, communications and applications to take advantage of the opportunities of competition. Two key technologies needed to bring this transformation about are available today: smart, affordable meters and low-cost, pervasive, public, two-way radio networks such as cellular phone and pager networks. The missing ingredient is the regulatory (deregulatory?) framework that allows the competitive market to apply these technologies, including open standards for meter-communications and data models.

The "smart" meter (such as the ABB Alpha meter) has been available to larger business customers using three-phase power for several years; nearly one million have been

California Metering Rules: An Interview with ORA Engineers

On Dec. 3, 1997, the California Public Utilities Commission issued *Decision 97-12-048*, ironing out details for deregulation of the electric metering industry, a process begun in May 1997, in *Decision 97-05-039*, in which it announced the unbundling of "revenue-cycle services," including electric metering.

The December order responded to a report issued by the PUC's Meter and Data Communications Standards Workshop. It was notable for appearing to cut back on the extent of meter deregulation. For example, the order appeared to give no right to direct access customers to choose their own meter service provider or meter data management agent. Instead, energy service providers and utility distribution companies will take over the role of meter service providers and meter data management agents, with the right to assign those tasks to independent vendors, if they so choose.

Does that model achieve the vision of meter unbundling? For an interpretation, Bruce W. Radford, editor of the *Fortnightly*, solicited comments from Anthony Mazy, a utility engineer with the state's Office of Ratepayer Advocates, who originally proposed to unbundle meter services in California.

BWR: Do you have any general comments on *Decision 97-12-048*?

AM: While I do not speak for ORA management, much less the CPUC, I think that it is safe to say that we are very pleased with the [December] metering decision. It adopts, substantially intact and frequently verbatim, the ORA and Joint Parties positions offered in the workshops and in formal comments on record. Many of the positions offered in the decision as derived from the workshop report were, in fact, taken from ORA and other Joint Parties' submissions in that process. While it is gratifying to find our proposals

accepted and adopted by the workshop participants, I also take a lot of pride in being part of a group that took the initiative to develop these proposals.

I only found two outright errors in the decision. First, it did not include the names of all of the parties in our group. Others who participated included PacifiCorp and Southern California Gas Co., the energy services provider Illinova Energy Partners, the metering services provider Data and Metering Specialties, the Industry Canada Task Force, and customer representatives Share Plus (a hospital consortium), the U.S. Dept. of Defense (as facilities manager of extensive properties in the state) and the Utilities Consumers Action Network.

Secondly, it was erroneously reported that the Automated Meter Reading Association has rescinded its cosponsorship of our proposals when, in fact, AMRA had never been a cosponsor, but IEEE SCC 31 having at one time been incorrectly identified as AMRA.

BWR: Please comment on why the decision makes ESPs and UDCs the MDMA and MSP.

AM: While ORA has recommended near-term empowerment of customers to select their own MSPs and MDMAs, we never expected this to be implemented immediately. Incremental unbundling was to be expected, given the unprecedented scope of electric restructuring.

BWR: Why give discretion to ESPs or UDCs to subcontract to other vendors?

AM: I don't believe that this is anything new, as traditional utilities have always been rather free to apportion their operations between in-house employees and outside contractors as they saw fit, with only broad PUC oversight. "Micromanagement" has been a

successfully deployed in the United States to date; 96 percent of all polyphase meters sold today are electronic. These meters, such as the ABB PowerPlus Alpha, provide much more than simple kilowatt-hour energy measurement; they provide power quality monitoring, outage detection, two-way communications and real-time pricing. Customers also can use electronic meters with a computer to retrieve current or historic usage. Lower-cost, single-phase versions of the same electronic meters are available.

With the growth of the smart meter has also come an entirely new family of application software that allows customers to improve energy quality. Applications available to consumers via smart meters will include better monitoring

and management of energy consumption; tracking of service quality, outage duration and power quality; monitoring of large-appliance loads and power-conditioning effects; and even advanced energy control and control of loads such as air conditioners in response to energy prices. Features can also be added to the meter to enhance power-system reliability, such as autonomous response to low-frequency and low-voltage conditions or to provide whole-house surge protection.

New, smart meters are 20 percent more

Anthony Mazy

bad word for some time now.

BWR: Why can't customers choose their own MSP or MDMA?

AM: While we never expected customer choice to be immediately established for all of the so-called "revenue-cycle" services, ORA does recommend this as a goal of restructuring. Customer choice at this level, involving as it does multiple parties, can only take place under sufficient standardization so that all parties can feel comfortable in their expectations for the provided functions. The PUC seems to adopt this approach, in its language at the end of section III.B.2.B. [p. 4]:

"We see merit in eventually allowing customers to choose their own individual metering services from different providers. . . . If systems can be developed to address these [safety, reliability, and accuracy] concerns, we would be willing to revisit the further unbundling of metering services in the future."

BWR: Is this what you envisioned with revenue-cycle unbundling?

AM: Establishing the principles of interoperability, open architecture, national standards and an orderly and expeditious migration as the essential requirements for meaningful customer choice was our expressed goal. We have achieved that, so, yes, we got what we asked for. But, again, unbundling and electric restructuring are far from being finished.

For one thing, California is the first state to implement such extensive unbundling services as a key means of implementing direct access. This hasn't been without controversy. In 1998, we'll find out which other states have the backbone to participate in the creation of a new industry instead of protecting the status quo.

Also, when we began this process, many of us understood it as

an adjustment —albeit a big one— to the electric services industry, one that changed the rules for utilities, but didn't change the fundamental vision of what electric energy service was. The more we look into these issues, the more answers we find that further challenge assumptions about the "way things are supposed to be." Now, we are coming to believe that this is the beginning of the end of the entire electric services industry as we know it—or as we are capable of recognizing it. Whether the UDCs are the "center of the universe" may not be a very interesting question if the universe we know changes into something else fundamentally different.

BWR: Has the vision been achieved?

AM: We are far from finished with metering, much less electric restructuring, but the ORA Joint Parties have clearly taken the high ground in this proceeding. We could quibble with the PUC's judgment in certain details of implementation, but we also recognize that part of their job is to mitigate the impacts of change for stakeholders. The PUC did adopt our proposal to embark upon a deliberate migration from UDC-based "standards" to national standards.

The Permanent Standards Working Group established by the PUC will provide a mechanism to review available national standards for adoption as law by the state of California, much as local governments review and adopt periodic editions of the uniform building codes. There will always be room to adjust national standards for the real situations faced by various locales, but the market for electric services is just too big to be defined by the provincial concerns of 50 different states. Having established in the California record and policy the principles of interoperability, open architecture, and national standards, reasonable details will surely follow in good time.

accurate than the old ones. The standard for electromechanical meters is that they should be accurate to within 0.5 percent of full scale when new. Over time, as they wear, they slow and become less accurate. This inaccuracy is biased in favor of the consumer and lost in the rate base. Tomorrow someone will have to pay for it.

Network Connections: Public or Private?

Today there are automatic meter reading systems that use special-purpose, proprietary and private communications networks to communicate with the meters. Older systems employed power line carrier technology (PLC) which used the actual electric power line to reach the meter. Today private radio networks are used instead. In either case, a communications module is installed in the meter to send meter reading data out over the pri-

vate system. While PLC is a viable option, it offers limited capability and bandwidth.

Just as PLC was necessarily a "closed" system owned by the utility and only usable by them, the current model for private radio networks is the same. These private radio networks are only usable for metering, have limited communications capabilities compared with public networks such as cellular phones and require their own slot in the electromagnetic spectrum. They are only financially viable if they are widely deployed in a high residential density. Such radio networks come with a large up-front cost to "build-out" the system of repeaters and network devices. In the past, these up-front costs would be put in the utility rate base and recovered from the rate payers.

Public communications networks would allow the electric industry to escape from this monopolistic and closed model, encouraging innovation. In an open and public metering environment a consumer will be able to interact with their meter via their personal computer over the Internet and run application software to analyze their energy usage. Smart meters can be integrated closely with the cellular phone network and modem electronics to provide metering and

A Second Opinion on Network Architecture

Why a "closed" system is actually "open."

By Chris S. King

METERING issues can be confusing, especially as they relate to new technologies and electric deregulation. However, only three guiding principles are needed to protect consumers and to ensure fair competition.

First, consumers need accuracy, safety and reliability. These are ensured through adherence to ANSI C12 standards.

Second, they need public or "open" access to both meters and communications (with passwords to protect privacy). The residential or commercial consumer and their chosen energy supplier must be able to read whatever meter is on that consumer's house or business. If that meter is read remotely via a communications network, the consumer needs open access to that network.

Third, consumers need low cost. Open access is only viable if it is economical. To illustrate, consumers have low-cost, open access to telephone network devices (both wired and wireless), because any equipment manufacturer can obtain the interface protocol at no or low cost.

Closed, proprietary technology—whether in a network, a meter, or elsewhere—inhibits competition by obstructing access to some consumers or energy suppliers. Excessive interface licensing fees, much as proprietary technology, also obstruct open access.

CellNet is an example of an "open" network. In California, any energy supplier or customer can subscribe to CellNet's communications services, and any manufacturer can obtain the interface to CellNet's networks at essentially no cost. CellNet encourages other network providers, as well as meter manufacturers, to provide similar open access.

When the California and New York commissions established "open architecture" requirements for metering (see CPUC D.97-05-039 and NY PSC Order 97-13), this is the type of consumer protection they had in mind. **F**

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enhanced services via public networks without the need for large, up-front investments in private communications or the allocation of scarce electromagnetic spectrum for these purposes. Similarly, an open environment for metering would allow consumers to choose a metering system provider—whether it be the UDC, the ESP or a communications company. The consumer could choose to invest themselves in a sophisticated meter if they wanted the additional benefits, or they could elect the lowest cost basic service available.

And public networks already exist. They already provide essentially 100-percent coverage across the U.S. Their costs are kept low by a fiercely competitive industry, while the consumer has a choice of network providers and cellular phone products to use. There are 50 million cellular phones in use today and 65 million pagers. By 2002 there will be more cellular phones in use than residential households.

By contrast, the current private network and meter communications module technology would have the industry make large investments in adding communications to existing electromechanical meters. This investment would lock the public into the existing “dumb” meter for years to come with no possibility of innovation, competition or added benefit.

Today, many industrial and commercial customers suffer from degraded power quality because of the increasing number of electronic power supplies in computers and other equipment and microprocessor-controlled motors or drives. These devices generally provide improved efficiency and equipment or appliance life, but they do so at a cost—they introduce harmonics into the power system. These harmonics, when present beyond system design parameters, can damage equipment in both the consumer and utility facilities, can increase energy losses, and can cause sensitive electronic equipment to trip off line. Smart meters can identify the source of these harmonics so that appropriate corrective measures can be taken. Smart meters save the consumer and the utility money by performing the data collection and analysis. Otherwise this job requires an engineer or technician to make a prolonged visit and install special-purpose monitoring equipment or conduct manual diagnostics.

In the future, accurate data about power quality and service availability will become all the more important as the last regulated sector, the “wireco” (distribution company) falls under performance-based rate making. The frequency and length of outages will supply the critical PBR parameters by which a “wireco” can be measured. The meter and an independent metering system are the best source of this information.

Real-Time Data: Essential for Direct Access

Direct access only increases the need for the precision and advanced capabilities of smart meters. The challenges cover a wide range, from real-time pricing to transmission congestion.

True real-time pricing requires that the usage and price be computed on short time periods—15 minutes anticipated today and possibly five minutes in the future. Reading the meter like this may frequently be beyond the capacity of the private AMR radio network technology; smart meters can retain the information and allow daily or monthly reads as desired. In California, New England and New York, the development of independent system operators has already shown the need for advanced meters for accurate measurement, settlements and accounting.

In fact, ISOs do more than assure reliability and efficient transmission. They must deal with scheduling deliveries, accounting and settling up. These tasks turn out to be as large a technical challenge as the electric operations. The California and New York ISO systems are encountering these challenges and addressing them today.

Granted, California is a large market, but nonetheless it sets the principle that the ISO will end up with a transaction processing requirement as large as any used in American commerce today. Add to this the desire of the industry and Federal Energy Regulatory Commission to move to Internet technology, and you have one of the largest information technology system challenges around today. As was said earlier, the California projects are showing that providing the needed solution is feasible, but the challenge should not be underestimated. **F**

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