

EXHIBIT NO.:

WITNESS:

TYPE OF EXHIBIT:

SPONSORING PARTY:

CASE NO:

Derick O. Dahlen

Prepared Surrebuttal
Testimony

MOPSC Staff

HO-86-139

MISSOURI PUBLIC SERVICE COMMISSION
UTILITY DIVISION

KANSAS CITY POWER AND LIGHT COMPANY
CASE NO. HO-86-139

PREPARED SURREBUTAL TESTIMONY
OF
DERICK O. DAHLEN

JEFFERSON CITY, MISSOURI

APRIL 7, 1987

OFFICIAL CASE FILE

MISSOURI PUBLIC SERVICE COMMISSION

Exhibit No. 30
Date 7/6/87 Case No. HO-86-139
Reported 2000000000

BEFORE THE PUBLIC SERVICE COMMISSION
OF THE STATE OF MISSOURI

In the matter of the investigation
of steam service rendered by
Kansas City Power & Light Company.

)
)
) Case No. HO-86-139


AFFIDAVIT OF DERICK O. DAHLEN

STATE OF MISSOURI)


) ss

COUNTY OF COLE)

Derick O. Dahlen, of lawful age, on his oath states: That he has participated in the preparation of the attached written surrebuttal testimony and attached appendices/schedules in question and answer form, consisting of 19 pages of surrebuttal testimony to be presented in the above case, that the answers in the attached written surrebuttal testimony were given by him; that he has knowledge of the matters set forth in such answers; and that such matters are true to the best of his knowledge and belief.


Derick O. Dahlen

Subscribed and sworn to before me this 7th day of April, 1987.


JUDY FRITSCH Notary Public
NOTARY PUBLIC STATE OF MISSOURI
COLE CO.
MY COMMISSION EXP. JULY 31, 1989
ISSUED THRU MISSOURI NOTARY ASSOC.

My Commission expires _____

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25

PREPARED SURREBUTTAL TESTIMONY
OF
DERICK O. DAHLEN
KANSAS CITY POWER AND LIGHT COMPANY
CASE NO. HO-86-139

Q. Would you state your name please?

A. My name is Derick O. Dahlen.

Q. Have you testified previously in this case?

A. Yes. I previously submitted direct testimony regarding:

- Proposals to purchase the Kansas City Power & Light Company (KCPL) district heating system,
- Freezing current rates,
- The cost of district heating and individual building boilers,
- KCPL's plan to install electric boilers, and
- Service territory abandonment.

I also submitted rebuttal testimony to Company witness Beaudoin and the conclusions and findings of "Downtown Steam System Conversion Study" (Conversion Study).

Q. What is the purpose of your surrebuttal testimony?

A. My surrebuttal testimony is in response to the rebuttal testimony of Company witnesses Beaudoin, Graham, and Levesque.

MR. BEAUDOIN'S TESTIMONY

Q. What are the subjects of your surrebuttal to Company witness Beaudoin's testimony?

A. I will respond to Mr. Beaudoin's rebuttal testimony regarding:

- Viability of the Kansas City district heating system,
- That unavoidable rising costs of district heating will make district heating non-viable,
- Whether a purchaser must be unregulated for it to have a chance of making the system viable, and
- The relative cost of district heating, gas-fired boilers, and electric boilers.

Q. What is Company witness Beaudoin's testimony regarding the viability of the Kansas City district heating system?

A. On page 3 of his surrebuttal, Mr. Beaudoin testified that "The fundamental disagreement between KCPL and Staff concerns the viability of central station steam distribution service."

Q. Has Company witness Beaudoin correctly identified the key difference between your testimony and KCPL's view of the Kansas City district heating system?

A. No. There is a significant difference between the Company's wishes (to close down the steam system) and the results of my analyses which show that the steam system can be cost competitive with individual gas-fired boilers. However, the successful continued operation of the Kansas City district heating system should not be determined by studies. Instead, the issue should be submitted to potential purchasers of the system to determine whether another operator would believe the system to be viable and be willing to undertake the operation of the system. The fundamental difference between the Company and my view is that the system should be offered for

1 | sale rather than shut down based on KCPL's desires.

2 | Q. What is Company witness Beaudoin's testimony regarding "unavoidable rising costs"?

3 | A. On page 4, Mr. Beaudoin testified that "The unavoidable rising costs of central sta-
4 | tion steam distribution service, and a continually eroding customer base, will not
5 | result in a viable steam heating system for any operator."

6 | Q. Do you agree with Mr. Beaudoin's conclusion regarding the relationship between
7 | costs, customer base, and viability of the Kansas City district heating system?

8 | A. No. Mr. Beaudoin's analysis is flawed. Although costs may increase for many
9 | reasons including inflation and rehabilitation of the system, increasing costs do not
10 | necessarily result in higher rates. As I testified in my direct testimony, higher sales
11 | volume would permit spreading fixed cost over a greater number of units thereby
12 | permitting lower prices. Further, as I testified in my direct testimony, all the dis-
13 | trict heating systems in the U.S. which we surveyed have marketing efforts directed
14 | at adding customers and increasing sales unlike KCPL which has engaged in
15 | demarketing of its district heating system.

16 | Q. What is Company witness Beaudoin's testimony regarding Staff's position regarding
17 | the need for regulation of district heating?

18 | A. On page 4, lines 22 through 28, Mr. Beaudoin states that:

19 | "Further, Staff's testimony appears to indicate that a purchaser
20 | must be unregulated to some extent in order for it to have a chance of
21 | making the system viable. Indeed, Staff envisions that a purchaser
22 | may only wish to serve some of KCPL's existing customers; apparently
23 | the rejected customers are on their own. (See KCPL Exhibit _____,
24 | (BJB), Schedule 1, which contains Staff's answers to certain KCPL
25 | interrogatories)."

23 | Q. Did you provide the answers to KCPL interrogatories which Mr. Beaudoin included
24 | with his rebuttal testimony as Schedule 1?

25 | A. Yes. I provided the answers to KCPL interrogatories which Mr. Beaudoin included

1 with his rebuttal testimony as Schedule 1.

2 Q. In your direct testimony, did you indicate that a prospective purchaser of the sys-
3 tem should have the right to either serve or not serve customers?

4 A. No. I stated that prospective purchasers should indicate in proposals to purchase the
5 system what customers they would serve. There are three possibilities regarding
6 what customers a prospective system purchaser would serve including:

- 7 • All customers desiring service within the service territory,
- 8 • All existing customers within the service territory,
- 9 • Some customers within the service territory, and
- 10 • Customers outside the existing service territory.

11
12 Because of the economics of district heating, it is most likely that potential pur-
13 chasers will desire to have the highest load possible and will not want to restrict
14 sales.

15 Q. What was the question to which you responded regarding service to customers?

16 A. My response was to a question that asked:

17 "Is it necessary or desirable for a purchaser of KCPL's steam system,
18 or new district heating suppliers, to have the right to refuse to serve
19 existing customers and/or accept new customers? If so, please explain
why and give all assumptions and considerations underlying that
explanation." (emphasis added)

20 My response to the interrogatory was as complete as I could make it. As a result, I
21 explained the conditions under which a potential purchaser might be unwilling to
22 serve all customers within the service territory (the assumption of the question).

23
24 The conclusion Mr. Beaudoin desires to draw regarding my position related to
25 regulation of district heating appears to be based solely on the question itself.

1 Q. Have you expressed an opinion regarding whether a purchaser of the Kansas City
2 district heating system should be required to serve all customers?

3 A. No. I have not expressed an opinion regarding whether a purchaser of the Kansas
4 City district heating system should be required to serve all customers. As I stated in
5 the response to the interrogatory,

6 "In the circumstances of this case, I believe that potential purchasers'
7 perceptions of the marketing opportunity for district heating in Kan-
8 sas City should frame their proposals rather than requiring that all
proposers commit to serving all customers within the service territory."

9 Q. What is Company witness Beaudoin's testimony regarding the relative cost of on-site
10 electric boilers and gas boilers?

11 A. Mr. Beaudoin testifies that

12 "Mr. Levesque's rebuttal testimony shows that on-site electric boilers
13 or alternative electric space heating equipment have an overall cost
14 advantage over gas boilers in many instances, depending on the site
characteristics."

15 Q. Does Company witness Levesque make the showing that Mr. Beaudoin testifies that
16 he makes?

17 A. No. In his discussion on pages 8 through 10 of his rebuttal testimony, Mr. Levesque
18 simply describes some of the factors that make steam from various boiler installa-
19 tions more or less costly. Mr. Levesque never makes the showing that electric boilers
20 or alternative electric space heating has an overall cost advantage over gas boilers in
21 any instance. In fact, the only comparison of electric and gas boilers presented by
22 Mr. Levesque shows that the gas boiler produces lower cost steam than the electric
23 boiler as shown in the following table:

24 Gas Boiler	\$22.27
25 Electric Boiler	24.58

MR. LEVESQUE'S REBUTTAL TESTIMONY

Q. What are the conclusions of Company witness Levesque's rebuttal testimony?

A. Mr. Levesque's rebuttal testimony promotes four major conclusions:

- That the estimates of the cost of steam from the long-term rehabilitation scenarios presented in my direct testimony are low,
- That the estimates of the cost of steam from the short-term rehabilitation scenario presented in my direct testimony are low,
- That the estimated cost of steam from individual gas-fired boilers presented in my direct testimony is low, and
- That the estimated cost of steam from individual electric-fired boilers presented in my direct testimony is high.

Long-Term Rehabilitation Adjustments

Q. What reasons does Mr. Levesque give for your cost of steam being lower in the long-term rehabilitation alternative than he projects it should be?

A. Mr. Levesque makes 7 adjustments to the projected cost of steam including the following 6 which increase the cost of steam:

1. Revision of natural gas price forecasts,
2. Inclusion of return on investment and depreciation of current KCPL investment in district heating,
3. KCPL increase in O&M labor,
4. Inclusion of property taxes,
5. Increase in electricity for the plant, and

6. Increase in station heat and increased losses.

In addition, Mr. Levesque proposes one adjustment which decreases the projected cost of steam which is:

7. Reduction in chemical treatment cost.

I will address Mr. Levesque's adjustments 1, 2, and 4. Mr. Miller will address Mr. Levesque's adjustments to assumptions prepared by Mr. Miller and used by me in preparation of projections of the cost of steam in the long-term rehabilitation alternative including adjustments 3, 5, 6, and 7.

Natural Gas Price Forecasts

Q. Should your projected cost of steam be adjusted for Company witness Levesque's proposed fuel cost?

A. No. Mr. Levesque's proposed change to fuel cost is the largest increase proposed by the Company. It is, however, based on a KCPL gas price forecast of \$3.63 per MMBTU rather than the independently prepared Data Resources, Inc. (DRI) July 1986 forecast of a 1987 natural gas price of \$2.18 per MMBTU which was used in the district heating price projections presented in my testimony.

Mr. Levesque's rebuttal testimony implies that the forecast is based on a March 1987 DRI forecast. However, despite a standing Staff data request for all fuel price forecasts, KCPL has not provided a March 1987 DRI forecast. Further, as of this writing, KCPL has not provided me its March 1987 adjusted DRI-based forecast or the workpapers and supporting documentation for its suggested 1987 natural gas cost of \$3.63. I have not therefore, had an opportunity to analyze or review the March 1987 DRI forecast or the March 1987 adjusted DRI-based forecast.

1 In fact, a document included in Mr. Levesque's workpapers, "TABLE A-6" which ap-
2 pears to be from a DRI forecast, projects that the 1987 price per MMBTU in current
3 dollars to be \$2.32 for large commercial customers. This is the same price projected
4 by DRI in its July 1986 projections for large commercial customers. However, based
5 on its projected volume of purchases, KCPL would be a large industrial customer
6 with a somewhat lower price.

7 Q. Did Mr. Levesque also project the price of natural gas over the period 1987 through
8 2001?

9 A. Yes. Mr. Levesque assumed that the price of natural gas would increase, in every
10 year except one, at rates which appear to be random despite the DRI projections in
11 Mr. Levesque's workpapers which show current dollar declines in natural gas prices,
12 as well as, real dollar declines in natural gas prices in several years. Mr. Levesque's
13 natural gas price projections are arbitrary and have the effect of increasing his
14 projected natural gas price. Mr. Levesque's district heating steam price projections
15 from 1987 through 2001 are, therefore, higher than those that would be obtained
16 with a reasonable gas price projection.

17 Q. Did Mr. Levesque also criticize the cost of natural gas used in your projections be-
18 cause it did not include sales tax?

19 A. Yes. My district heating price projections assumed that KCPL would purchase
20 transport gas which, I understand, would not be subject to sales tax. I assumed this
21 would be possible because of KCPL's high volume of natural gas use. (This is unlike
22 my assumption for individual gas-fired boilers which volume would not be suffi-
23 ciently large to permit purchase of transport gas and would, therefore, be subject to
24 sales tax.)
25

Return on KCPL's Investment In District Heating

Q. Do you agree with Company witness Levesque's adjustment to include return on KCPL's current net investment in the Kansas City district heating system?

A. No. The district heating system has no value to KCPL because KCPL has indicated its willingness in its conversion plan to lose money in order to leave the district heating system. Further, KCPL is willing to invest additional amounts in electric boilers to close down the district heating system.

Mr. Levesque wants us to accept the idea that the plant would have value to an alternative operator of the system even though it has no value to KCPL.

Again, KCPL failed to include Mr. Levesque's workpapers showing the computation of his proposed \$2.50 per Mlb. adjustment.

Q. Is your assumption regarding the value of the KCPL Kansas City district heating system consistent with traditional financial analysis?

A. Yes. The KCPL Kansas City district heating system is a "sunk cost". A sunk cost is one which cannot be recovered after it is made. In this case, the pipe in the ground would cost more to recover than its value. Likewise, the boilers and building comprising the Grand Avenue Station are a cost which has been expended which cannot be recovered. (Grand Avenue Station may, however, have some salvage value.)

Property Taxes

Q. Should the property tax adjustment proposed by Company witness Levesque be made to more properly reflect the projected cost of steam for the long-term rehabilitation alternative?

1 | A. Yes. In the long-term rehabilitation projections of the cost of steam presented in my
2 | direct testimony, I had understood that property taxes were included in the
3 | Company's administrative and general expense. I agree with Mr. Levesque that
4 | property taxes should be included in the costs of the long-term rehabilitation alter-
5 | native and that 1987 required rates should be increased by approximately \$.60 per
6 | Mlb. (approximately a 6% increase) to reflect the inclusion of property taxes.

7 | Q. What adjustment should be made for property taxes?

8 | A. The cost of steam for the long-term rehabilitation alternative should be increased by
9 | an amount that KCPL calculates is \$273,110 or \$.60 per Mlb. (\$.67 per Mlb. including
10 | gross receipts tax) for 1987. Because of the manner in which property taxes are
11 | assessed, it is my understanding that the amount of property taxes would decline in
12 | subsequent years to \$132,112 or \$.29 per Mlb. (\$.32 per Mlb. including gross receipts
13 | tax) in 1993 and following years as shown in Mr. Levesque's Exhibit 1. This is the
14 | only adjustment proposed by Mr. Levesque to the cost of steam under the long-term
15 | rehabilitation alternative which I believe should be made.

16 |
17 | Levesque Proposed Adjustments to Mr. Miller's Estimates

18 | Q. Should the adjustments proposed by Company witness Levesque to Mr. Miller's es-
19 | timates be made?

20 | A. No. Mr. Miller has evaluated Mr. Levesque's proposed adjustments and has con-
21 | cluded that no adjustments should be made.

22 |
23 | Other Levesque Comments

24 | Q. Are there any other comments made by Company witness Levesque which you
25 | would like to address?

1 A. Yes. Mr. Levesque has stated that my analyses implicitly assume that all the cus-
2 tomers on the Kansas City district heating system will be retained. I have made no
3 assumption regarding the number of customers retained. Instead, I have assumed
4 that the volume of sales will remain the same. As is clear from my direct testimony,
5 I recognize that some customers will be lost as buildings are demolished and must be
6 replaced with volume from new buildings. Further, as I testified in my direct
7 testimony, an aggressive district heating operator would work to add more load than
8 might be lost, thereby, increasing sales volume.

9
10 Short-Term Rehabilitation Adjustments

11 Q. What is Mr. Levesque's criticism's of the short-term rehabilitation alternative?

12 A. Mr. Levesque suggests that the short-term rehabilitation alternative "makes little
13 sense". In addition, he notes that:

- 14 • The natural gas-fired boiler is insufficient to carry the summer load,
- 15 • The long-term capital investment is understated because there is no proposed
16 renovation of the low-pressure distribution system,
- 17 • The level of distribution O&M expense should be higher, and
- 18 • The level of production O&M expense should be higher.

19
20 Mr. Miller has addressed the size of the gas-fired boiler in this alternative. I will
21 address Mr. Levesque's other objections.

22 Q. Do you agree with Mr. Levesque's concerns regarding the level of long-term capital
23 investment under the short-term rehabilitation alternative?

24 A. Yes. Mr. Levesque's observation regarding the capital investment is valid. Steam
25 costs for the short-term rehabilitation alternative should not be projected over a

1 | twenty year period because the system is unlikely to remain economically viable
2 | over that period without additional renovation. The total investment required
3 | would, therefore, be closer to that of the long-term rehabilitation alternative.
4 | However, different operators could invest greater or lesser amounts than those as-
5 | sumed in the long-term rehabilitation alternative.

6 |
7 | The primary purpose of including the short-term rehabilitation program was to
8 | demonstrate the range of capital investment which a new operator might make upon
9 | acquisition of the district heating system. In the process of our analyses, we recog-
10 | nized that a purchaser of the district heating system might not initially completely
11 | rehabilitate the system but might, instead, emphasize expansion of sales and cost
12 | control.

13 | Q. Do you agree with Company witness Levesque's observation that the level of O&M
14 | expense contained in the projections of costs under the short-term rehabilitation al-
15 | ternative should have been higher than the long-term rehabilitation alternative?

16 | A. Yes. Higher O&M expense for the short-term rehabilitation alternative compared to
17 | the long-term rehabilitation alternative would be appropriate. However, as an
18 | operator invests in distribution and production plant, the amount of O&M should be
19 | decrease until equal to that of the long-term rehabilitation alternative.

20 |
21 | Individual Gas-Fired Boilers

22 | Q. Did Company witness Levesque estimate the cost of steam from an individual gas-
23 | fired boiler?

24 | A. Yes. Mr. Levesque adjusted the 1987 projection of the cost of steam from a typical
25 | 200 BHP gas-fired boiler contained in my testimony to reflect the following:

- 1 • Higher installed cost (increased from \$124,000 to \$300,000 or an increase of
- 2 142%),
- 3 • Lower volume of steam produced, and
- 4 • Higher natural gas prices.

5 Q. Do you agree with Mr. Levesque's adjustments?

6 A. No. Each adjustment proposed by Mr. Levesque has the effect of increasing the cost
7 of steam produced from an individual building gas-fired boiler. Mr. Levesque has
8 presented no support in his workpapers for his estimate of the capital cost of the
9 proposed boiler, as Mr. Miller testifies. Further, Mr. Levesque has not established
10 that the Home Savings electric boiler test site is a typical installation.

11 Q. What is Company witness Levesque's source for his estimated natural gas price?

12 A. The 1987 natural gas price of \$4.2065 per MMBTU is sourced to a March, 1986
13 KCPL forecast of KPL Gas Service charges for large commercial customers which is
14 identified at note 4 to Exhibit 4. The forecast was not contained in Mr. Levesque's
15 workpapers.

16
17 In contrast, the \$3.07 per MMBTU contained in my projections of the cost of steam
18 for individual gas-fired boilers is the July, 1986 DRI projection of the 1987 price of
19 natural gas for small commercial customers plus 11.11% gross receipts tax and 7%
20 sales tax.

21
22 Individual Electric Boilers

23 Q. Did Company witness Levesque estimate the cost of steam from an individual
24 electric boiler?

25 A. Yes. Mr. Levesque adjusted the 1987 projection of the cost of steam from a typical

200 BHP electric boiler contained in my testimony to reflect the following:

- Lower installed cost (decreased from \$340,000 to \$210,846 or a decrease of 38%), and
- Lower volume of steam produced.

Q. Do you agree with Mr. Levesque's adjustment to the capital cost of the 200 BHP electric boiler?

A. No. This adjustment to the capital cost of an electric boiler proposed by Mr. Levesque has the effect of decreasing the cost of steam produced from an individual building electric boiler. As with the gas-fired boiler, Mr. Levesque has not established that the Home Savings electric boiler test site is a typical installation.

Q. Do the relative capital costs of the gas-fired boiler and the electric boiler used in Mr. Levesque's analysis suggest any bias?

A. Yes. Either the selection of Home Savings as a typical site or the estimate of the capital costs used suggest that the comparison will favor electric boilers. Although the notes to Exhibit 4 state that gas package boiler costs can range from \$200,000 to \$400,000 for both an electric boiler and for a gas-fired boiler each of 222 BHP, Mr. Levesque estimates that a gas-fired boiler would cost \$300,000 compared to \$210,846 for an electric boiler at Home Savings.

Comparison of the Cost of Steam from Different Alternatives

Q. What is your analysis of the cost of steam from different sources?

A. As I testified in my direct testimony, the cost of steam from a cost-effective district heating supplier is competitive with steam produced by natural gas-fired boilers. I also concluded that the cost of steam from electric boilers is higher than the cost of steam from either natural gas-fired boilers or from district heating.

Q. Have you read anything in the rebuttal testimony of KCPL's witnesses that would changes the conclusions of your analysis?

A. No. In fact, the costs of steam projected by Mr. Levesque confirm my earlier analysis. The following table shows the 1987 costs per Mlb. for three alternatives. I have increased my projected cost of steam for district heating to recognize property taxes of \$.67 per Mlb.

	<u>Dahlen</u>	<u>Levesque</u>
District Heating (Long-Term Rehab w/ Nat'l Starch)	\$11.75	\$19.18
District Heating (Long-Term Rehab w/o Nat'l Starch)	\$14.50	\$21.78
Individual Natural Gas Boilers (200 BHP)	\$10.56	\$22.27
Individual Electric Boilers (200 BHP)	\$26.69	\$24.58

Q. Do you agree with Mr. Levesque's projected costs of steam for the four alternatives described above?

A. No. I believe that Mr. Levesque's adjustments have the effect of increasing the cost of steam from district heating and individual gas-fired boilers to higher costs than those that would be incurred by an efficient operator. In addition, I believe that the electric boiler steam cost presented by Mr. Levesque is not that of a typical 200 BHP installation. Nevertheless, Mr. Levesque's calculations of the cost of steam from different sources show that district heating is lower in cost than the other alternatives with and without National Starch than individual boilers. Mr. Levesque's calculations also show that individual gas-fired boilers are lower cost than individual electric boilers.

Metering Inaccuracy and Losses

Q. Are there any additional issues raised by Mr. Levesque's rebuttal testimony?

1 | A. Yes. Mr. Levesque raised the issue of metering inaccuracy and losses other than
2 | radiation losses.

3 | Q. What do the workpapers supporting Mr. Levesque's testimony indicate regarding
4 | losses?

5 | A. Mr. Levesque's testimony is apparently supported by a memorandum from Joe
6 | Gawron dated March 31, 1987 which states:

7 | "My position is that this 70,000 Mlbs. of unaccounted for loss results
8 | from calculation inaccuracy and loss due to poorly maintained cus-
9 | tomer equipment included valves (sic), flanges, condensate pumps,
vacuum pumps, traps vents, leaking condensate return lines, drain
routed to sewers prior to metering and metering inaccuracy."

10 | Q. Does Mr. Gawron's memorandum describe any calculation inaccuracy?

11 | A. No.

12 | Q. What is your interpretation of Mr. Gawron's statement?

13 | A. Mr. Gawron appears to have concluded that KCPL is providing 70,000 Mlbs. of
14 | steam to customers which is not metered at the condensate meter for various reasons
15 | related to customer equipment. Stated differently, Mr. Gawron is saying that KCPL
16 | is providing 70,000 Mlbs. of steam to customers without metering it and without
17 | being paid for it.

18 | Q. What percentage is 70,000 Mlbs. of the downtown district heating load?

19 | A. The 70,000 Mlbs. is equivalent to 15% of annualized downtown sales of 458,639 Mlbs.

20 | Q. If this amount of steam were sold rather than given away, by how much would costs
21 | per Mlb. be reduced?

22 | A. Cost per Mlb. and, therefore, the required rate per Mlb. would be reduced by ap-
23 | proximately 13%. For example, if the cost of steam is \$12.00 without sales of the
24 | 70,000 Mlb, the cost of steam would decline to approximately \$10.44 per Mlb. if the
25 | 70,000 Mlb were sold.

1 | Q. Have other witnesses in this case also recognized this metering problem?

2 | A. Yes. Both Mr. Fuller and Mr. Tooley recognized that metering was a potential
3 | problem in the Kansas City district heating system and discussed it in their direct
4 | testimony.

5 |
6 | In fact, Mr. Fuller has provided at least a partial solution to this problem on page 22
7 | of his testimony where he states:

8 | "If the customer has a substantial consumptive use of steam for such
9 | uses as humidification, a steam flow meter which measures the steam
10 | as it enters the customers' premises is required. In the case of some
11 | large use customers, both types of meters can be installed to secure a
12 | continuing check on meter accuracy." (Emphasis added)

MR. GRAHAM'S REBUTTAL TESTIMONY

1
2
3 Q. What is the subject of Mr. Graham's testimony?

4 A. Mr. Graham states that he provides testimony:

5 "showing that even if the Company had acquired all of the potential
6 customers in its steam service territory, the steam system would still
7 not be a viable heating alternative for the Downtown area today."

8 Q. Does Mr. Graham's analysis reflect an aggressive marketing program?

9 A. Mr. Graham's analysis reflects a more successful marketing program than has been
10 conducted by KCPL. However, he assumes that steam would be marketed in only
11 the limited downtown area service territory without regard to opportunity for sales
12 in adjacent areas. Certainly, an aggressive district heating operator that recognized
13 the benefit of higher sales would seek to add customers that could be economically
14 served whether in the service territory or not.

15 Q. Do the steam price projections presented by Company witness Graham accurately
16 reflect the cost of providing steam if all the customers in the service area purchased
17 steam from KCPL?

18 A. No. The steam price projections presented by Mr. Graham were prepared by Mr.
19 Levesque using the same basic assumptions and are subject to the same limitations
20 described in my comments regarding Mr. Levesque's testimony. In addition, the es-
21 timates are further biased upward for the reasons described in Mr. Miller's
22 testimony.

23 Q. Is Company witness Graham's STATEMENT ON page 4, lines 20 through 22, that
24 "any steam cost per Mlb. over \$12 would not be competitive today with other forms
25 of heating" consistent with Mr. Levesque's testimony?

1 A. No. Mr. Levesque presents a full cost per Mlb. of steam of \$22.27 for a gas-fired
2 boiler and \$24.58 for an electric boiler which suggests that district heating would be
3 price competitive with natural gas-fired boilers at prices up to \$22 per Mlb. rather
4 than \$12 per Mlb.

5 Q. Does this conclude your surrebuttal testimony?

6 A. Yes. It does.
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25