STATE OF MISSOURI

PUBLIC SERVICE COMMISSION

TRANSCRIPT

CASE NO. : HO-86-139
In the matter of the investigation of steam service rendered by KANSAS CITY POWER & LIGHT COMPANY.

DATE : APRIL 8, 1987

PAGES : 271 TO 349b, INCLUSIVE (INDEX: 349a-349b)

VOLUME NO.: FIVE

PROCEEDINGS

(EXHIBIT NOS. 28 TO 35 WERE MARKED BY THE REPORTER FOR IDENTIFICATION.)

EXAMINER HOGERTY: Come to order. Staff may call its next witness.

MS. YOUNG: Staff would call Mr. Derick Dahlen to the stand.

(Witness sworn.)

TERMINATION OF CENTRAL STEAM SERVICE ISSUES (CONT'D)

DERICK O. DAHLEN testified as follows:

DIRECT EXAMINATION BY MS. YOUNG:

Q. Mr. Dahlen, will you please state your name for the record.

A. Derick Dahlen.

Q. And by whom are you employed?

A. Dahlen, Berg.

Q. And what is your business address?

A. 1330 TCF Tower, Minneapolis, Minnesota.

Q. On whose behalf are you appearing in this case?

A. On behalf of the Staff.

Q. Have you caused to be filed in this case three pieces of testimony which have now been marked as Exhibit 28, that being your direct testimony; Exhibit 29,

rebuttal testimony; and Exhibit 30, surrebuttal testimony?

A. Yes, I have.

Q. Do you have any corrections to any of those documents at this time?

A. Yes. On Exhibit 28, my direct testimony, Page 22, Line 23, the amount shown for Philadelphia, Pennsylvania, should have been 4,522,000 Mlbs.

Q. Does the change in that figure in any way impact the findings or any other portion of your testimony?

A. No, it does not. I have one other change as well to Exhibit 30, my surrebuttal testimony. On the top of every page is indicated "Rebuttal Testimony" when indeed it is my surrebuttal testimony.

Q. And, in addition, is it true that, at the time your rebuttal testimony was filed with the Commission, the affidavit included therein was not executed?

A. That is correct.

Q. And have you now executed an affidavit to attach to that testimony?

A. Yes. I did so this morning.

Q. And the document which has now been marked by the court reporter as Exhibit No. 29 is a copy of the testimony that was filed, with the exception that the affidavit included therein is executed; is that correct?

A. That is correct.

Q. Mr. Dahlen, on Page 7 of your surrebuttal testimony, at Lines 23 through 28, you indicate that certain workpapers in support of Mr. Levesque's rebuttal gas price forecast were not available to you at the time that you wrote the testimony; is that true?

A. That is true.

Q. And have you now received all those documents and had an opportunity to review them?

A. I've received some documents from the company, two sets of documents. I do not know whether they comprise all the documents, but I have received a response from the company.

Q. And have you had a chance to analyze everything that has been provided by the company?

A. Yes. I've had a limited opportunity, as we received the last of that information last night at about seven o'clock.

Q. Based on that review, do you have any further comments concerning Mr. Levesque's gas price forecast?

A. Yes, I do. The adjusted gas price forecast which Mr. Levesque used was apparently--and this is the result of a telephone conversation with a KCPL person--adjusted for certain changes projected by Williams Natural Gas, the pipeline supplier. The company essentially took

the July, 1986, DRI forecast and adjusted it for that information which they received on March 3, 1987. They increased prices for certain section gas, natural gas. Those price increases are, in part--or the overall price increases are, in part, the result of volume changes in projected deliveries from suppliers to Williams. As a result of volume changes, more take-or-pay provisions are likely to be triggered, so Williams would project.

I think there are certain flaws in the projections that the company has developed. Let me just identify what those are. In projections--and this is over a 20-year period--for each section of gas, the same percentage increase in price was projected, as DRI had projected, even though there had been a one-time shift up in the price. The projector also did not confirm the use of the DRI information with DRI to ensure that DRI would concur in that kind of an analysis.

Furthermore, it's an explicit assumption of Williams Natural Gas in its projections that transport gas would continue to be available, which is indicated on Page 5 of the comments of Mr. S. J. Malcomb (phonetic spelling), dated March 3rd, which said, related to purchase volumes, of course, this takes into account the assumption that Williams Natural Gas continues its transportation services.

There's an intrinsic contradiction here.

The company has assumed that transportation services will not be available. The company is today buying transportation gas and paying approximately $2.24 to $2.26 per million Btu's. The company has assumed it won't be available and that they will have to purchase firm gas at a price of $3.63 as a result of this projection in 1987.

So the assumptions used by the KCPL projector are not consistent with the assumption used by Williams Natural Gas, and so I would think the projection to be not particularly useful. Those are the only comments that I have.

Q. Do your comments this morning reflect any change in your position in terms of the usefulness of that projection, which were expressed in your rebuttal testimony?

A. No, they do not. In fact, the company's experience of paying $2.28 per million Btu's in March for gas, $2.26 in April and May confirms, I believe, my use of $2.18 rather than the company's $3.63.

MS. YOUNG: I have no further questions and would tender the witness for cross-examination at this time.

EXAMINER HOGERTY: Do you desire to go last?

MR. ENGLISH: Yes, please, your Honor.

EXAMINER HOGERTY: Ms. Bjelland.

MS. BJELLAND: Public Counsel has no questions of the witness.

EXAMINER HOGERTY: Mr. Kennett.

MR. KENNETT: Considering that we're supporting the Staff in this case, I have no questions of the witness.

EXAMINER HOGERTY: Mr. English.

MR. ENGLISH: Thank you, your Honor.

CROSS-EXAMINATION BY MR. ENGLISH:

Q. Mr. Dahlen, what was the date of the Williams document that you were reading from in questioning from Ms. Young?

A. There is a cover letter attached that I believe is dated March 13. The document that I was reading from is dated March 3rd. I have it here.

Q. Mr. Dahlen, weren't you also provided a copy of the March 31, 1987, letter from Williams Natural Gas Company that terminated the transportation service agreement between it and Kansas City Power & Light?

A. I believe--yes, I received a letter. I do not know its date.

Q. Mr. Dahlen, do you know of any steam customers on KCPL's system that switched to another heating source for reasons other than economics?

A. I do not have firsthand knowledge. However, I'm aware that Rodeway from--this is from the investigation performed by HDR--that Rodeway was dissatisfied with

service and left for that service reason. They had an interruption that--or interruptions, I believe, plural, that caused them to have to empty their hotel. I'm also aware that Vista International has discontinued some of its take of steam because the quality of steam, in their judgment, was not sufficient to be able to permit them to use it in their laundry. So I don't have a lot of firsthand knowledge as to why people left, but I do know those two things from what I've been told.

Q. Mr. Featherstone and I had some discussion yesterday specifically about the Rodeway. And I'll represent to you that, in the documents and those prepared by the Staff, the Rodeway representative gave a disparity between the cost of steam per room and the cost of gas per room. Do you have any reason to agree or disagree with that testimony that was given yesterday?

A. I don't have any reason to disagree that the memorandum that you cited stated those--or related that conversation. I would caution all as to the interpretation of that information. Quite obviously, what we're talking about is the raw cost of natural gas, without the boiler conversion costs in it, as compared with the cost of steam, which is a useful form of energy. So, to make a comparable situation, one would have to include the capital costs and operating and maintenance costs for the on-site boiler as

well. So I wouldn't use that in order to draw a conclusion about what the total cost of heating would be, given the two alternatives.

Q. You know, of course, that the AT&T office building chose electric heat over gas and steam, don't you?

A. I don't know that steam was really available to them. I do know from--again, this is hearsay. But I am aware that the company has electric heat today.

Q. How about One Kansas City Place? Do you know that they chose electric heat sources over gas or steam alternatives?

A. I've heard again that that is true. I do not know that they chose it over steam. I do not know that steam was available to them.

Q. How about City Center Square?

A. I don't remember having heard anything about City Center Square.

Q. Or Mercantile Bank?

A. Or Mercantile Bank. That's really outside the scope of the work that I perform.

Q. Are the installation costs of a gas or electric boiler in a building site dependent?

A. Yes. I've testified so in my direct testimony.

Q. What factors influence this?

A. This question might be better directed to Mr. Miller. However, the difficulty of the installation is the primary determinant of the cost. Part of those site-specific conditions would involve whether a flue is necessary or not. In the case of a gas-fired boiler, space availability would be another thing that would be of some concern.

Q. Is it now clear, from your discussions with KCPL representatives, that the March, 1987, forecast referred in Mr. Levesque's rebuttal testimony is a KCPL forecast and not a DRI forecast?

A. I've been told by KCPL staff that, unlike my interpretation or understanding, which I think was quite reasonable, given how it was written, that there--that it was not based on a March, 1987, forecast. It was based on a July, 1986, forecast. That is the KCPL forecast.

Q. Did you also find out that KCPL provided workpapers underlying this March, 1987, price forecast to the Staff on Friday, April 3rd?

A. I have learned from Staff that the Staff here in Jefferson City received some workpapers. I would say those workpapers were not sufficient to determine how the forecast was prepared, and so I would say they were not complete workpapers. But I did not receive them in Minneapolis.

Q. Have you done any independent analysis on the future of gas prices in the Kansas City area?

A. No.

Q. You refer to your--in your surrebuttal testimony, to Table A-6, which I believe is a table that we provided in Mr. Levesque's workpapers. Have you taken the opportunity to compare this Table A-6 to Table A-6 in the July, 1986, DRI forecast?

A. Yes, I did.

Q. Aren't they identical?

A. And that's what I testified to in my surrebuttal testimony.

Q. Then it's not surprising that Table A-6 is identical to itself?

A. It doesn't surprise me a bit, no.

Q. Have you graphed KCPL's March, 1987, gas forecast?

A. I didn't have sufficient time to do it last night, although I wanted to.

Q. Do you think that would be helpful to determine whether or not indeed these gas prices are random?

A. Yes, it would be helpful to determine whether these prices are random or not.

Q. Now, your district heating price projections in your direct testimony reflect gas prices, don't they?

A. Yes.

Q. What is the source of the gas prices you use in your district heating price projections?

A. July, 1986, DRI price forecast prepared for KCPL for the Kansas City area.

Q. Isn't it true that the DRI price projections are for KPL tariff gas?

A. Yes.

Q. Do you know the current actual price of KPL tariff gas for KCPL?

A. No.

Q. In Mr. Levesque's workpapers and in the DRI forecast information, didn't you find the information that showed it's approximately $3.18 per Mcf?

A. I don't recall having seen that, but it may well have been there.

Q. Are you aware that Williams Pipeline, KPL's gas supplier, will be increasing its price by 49 cents per million Btu shortly?

A. I don't have firsthand knowledge of that. I do have the information that was provided by the company last night. And apparently they intend to file this with the Federal Energy Regulatory Commission.

Q. In your district heating price projections--I'm sorry. In your boiler scenarios, is it correct that you

used a commercial gas price of $3.07 per Mcf?

A. Yes, I believe that's correct.

Q. Are you aware that Mr. Featherstone testified yesterday that the current KPL commercial rate is $4.23 per Mcf?

A. No, I'm not aware of that.

Q. Do you have any reason to doubt that's the current price?

A. I have no reason to doubt it, nor do I have any reason to believe it.

Q. Is it your opinion that KCPL steam operations have no value to a prospective purchaser of the system?

A. No, that's not my opinion.

Q. What is your opinion regarding the value of KCPL's steam operations to a prospective purchaser?

A. I believe that it may have value to a prospective purchaser. I believe the way in which we can determine what value it might have would be to have a situation where the company would offer the system for sale, and we can find out what a prospective purchaser thinks the system is worth.

Q. In your district heating pricing scenarios, don't you assume that the purchaser has acquired KCPL's system and its customer base free?

A. First of all, the projections that I prepared don't necessarily assume sale. But there is an assumption within the projections, which is stated in my testimony, that I value those at zero. So anyone who would want to make an adjustment to that could make an adjustment and demonstrate what that change in value or change in price would be as a result of a change in the valuation assumption as explicitly stated.

Q. Are there various methodologies one can use to value a business?

A. Yes.

Q. Could you give me some examples, please?

A. I think commonly there is a market valuation approach that is used. There's an income approach that is used and a replacement cost approach, which are three typical ways of valuation in condemnation proceedings, for example.

Q. Do you know if KCPL's current steam rates include a return of and on its steam capital investment?

A. I have not performed the level of analysis necessary for me to tell you what is happening with current steam rates. That's outside the scope of the work that I did. I'm aware that KCPL is seeking a rate increase at this time in order to recover its--what it perceives as its full cost. And so, to the extent that a rate increase is needed

that's not recovering full costs, those costs could include no return on plant today; and it could include a failure to recover depreciation as well. But I haven't studied that specifically.

Q. You've testified in various rate proceedings, have you not?

A. Yes.

Q. Isn't it a tenet of rate regulation that rates ordinarily should include some recognition of capital investment?

A. I think the way that is generally referred to is that the utility deserves--a regulated utility deserves a fair return on its investment prudently incurred. And so I would agree with that.

Q. Aren't the capital costs KCPL is willing to incur under its steam conversion plan relating to acquiring steam customers as electric heat customers of KCPL?

A. I believe you're asking me a question about the company's motivations, and I really don't know the company's motivation.

Q. Let me phrase it this way: The capital costs that KCPL is willing to incur under its conversion plan relate to the provision of electric boilers and alternative space heating equipment, don't they?

A. Yes. That's correct.

Q. Did you review the workpapers of Mr. Levesque that were provided you on Friday?

A. In the time that I had available, I reviewed them. My review is not as complete as I would have liked since I sent my testimony to Jefferson City Sunday morning, completing it late Sunday morning.

Q. Is it your testimony that nowhere in these workpapers does Mr. Levesque show the derivation of his $2.50 per Mlb. impact for additional investment?

A. I believe that's what I've testified to, and I believe that I didn't find it.

Q. I'll direct your attention--do you have Mr. Levesque's workpapers?

A. Yes, I do.

Q. Turn to the third page.

A. I have the third page before me.

Q. And the fourth line item is titled "Investment." Can you find that?

A. I can find that.

Q. That indicates, does it not, the derivation of $2.50?

A. I wouldn't call this a workpaper. I don't know what a single number there is. They aren't labeled, you know.

Q. Have you taken any opportunity in order to

see if you could do a little work and find it out or ask Mr. Levesque where it was?

A. That was a difficult thing to do on Saturday. I did review these as completely as I could, given the time that I had. But I cannot, looking at this, understand what this says in its raw form with the time I had.

Q. Can you point to anyplace in Mr. Levesque's rebuttal testimony where he refers to his home savings boiler installation example as typical?

A. He does not. I think that was a point that I was making, was that he did not establish that they were in any way typical or representative or something that would be commonly encountered or anything like that that should cause us to draw any conclusions based upon home savings.

Q. Wasn't his point that you couldn't draw any conclusions from a hypothetical typical installation?

A. That's what his testimony says.

Q. And you've just agreed with me a few minutes ago that the installation costs of either electric or gas boilers are site dependent, have we not?

A. That's correct. But that doesn't mean there isn't a typical installation.

Q. That means that half the installations would cost less and half would cost more, even assuming that the

data points you used to derive your typical installation costs are valid?

A. I'm not sure that I would agree that half would cost more and half would cost less. But a typical boiler is what Mr. Miller derived, in terms of capital costs, for an installation that he considered to be typical of a building with certain characteristics. For example, for a--I think, for his 200 boiler horsepower installation, he assumed a certain height of the building, the need to construct a stack or a flue, and that space would be available in the basement of the building or someplace in the building for the boiler. That's what constitutes Mr. Miller's typical installation rather than going out and looking at each of 100 or 130 buildings. So that's what a typical installation is, one that would be commonly encountered.

Q. Did you do any investigation to see whether or not Mr. Miller's one typical installation is indeed typical of downtown Kansas City?

A. I did not. You could direct that to Mr. Miller.

Q. Let's turn now to the losses other than radiation losses. I believe that the figure is 70,000 Mlbs. Can you tell me who calculated this 70,000 Mlb. figure?

A. I believe that's been calculated by many

people and used many times. But I believe also that Mr. Miller is the first person to calculate that number or something very close to it, which would have been rounded to 70,000.

Q. Do you know how Mr. Miller calculated the number?

A. In general, yes. The calculation--it's a series of calculations. Some of them are complex calculations that involve the calculation of radiation losses on the steam system.

Q. Are they actual radiation losses or calculated radiation losses?

A. I just testified that they are calculated.

Q. Do you know that Mr. Miller took the percentage of losses other than radiation attributable to the high pressure system and gave them entirely to the high pressure system?

A. That's correct. That's what he did. And that number then was included in losses that were used in the projections that I have. And so, by doing that, he increased losses above what his radiation loss calculations were.

Q. This increase above radiation losses, does it include only leaks; or does it include other causes of losses?

A. Evidence provided by the company indicates that it is primarily problems on customer premises. And so it includes those problems in metering on customer premises or failure to meter on customer premises, as well as leaks. It's my understanding that leaks is probably the smaller amount or a small part of it.

Q. Does your short-term pricing analysis accurately incorporate Mr. Miller's short-term scenario?

A. Well, since Mr. Miller and I worked together in preparation of that scenario, I guess it's a little hard for me to answer the question just that way. But I can, if you would like--

Q. Would you like me to rephrase it?

A. Okay.

Q. In your short-term pricing analysis, did you include the use of the existing Grand Avenue Station boilers, as Mr. Miller's short-term rehabilitation scenario indicates?

A. Yes. Mr. Miller and I, I believe, have all the same assumptions. There are some of those assumptions that I have agreed with Mr. Levesque, in the short-term rehabilitation scenario, are not valid. And I believe certain changes should be made if that pricing scenario or development option, if you will, is considered.

Q. So, if I'm understanding you correctly,

you're saying that your production O&M expense reflected in your short-term pricing analysis is understated?

A. That's correct. And that's what I stated in my surrebuttal as well. The primary purpose that we had for doing that was to show that an operator coming in would probably not make the capital investment that the long-term rehabilitation program shows. We did not adjust all the other costs of electricity; O&M, plant O&M, distribution O&M, even possibly fuel, that we probably should have in doing that. And so I would agree that the cost is understated in our short-term rehabilitation program.

I also believe that, if a purchaser came in and made those short-term rehabilitation improvements, that then he would continue to make improvements in the system most likely to something like the long-term rehabilitation plan. And then O&M costs would come down. Fuel costs would come down to some extent, to the extent that they were higher. And investment would go up, and we would come to the long-term rehabilitation alternative or something very much like it.

Q. Have you done any calculation, Mr. Dahlen, to give an accurate dollar valuation to the components of Mr. Miller's short-term scenario for 30 years?

A. No, I haven't.

Q. In your pricing scenarios, there's a figure, I believe, under the column for 1987 for miscellaneous G&A

of $176,000. What does that figure represent?

A. That represents the company's G&A numbers filed in this case, less the labor component of G&A and less the pension and benefits portion of the G&A.

Q. So the items that could possibly be included would be, what, utilities, rental expense, any contract for accounting, legal, financial, engineering, general front office expense?

A. Yes. And I'm sure there are other things too.

Q. Like what?

A. Well, I don't know; but I won't agree with the limited list. I haven't reviewed all the FERC account numbers that would go into that.

Q. Let me put it this way: Is there any production or distribution operations and maintenance expense in this $176,000 number?

A. Properly, there should not be.

Q. Have you identified even one potentially profitable customer outside of KCPL's certificated steam territory?

A. Although I've not conducted work in that area, I would suggest that National Starch is probably a profitable customer outside the steam territory. There may well be others.

Q. Let's just assume, for the sake of discussion, that we find one that's one block, a tenth of a mile, away from an existing steam line. Using Mr. Miller's $455 a foot cost for putting in pipe, how much would it cost to run that out to the customer?

A. I wouldn't agree with the assumption that the extension of a lateral to a customer one block would cost $455 a foot. That's an average in Mr. Miller's analysis based on the--all the pipe sizes in his system. The pipes are obviously larger at the plant and smaller when you get out to the customer. And so where you may have an average size of, say, 14 inches, you may have only an 8- or a 4-inch main that's required or a lateral that's required in order to get to this last customer who's a tenth of a mile away. Furthermore, I believe Mr. Miller's cost estimates to be high for capital costs; and they are higher indeed than the company's estimates shown in the conversion study.

Q. It still doesn't answer my question, Mr. Dahlen, which is use Mr. Miller's assumed $455 a foot. How much would it cost to extend the line at $455 a foot a tenth of a mile?

A. I don't believe Mr. Miller assumed that. But I can perform the arithmetic for you if you want me to.

Q. I didn't say that Mr. Miller assumed

anything. I'm just asking you to perform that calculation.

A. A steam main at a cost of $455 per foot for one-tenth of a mile would cost $240,240.

Q. Mr. Dahlen, would you agree with me that, for KCPL to acquire transportation gas, there must be three items in place? The first item is a supply contract between KCPL and the supplier. The second thing that must be in place is a transportation agreement with Williams Pipeline. And the third thing that would have to be in place is an agreement with KPL-Gas Service in order to get gas from Williams to Grand Avenue Station.

A. Those elements are necessary.

MR. ENGLISH: Your Honor, I would like to reserve an exhibit number; and I will provide suitable copies later on and a witness, if necessary, to support it. But, in the redirect examination of Mr. Dahlen and also my cross-examination, we chat about a transportation service agreement. And I also mentioned a March 31, 1987, letter from Williams Natural Gas Company that terminates our transportation service agreement as of May 1, 1987. I'd like to reserve an exhibit number and supply this as an exhibit later on today.

EXAMINER HOGERTY: Exhibit 36 will be reserved for that purpose.

MS. YOUNG: Staff would request the

opportunity to review the document before it is ruled on.

MR. ENGLISH: Thank you very much, Mr. Dahlen.

EXAMINER HOGERTY: Questions from the Bench? Commissioner Mueller.

Commissioner Musgrave.

QUESTIONS BY COMMISSIONER MUSGRAVE:

Q. Mr. Dahlen, in your knowledge of these kinds of things, when a steam system is not owned by a private utility, who is the most likely owners of a system like that?

A. In general, they would be smaller firms that would specialize in that kind of thing, operating district heating systems. There are also some that are run by not-for-profit institutions. I'm aware of one and do some work for one that's run by a hospital.

Q. Are they for a--just the one building, or is it for a whole service area?

A. For a service area. But, in the case of hospitals and also colleges and universities, perhaps not as large a service area as a downtown area, while there are some universities that have very large systems that serve their buildings and then may also serve some adjacent buildings.

Q. Do municipals or other government entities

operate some steam systems?

A. Yes. There are many district steam systems that are operated by municipal electric utilities. There may be some that are operated by municipalities who do not have a municipal electric utility at all, but I can't think of any right now.

Q. You can't recall any names of communities where that would take place?

A. Not that don't also have a district--or an electric utility.

Q. Hypothetically, if a government entity was interested in taking over the downtown steam loop in Kansas City, do you think that that proposition would have to be put to a vote of the people?

A. I don't know. That requires a conclusion I just have no basis for making.

Q. As a citizen of a community, would you think that the citizens should have a right to help make that decision?

A. To the extent that taxes and that sort of thing are put at risk, as a citizen, I would like to have a chance to vote on all those things; but I don't always get the chance.

Q. With reference to the metering points presently, the buildings that are on the steam loop, do all

of the buildings have meters?

A. I understand that they do, and they have condensate meters. What happens in the building basically is steam comes into the building, it's used in the building, it condenses to water, and then we measure how much water is left at the end. There are two ways obviously to meter the building. One is to meter what goes in, and the other is to meter what comes out. Essentially the company is metering what comes out, not what goes in.

And the company believes and I think the engineers with whom I've been working probably also believe that most of that loss that's unaccounted for is happening in these buildings between these two potential meter points.

Q. Did you or your firm examine the distribution lines?

A. No. That was done by the engineers with whom we worked.

COMMISSIONER MUSGRAVE: Thank you very much.

EXAMINER HOGERTY: Commissioner Mueller.

QUESTIONS BY COMMISSIONER MUELLER:

Q. Mr. Dahlen, on Page 22 of your testimony--or Page 23, you state that the steam load is 431,000 Mlbs. That's million pounds, I assume?

A. Yes. No. Excuse me. It's thousands of pounds.

Q. Thousands of pounds?

A. Right.

Q. And that's the actual load in downtown Kansas City. And then National Starch comes along with 547,000, which is almost 55 percent, 60 percent of the load.

Now, when you compare that to the table on Page 22, it's not a very significant amount of steam compared to some of these other systems, is it?

A. I believe there are three systems there that have larger sales--or excuse me. Yes, three. And two of those are significantly larger, in Boston and Philadelphia. As you see there, Omaha and Youngstown, Ohio, would have lower sales.

Q. You mentioned, in the beginning of your testimony, about trash disposal. Do you know of any systems right now where--or any of these systems on Page 22, do they have any type of a trash disposal system; or are there any large trash disposal systems that create steam?

A. There are. I do not believe that any of the ones listed here has a waste incinerator that provides steam to a district heating system. We've done some studies of waste to energy kinds of projects. Often that's a consideration, that there is a customer out there for the steam. District heating systems are sometimes attractive for that kind of a load. But one of the problems with a

district heating system is that the load is seasonal, higher in the wintertime obviously and lower in the summertime. A trash burning plant needs to burn trash every day, and so its steam output tends to be more constant over a year. So a customer that tends to have a more constant load tends to be a more attractive load.

Q. In looking at these numbers, would National Starch be an ideal candidate to buy the Kansas City district?

A. There may be some characteristics of their being a current customer and wanting to continue to buy steam that might suggest that. I would think, though, that they would probably decide that that's not the kind of business they're in, serving downtown steam systems. And so I think them to be probably an unlikely purchaser.

Q. Are any of these steam systems really considered moneymakers?

A. Yes.

Q. Now which ones is that?

A. When we talked to the people in Baltimore--or Boston, Massachusetts, the system was in the process of being sold. We talked with the operating people, who indicated they did not understand why the system was being sold, because it was profitable. The operator at Youngstown, Ohio, has indicated that that operation is profitable. Omaha and Minneapolis, Minnesota, are both

profitable; and Minneapolis is a very profitable system, from what I understand. St. Paul, Minnesota, expects to be profitable.

There are other systems, of course, beyond those that I've detailed here. These are only the systems that have been sold that are profitable. Those are systems that continue to be operated by the same operators.

COMMISSIONER MUELLER: Thank you.

FURTHER QUESTIONS BY COMMISSIONER MUSGRAVE:

Q. Mr. Dahlen, did you mean, when you told Commissioner Mueller about the consistent load for steam production from trash to energy, that, in your opinion, trash to energy would not be a feasible use of the Grand Avenue Station because they don't need the steam load in the summertime?

A. I don't know whether it would be feasible or not. I do know that it would be--because a lot of feasibility really depends on how much money people end up spending to dispose of a ton of trash. To the extent you don't get electric or steam revenues from disposal of trash, the price for disposing of the waste goes up.

But it would certainly be true that National Starch would be a more attractive load for waste energy than would the district steam system. Together, if you had both of those, that might even be better. But National Starch--

in order to pick between that kind of a load and a heating load, the National Starch load would be more attractive.

Q. It's a little hard to save the summer trash for wintertime?

A. I guess one could try.

COMMISSIONER MUSGRAVE: Thank you.

EXAMINER HOGERTY: Redirect.

MS. YOUNG: Thank you.

REDIRECT EXAMINATION BY MS. YOUNG:

Q. Mr. Dahlen, Mr. English asked you some questions about the short-term rehabilitation scenario and whether you applied certain assumptions for the 30 years. In your opinion, would the short-term scenario be in effect for a 30-year period?

A. No, it would not. I should also clarify that our projection period was 20 years, although where Mr. English asked me about 30 years, I think something like five years would have been a more appropriate time for us to construct those projections.

Q. On the question regarding extending a line to a customer one block off the system and the cost of that, would the company necessarily be paying the cost to extend that lateral to a new customer?

A. It would be possible that they would charge the customer for extension of a lateral, in which case--or

for part of the cost of extending the lateral.

Q. And aren't we aware of one customer who actually built a line at their own expense and took steam at the Grand Avenue plant?

A. That's the case with National Starch, yes, where they invested, I believe, $3 million in order to build the steam line between its plant and Grand Avenue. Or it was actually Corn Products that did it at the time, same plant.

Q. On the question of the Williams Pipeline letter and the Williams rate that is intended to be filed with the Federal Energy Regulatory Commission, is the information that you obtained regarding that subject sufficiently reliable to use in gas projections, in your opinion, this intent to file?

A. The problem I have in using that for gas projections is that's been prepared by a company that is not in the business; that is, of projecting prices for a long-term, 20 years, natural gas prices. That is where, if we look at what DRI does, DRI is in the business of projecting prices. They have assumptions that are detailed. We know what those assumptions are. We know to what extent we can rely on the data. So projections for the 20 years is going to be right on in every year.

And, indeed, when economic circumstances

change, we can have wholesale changes in those projections. But the company's projection is selected adjustments to a forecast, and we don't know that those selected adjustments could still be made and still have any part of the original forecast and its original methodology remain true.

Q. Based on the information available to you as to the company's experience with transportation of natural gas to the Grand Avenue Station, is the termination date for the contract for carriage of gas with Williams any great surprise?

A. I understand that the company has faced this situation in the past, that the availability of transportation gas has--or its availability, its cutoff, has been threatened on previous occasions and then there have been extensions. I would also point out that I've now found the March 31 letter that Mr. English was referring to. And it states that Williams Natural Gas "is committed to the concept of open access transportation and is pursuing options which should result in full open access during 1987. Unfortunately"--and I'm quoting now--"none of those options is sufficiently implemented to the point where continued service beyond April 30 is assured at this time. We will continue those efforts, however, and notify you as soon as reasonably possible of any changes."

Q. Are you convinced that transport gas will

not be available throughout the term of Mr. Levesque's gas price forecast?

A. No. I think that's an unreasonable assumption.

Q. And you reaffirm your reliance on the DRI forecast for purposes of your calculation. Is your recommendation of use of that limited to the application you have made in this case?

A. Yes, it is. It's for the purpose of evaluating relative prices of district heating, individual natural gas-fired boilers, and electric heating.

Q. Mr. Dahlen, is it correct that you reviewed the initial workpapers for Mr. Levesque's testimony that were provided by the company concurrently with his rebuttal testimony and determined that that was not an adequate basis to analyze the results in his testimony?

A. That's correct. And there were several areas that I identified in my surrebuttal testimony where I thought the workpapers to be insufficient.

Q. And it's only because of your request that you were provided additional workpapers?

A. That's correct.

Q. Is this typical, in your experience, that you have to make this type of follow-up to workpapers; or can you generally assume that, when workpapers are provided,

you have gotten the entire package that does provide the support for the recommendations in the testimony?

A. In my experience, if a company is providing its workpapers, those workpapers are complete.

Q. Were you involved in the last KCPL steam rate case before this Commission?

A. No, I was not.

Q. Are you aware of the current financial operating condition of the system; in other words, the recent experience of the company as to profits and losses?

A. In general. Although detailed analysis of that has been outside the scope of our work, I have read the company's prefiled case.

Q. And what does that indicate the company's financial condition is at this time?

A. It indicates a need for a rate increase that's of significant--a significant rate increase, a large rate increase, I would say.

Q. If the company is, at this time, experiencing or, in the recent past, has experienced financial operating losses, what does that indicate to you with regard to recovery of return on and of its investment?

A. The company, if it had been incurring losses, would not have been earning a return on its investment and would have not, in all likelihood, then also

been recovering its investment through depreciation, especially if the losses were large.

MS. YOUNG: No further questions. Thank you.

EXAMINER HOGERTY: Ms. Bjelland.

MS. BJELLAND: No questions.

EXAMINER HOGERTY: Mr. Finnegan.

MR. FINNEGAN: Just a couple of questions.

RECROSS-EXAMINATION BY MR. FINNEGAN:

Q. Mr. Dahlen, in the scenarios for a rehabilitated system, either on a long-term or a short-term basis, you have a provision for income taxes and a return, do you not?

A. That's correct.

Q. I believe they're like 34 percent for taxes and 10.6 percent return that you're projecting?

A. Yes. A 34 percent federal tax rate and also a Missouri tax rate.

Q. Now, if the system were acquired by a governmental entity, would there be a need for a return or income taxes?

A. There would still be the need for some return, especially if the system were financed with debt, for example, but that that return would be, in all likelihood, significantly lower. I think tax-exempt

municipal utility bonds of 20 years duration are today in the range of 7 to 7 1/2 percent, maybe 8 percent at the very highest. And so that would be significantly less than the 10.6 percent that I assumed. Further, there would be no income taxes on the enterprise if it were a municipal enterprise.

Q. And, if the system were acquired by the City of Kansas City, would not the 11.11 percent gross receipts tax be an unnecessary charge in the steam cost if the City itself acquired it?

A. I suppose so, although I suppose the City could also forego the tax now; but that would reduce--to the extent the City did not collect the gross receipts tax on the sale, the price would be reduced.

Q. In any of your scenarios, did you project any electric sales?

A. I did not. That is, the plant at Grand Avenue Station would be a steam only plant. It would not be returned to an electric generating or a cogeneration plant.

Q. If it were to become a trash-to-energy system at some point in time, would not the sale of electricity as a byproduct be a profitable venture for a company, especially a steam system which had electricity to sell in the summertime?

A. Electric generation could be profitable. Profitability of electric generation would depend on the price that was received for the electricity.

Q. Are you aware that there's a Missouri law that provides a return for electric sales on trash to energy?

A. I have heard that there is one. I have not read it.

Q. One other thing. For condemnation purposes, if the City or some governmental entity were to condemn this system, do you have some idea as to what the value of a system that has been losing millions of dollars for years would be?

A. Earlier Mr. English had asked me the question about what are the methods of valuation that one might use. And, in general, there are three approaches that might be taken; replacement cost, income approach, and market value. Replacement cost could be calculated. One would probably not use that as a valuation approach because no one would intend to replace it as it is today. The income approach would indicate that the system has a negative value because the company has been losing money, which is what you're saying. The market value approach could really only be tested by offering the system for sale because there's not a common market or a working market,

rather, for district heating systems. So the only way we could find out what the market value would be would be really to put it up for sale. One could also go and look at those other transactions but would have difficulty establishing comparability, in my view.

MR. FINNEGAN: That's all the questions. Thank you.

EXAMINER HOGERTY: Mr. Kennett.

MR. KENNETT: No questions.

EXAMINER HOGERTY: Mr. English.

MR. ENGLISH: Thank you, your Honor.

RECROSS-EXAMINATION BY MR. ENGLISH:

Q. Mr. Dahlen, for how long has KCPL been receiving transport gas?

A. I believe that it is relatively recent, but I don't know the exact time.

Q. Would you accept, subject to check, that in Data Request 736, which was answered on March 30th and 31st, 1987, by W. E. Blunk, there is a letter from Mark R. Griffith, who is a fuels resource analyst with Kansas City Power & Light, to Mr. Gary L. Von Fischer of Yankee Resources, dated March 13, 1987, which indicates that we were receiving transport gas from and after March 12, 1987? Would you accept that, subject to check?

A. Yes, I'd accept it, subject to check,

although I have what must only be part of the response to 736 in front of me, which doesn't have that in it, so--

Q. Mr. Dahlen, can you predict for me the transportation cost KCPL will be paying two months from now?

A. No, not with a high degree of--or not precisely. That is a price that is determined by the three components of the cost; the cost of purchasing it, the cost of transportation, the cost of local distribution. And should either one of those change significantly, you could have a significant change in the price. I would say, however, that if you look at the pipeline or the field costs of natural gas, we have a market that is starting to work there; and there's no evidence that we're going to see big, wild shifts in the field price of gas.

Q. Hasn't Williams Pipeline, as a matter of fact, had two 17 percent increases in the last six months?

A. Not in transport gas.

Q. But in the cost of gas to KPL?

A. That was indicated to me--no. That's not true.

Q. What is true? Didn't--

A. KCPL is paying less for gas today than it was six months ago is my understanding, because KCPL is purchasing transport gas.

Q. Can you state with absolute certainty that

KCPL will have a transportation agreement with Williams Pipeline Company on May 2, 1987?

A. No, I cannot and have not.

Q. What is your expertise in the gas field?

A. It's limited to work that we have done with some clients of ours where we have aided them in procurement of electricity primarily; and then, secondarily, gas is much the smaller part of what we do. And I've also testified on natural gas rate setting matters before the Minnesota Public Utilities Commission. My experience is not extensive.

Q. Do you have any experience at all with Williams Pipeline?

A. None.

MR. ENGLISH: Thank you, Mr. Dahlen.

EXAMINER HOGERTY: The witness may be excused.

(Witness excused.)

EXAMINER HOGERTY: Staff may call its next witness.

MS. YOUNG: Staff would call Robert S. Miller to the stand.

(Witness sworn.)

ROBERT S. MILLER testified as follows:

DIRECT EXAMINATION BY MS. YOUNG:

Q. Would you please state your name for the record.

A. Robert S. Miller.

Q. By whom are you employed, Mr. Miller?

A. I'm employed by HDR Techserv in Minneapolis.

Q. And your business address, please?

A. 5401 Gamble Drive, Minneapolis, Minnesota.

Q. On whose behalf are you appearing in this case?

A. On behalf of the Staff.

Q. Are you the same Robert S. Miller who has caused to be filed in this case prepared testimony, which has been marked as Exhibit 31; rebuttal testimony, which has been marked as Exhibit 32; and surrebuttal testimony, which has been marked Exhibit 33?

A. I am.

Q. Do you have any corrections or additions to that testimony at this time?

A. No.

Q. If I were to ask you the questions that appear in those documents today, would your answers be the same as they appear therein?

A. Yes.

Q. And do you adopt those documents as your testimony today?

A. Yes, I do.

MS. YOUNG: Staff has no further direct questions for the witness and would tender him for cross-examination.

EXAMINER HOGERTY: Ms. Bjelland.

MS. BJELLAND: A few questions.

CROSS-EXAMINATION BY MS. BJELLAND:

Q. Good morning, Mr. Miller.

A. Good morning.

Q. I would like to direct your attention to Page 18 of your direct testimony where you discuss the results of your customer survey. Beginning with the paragraph that starts at Line 10, can you tell me if there were other customers besides National Starch who were less than satisfied with the level of communication on KCPL's part concerning that plant?

A. I'm not aware of any.

Q. Can I direct your attention now to the paragraph beginning on Line 18 where you indicate the customers' perception of the marketing practices of KCPL and KPL-Gas Service. You make the statement that the customers felt that KCPL played a low-key role.

Am I correct in assuming that you mean all

customers, or do you mean some but not all?

A. That was the general impression that I had coming away from the customer surveys. That might apply to some. There might be some that did not feel that way.

Q. Can you identify those who did not share that feeling?

A. No, I cannot.

Q. And, finally, beginning with the paragraph on Line 21, you indicate that "Some customers had completed independent studies." Could you identify for me who those customers were?

A. The customers that I am aware of that have prepared or had studies prepared for them were the Vista; Kansas City, the City of Kansas City; and the KCPL building, which is managed by Gailoyd Properties.

Q. And do you happen to know what, in general, were the results of those independent studies that were performed?

A. Those studies showed that gas-fired boilers for those facilities were less expensive than electric boilers.

MS. BJELLAND: Thank you.

EXAMINER HOGERTY: Mr. Finnegan.

MR. FINNEGAN: I have no questions.

EXAMINER HOGERTY: Mr. Kennett.

MR. KENNETT: I have no questions.

EXAMINER HOGERTY: Mr. English.

MR. ENGLISH: Thank you, your Honor.

CROSS-EXAMINATION BY MR. ENGLISH:

Q. Good morning, Mr. Miller.

A. Good morning.

Q. Mr. Miller, have you reviewed the various elements of the steam price forecasts for the long-term and short-term pricing scenarios in Mr. Dahlen's testimony?

A. I have looked at the analyses or the projections that Mr. Dahlen has made, yes.

Q. Do you agree with him that some of the pricing elements in the short-term rehabilitation scenario should be increased?

A. Yes, I do.

Q. Could you specifically tell me which items you believe should be increased?

A. There are items in the capital costs and operating and maintenance costs that could be increased.

Q. Have you done any calculations of these increases?

A. No, I have not.

Q. In your long-term rehabilitation scenario, Mr. Miller, would you agree with me that the majority of your steam distribution system would be over 30 years old in

1987?

A. That is correct.

Q. Do you know of any provisions in Mr. Dahlen's long-term or short-term pricing analyses which would cope with perhaps increasing leaks and the need to replace this aging pipe?

A. Yes. I'm aware of elements that would cover that. And those elements being my estimate of the cost to repair leaks on the existing high pressure system that would be retained, coupled with the operation and maintenance expense associated with maintaining the new pipe that I'm proposing.

Q. Are those costs inflated by anything other than inflation over the 30 years of Mr. Dahlen's analyses?

A. I don't know the details of Mr. Dahlen's analyses, so I can't address that.

Q. As a general matter, would you expect that maintenance needs of a steam distribution system would increase as that system ages?

A. I think that would be a fair assumption. My analysis looked at it from the standpoint of taking the average type expense, recognizing that, in the beginning of the years, the new pipe that I would be putting in would probably have no leaks. But, as time goes on, maybe it would develop leaks. But I did not try to account for how

that might change over time, nor did I recommend that to Mr. Dahlen in his analysis.

Q. Mr. Miller, have you had any operating experience on a district heating system?

A. No.

Q. How did you originally come to your number of three distribution maintenance people?

A. The three people seemed to be a reasonable number required to operate and maintain the system. And, after looking at the company's projections, it seemed like their number supported the number I had.

Q. My question was: How did you originally come to your three people?

A. It seemed like a reasonable number to operate and maintain the system.

Q. Based on what?

A. Based upon my experience in district heating systems.

Q. You took a look at other systems then?

A. I looked at other systems to support the estimate that I had, principally the district heating system in Minneapolis.

Q. In what respects is the district heating system in Minneapolis similar to Kansas City?

A. There are both similarities and differences

in the two systems. The Minneapolis system has a steam send-out comparable to what the level is in Kansas City. They have approximately 47,000 feet of pipe versus the company's 37,000 feet. Let me clarify that. They have both steam and condensate. So the steam line and the condensate line makes up that 47,000 feet. Unlike the KCPL system, the Minneapolis Energy Center operates both a heating plant and a chiller plant; and they distribute chilled water as well as steam. The MEC plant burns oil and gas, and the plant I'm considering or proposing for my analysis would also burn those fuels.

Q. How about the comparative age of the distribution systems?

A. The distribution system in Minneapolis, parts of it go back many years. I would say the majority of it is probably the vintage of 1970. So it's newer pipe, and it's also perhaps a newer construction. I believe it's--I think it's Rickwell (phonetic spelling) type piping.

Q. In the 47,000 feet of piping in Minneapolis, would it be fair to say that they've got four-pipe construction, two for steam and two for the chilled water?

A. Yes.

Q. Now, these three distribution--let's go to the three in-plant maintenance people. How many shifts are these maintenance people on?

A. They would be on an as-needed basis. I don't know if they would be on shifts. Maintenance could be done during the day shift if that is--if that works out with the operation of the plant.

Q. But, if I were to set up an operation such as you've suggested and I hire these three in-plant maintenance people, what shifts would you propose that they be on?

A. The first shift.

Q. All three on the first shift?

A. I think that how those people would be applied to the different shifts would have to be a decision made by the people that operate the plant. I don't see where that would really affect the analysis that I have presented.

Q. So, in essence, you're recommending full-time equivalents rather than bodies? Do you understand the difference?

A. I'm not sure I do.

Q. Are you taking a look at just the man-hours required for in-plant maintenance rather than the physical bodies necessary to do the work?

A. No. No. I'm looking at physical bodies.

Q. Now, you're using these three in-plant maintenance people in a variety of situations, if I

understand your surrebuttal testimony correctly; is that true?

A. Yes.

Q. What happens if the maintenance people are committed at the plant and a problem occurs on the distribution system and they--these three people are committed somehow? What would you propose that your operator do?

A. What type of a problem would you consider?

Q. How about a leak?

A. A leak. A leak would require immediate response. And the repair of that leak could be done with outside contractors.

Q. And haven't you really assumed that any opening up of the streets be done by contract labor?

A. Yes.

Q. Have you built in any provision for all this contract labor in your prices and costs that you gave to Mr. Dahlen?

A. Yes, I have.

Q. Where did you build that into?

A. I built that into the operation and maintenance expense of the distribution system.

Q. In the labor piece or the other piece?

A. In my testimony, I refer to it as material,

separating it from the operating and labor.

Q. Have you done any sort of analysis to determine how much an average leak would cost that you open up the street for?

A. Yes. I have made the estimate of the cost to repair leaks based upon 126--$1,200 per foot, and the cost of repairing the leaks based on 150 feet per year of pipe equivalent being replaced on the high pressure system.

Q. Besides the materials or the contract labor, are there other materials that would be consumed by the distribution people?

A. I can't think of what materials there are right now, but I would assume that there would be other materials consumed.

Q. Have you done any analysis on the KCPL system specifically that is included in your long-term rehabilitation analysis to consider whether the amount that you have for--I believe Mr. Dahlen treats it as maintenance distribution--is appropriate for your long-term rehabilitation analysis?

A. Mr. Dahlen used the--I believe he used the values that I gave him. And those values came from the estimating procedures that I identified in my direct testimony, and those estimating procedures are based upon generally accepted methods of estimating what the cost for

operating and maintenance would be.

Q. Did you perform a reality check on it?

A. I did not adjust those directly to the KCPL system.

Q. Are you also aware that some portions of KCPL's distribution piping is insulated with asbestos?

A. I am now aware of that, yes. It was my understanding previously that it was calcium silicate insulation which did not have asbestos. That concept was corrected by the company after we had submitted our direct testimony.

Q. Do you have any opinion as to the effect, if any, asbestos insulation might have on your distribution expenses?

A. Like I mentioned, the company brought the asbestos issue to my attention after we had submitted our direct testimony. I reviewed the workpapers that were submitted associated with Mr. Levesque's rebuttal testimony. And these workpapers show that an additional 40 man-hours per year would be required to handle--additional hours per year would be required to handle the asbestos. At $150 a day, that would work out to be about $6,000 a year. The company believes that these costs will be incurred. I don't know that for a fact myself. But, even if they are, the amount, the dollar amount, is very small.

Q. Mr. Miller, do you know of any journeyman welder that does anything other than weld?

A. I don't have enough information to answer that. I know that there are people who do both welding and other activities.

Q. Welding on 185 psi pipe?

A. Yes.

Q. Mr. Miller, is it correct that your allowance for distribution materials is approximately $140,000?

A. That is correct.

Q. If we take your $1,200 per foot repair cost, could we find out how many feet per year we could repair for $140,000?

A. Yes, I believe we could.

Q. I'd like to turn now, Mr. Miller, to your calculation of losses on the system. Is it correct that your starting point was the actual 1985 system losses of about 166,000 Mlbs.?

A. Yes.

Q. And am I correct that you performed calculations in order to determine a calculated radiation loss on both the existing high pressure and the existing low pressure piping?

A. That is correct.

Q. And this calculated radiation loss was about 96,000 Mlbs.?

A. I believe that sounds correct.

Q. So that the calculated loss, other than radiation that's used, is about 70,000 Mlbs.; is that right?

A. Correct.

Q. And you took the ratio of the high pressure radiation losses to the radiation losses in general, applied it to your 70,000 Mlbs., and came out with losses other than radiation that you attribute or built into your system losses; is that right?

A. Correct.

Q. But the other part, about 41,000 Mlbs., you discarded; is that right?

A. I assumed that those levels would not be experienced in the future, and I based that primarily on the fact that the low pressure system is the--has the lowest integrity of the systems. And that was the system I was replacing; therefore, that number would be due primarily to leaks.

Q. It's my recollection that Mr. Dahlen testified right before you that the majority of these losses other than radiation occurred on customer premises?

A. I don't recall exactly. I thought that he said that the company was making that contention.

Q. Mr. Miller, if a utility does replace KCPL's existing low pressure distribution system, would that eliminate the 41,000 pounds of losses completely?

A. I believe it would. But, if there is such a discrepancy in the metering on the customer's end, then, no, it would not reduce it that much.

Q. So, to the extent that there are losses attributable to matters on the load side of KCPL's service entrance, the replacement of piping would not solve that, would it?

A. Not at all.

Q. Does new pipe ever leak?

A. Yes, especially when it gets old.

Q. So, if I understand you correctly, we've got, oh, about 29,000 pounds of losses other than radiation losses built into your fuel calculations; is that right?

A. Yes. I believe that number is 29,300.

Q. And I read in your surrebuttal testimony that you built in or assumed about four to six leaks a year on this long-term rehabilitated system. Is that about right?

A. The number of leaks was from the workpapers of the company submitted with Mr. Levesque's testimony where they based their repair costs on four leaks on the existing system and two leaks on the existing system. I did not try

to quantify the number of leaks and relate that to the loss figure.

Q. Mr. Miller, is it your testimony that any commercial building in Kansas City can put in a 200 boiler horsepower gas boiler for $124,000?

A. No, it is not.

Q. Would you agree with Mr. Dahlen that the installation costs of any boiler, be it gas or electric, are really site dependent?

A. Yes, I do. And there are other factors as well.

Q. Such as?

A. Such as the size of the boiler, whether or not there is space available in the building, and the difficulty of getting the boiler into the building, if there's an access passage or if the floor has or a wall has to be demolished. And, in the case of the gas boiler, the installation of the flue would be a major contributor to the cost, could be a major contributor.

MR. ENGLISH: Thank you very much, Mr. Miller.

EXAMINER HOGERTY: Questions from the Bench? Commissioner Mueller.

QUESTIONS BY COMMISSIONER MUELLER:

Q. Mr. Miller, on Page 9 of your testimony,

it's my impression there that--the second to the last question there, "What system alternative do you recommend as the best long-term alternative if the district heating system is continued?" That's basically your solution for the district heating problem at a cost of $11.8 million; is that correct?

A. Yes.

Q. There's going to have to be an extension of the high pressure system. This would include an abandonment of the--assuming we abandon the low pressure system, it would include reducer stations; is that right?

A. Yes. The customers that are presently on the low pressure system take 15 pound steam. And we would be distributing it at a higher pressure, so pressure reducing stations would be required.

Q. It's my understanding that a low pressure system would use a larger size--diameter size pipe, inside diameter; and then the higher pressure system would use actually a smaller size?

A. To carry the same pounds per hour, that is correct.

Q. Is it more expensive to put in a--the low pressure system?

A. It's more expensive, yes.

Q. So, as an alternative, we extend the high

pressure system and put reducer stations around; or do the reducer stations go in each building?

A. My analysis was based upon putting pressure reducing stations in individual buildings. But the alternate does exist, that you could put in a pressure reducing station and actually feed a neighborhood through a low pressure system. And the low pressure system you might use might be the existing low pressure system, if you felt there was reason to believe that it was still in good condition.

Q. Now, you've discounted an installation of a condensate return system because of the cost. If that type of system was put in, could you then use the system for using chilled water during the summertime?

A. Probably.

Q. Or do you need a separate system?

A. Yes, you'd need a separate system.

Q. So you'd need another two sets of pipes to every building for a chilled water system?

A. That is correct.

Q. On Page 11 of your short-term rehabilitation analysis, you mention installation of a small package gas or oil boiler. At the present time, does the district heating system heat water for washing purposes in these buildings during the summertime?

A. I'm not sure exactly what all the steam is used for in the summertime. The company does distribute steam to the downtown area. The logical use would be for some form of domestic heating, domestic water heating.

Q. But that would be done with a heat exchanger? They don't actually use the condensate or anything like that?

A. No. It would be done through a heat exchanger.

Q. Are there any systems where they use the steam, low or high pressure steam, with a heat exchanger or some system to create air conditioning?

A. Yes. There is a method for doing that, and it's using an absorption type chiller.

Q. Is that very efficient?

A. No, it's not. It's very inefficient.

Q. Your recommendation to install a small package gas or oil boiler would then be for, when the system has a low load, you would not have to run one of the larger boilers; is that--

A. That's correct. The idea there is to take advantage of the fact that a boiler has a certain turndown below which it's no longer as efficient as it is at full load.

Q. Did you do any calculation as to how much

you would save?

A. No, I didn't. My analysis is based upon assuming a boiler efficiency. And then the way I achieve that boiler efficiency is by having multiple boilers that would have it turned down to meet the district heating load.

Q. I didn't check back here in your schedule; but did you specify a size, a specific size, on that small package boiler?

A. Yes. I specified the sizes on all the boilers. In my long-term rehabilitation program, I based my capital cost for the boilers on one 70,000 pound per hour boiler and two 165,000 pound per hour boilers for a total new capacity of 400,000.

Q. Where is that in your testimony? Could you point it out?

A. I know this like the back of my hand. Okay. I refer you to Page--Schedule 1-16 behind my direct testimony.

Q. Okay. The condensate return, the only thing that does as far as saving money would--saves water, saves the treatment of the water; but it doesn't really increase the efficiency of the boiler, other than you're returning--the water that you return you probably would not have to preheat, something of that nature?

A. That's exactly right.

COMMISSIONER MUELLER: Thank you. That's it.

EXAMINER HOGERTY: Commissioner Musgrave.

QUESTIONS BY COMMISSIONER MUSGRAVE:

Q. Mr. Miller, you're familiar with the Vista Hotel and the size of that building?

A. Yes, I am.

Q. Could you tell me how large a boiler would have to be to serve that building, an on-site boiler? Would it be as big as this room or as small as a shoe box or what? You don't have to give me feet and inches, but give me an idea.

A. I think the--the boiler itself would not be the size of this room, but the boiler room might be in order to get access to the boilers.

Q. But how big would the piece of equipment be? As tall as this room?

A. Probably not as tall. Probably, I'd say, 8 feet tall; 20 feet long, 25 feet long; and a diameter of 10 feet.

Q. And do you think the Vista Hotel is about as large as any building in Kansas City that would need to have, as long as we're talking this way, an on-site boiler?

A. I believe that is correct. Now, the boiler I described, you might need three or four of those boilers.

That's why you need a large room.

Q. You'd need three or four pieces of equipment the size you just described to heat the Vista Hotel?

A. Yes.

Q. So three or four of them could be included in a room this size probably?

A. Approximately.

Q. And do all of the buildings in downtown Kansas City that are on the steam loop have basement areas and subbasements?

A. I don't know if all of them do. Basements are common in buildings in the downtown area.

Q. Would a boiler of this type that you just-- size that you just described, could it be put in a building adjacent to the structure that it was going to heat?

A. Yes, it could.

Q. So, if they had the land space, they could build a little room to hold those boilers, right?

A. They could. They could also install it into an adjacent building, if there was room in there, and then pipe the steam next door to the Vista, as an example.

Q. Did you examine the underground pipes in the steam system?

A. To the extent that we could see them. Of course, we can't view through the ground any further than

anybody else can. But we did look at the manholes, which is principally where you can see the exposed piping. And we did review some areas where they were doing repair work.

Q. And generally would you say that they were in pretty good shape?

A. Our conclusion, regarding the condition of the system, is not so much a visual inspection as it is an estimate or information on the leak repair history of the two different systems, the high pressure and the low pressure.

Q. You apparently have done work on other steam systems. Has your company ever used the television method of viewing the pipes?

A. No.

Q. Isn't that available to you?

A. I'm not sure it would be used for this application.

Q. How do they use it when they inspect sewer pipes?

A. I think that the type of degradation that you're looking at in a sewer pipe is different than what you'd be looking at in a steam pipe.

Q. You're looking for leaks, aren't you?

A. I don't think you'd be able to use that apparatus when the pipeline was under pressure. We're

talking about steam that could be 420 degrees.

Q. Well, granted, you couldn't--it wouldn't be very satisfactory when that was on. But, in the summertime, it wouldn't be that heavy, would it?

A. Yes. It still would be the same pressure.

Q. It would?

A. Yes.

COMMISSIONER MUSGRAVE: Thank you very much.

EXAMINER HOGERTY: Commissioner Fischer.

QUESTIONS BY COMMISSIONER FISCHER:

Q. I was interested also, on Page 9 of your prepared testimony, in your long-term recommendation. And, as I understand what you're saying there, the total capital costs that you're recommending would be 11.8 million as compared to the 23 million or so that the company's on-site boiler program would have. That's what that comparison is; is that right?

A. Yes, I believe that's correct.

Q. On Page 10, you go on to talk about possible defections of the customer base through 1990 and the year 2000. Have you estimated what kind of customer defection might occur if your recommendation was accepted and there was an installation of new gas or oil boilers at Grand Avenue?

A. No, I did not. That was not in my scope of

analysis.

Q. That 60 percent number is the company's estimate based on their projections?

A. No. The 60 percent refers to the capital costs that I cite in that particular answer. They assumed that certain customers would defect, and then they calculated what they thought the cost of electric boilers would be if that should occur. So it's more of a sensitivity analysis on customer level.

Q. I see. Would a similar kind of analysis be appropriate at all for--if we accepted your long-term recommendation, would we have to assume some customer defections to make a capital cost analysis?

A. Again, that wasn't really in my scope of work. But, as I reviewed Mr. Dahlen's testimony, he's basically saying that we're presuming that there is no loss in the customer sales volume, that an operator would be aggressive enough to maintain that level and perhaps improve it.

Q. Do you know, did Mr. Dahlen or perhaps yourself make an analysis of what kind of rate impact the adoption of this recommendation of the installation of the gas or oil boilers on the long term would be, what kind of revenue requirement impact we'd have?

A. I didn't do that analysis, and I'm not sure

if Mr. Dahlen's analysis would address your question.

COMMISSIONER FISCHER: Thank you very much.

EXAMINER HOGERTY: Chairman Steinmeier.

CHAIRMAN STEINMEIER: No questions.

EXAMINER HOGERTY: Redirect.

MS. YOUNG: Thank you.

REDIRECT EXAMINATION BY MS. YOUNG:

Q. Mr. Miller, did you examine the company's historical experience in operation and maintenance costs adjusted for inflation to test the figures in your recommendations?

A. I did subsequent to the submittal of the company's surrebuttal, Mr. Levesque's surrebuttal.

Q. Also, you mentioned that the company gave you a figure of 40 man-hours attributable to the asbestos. Is that a correct statement?

A. No. That was a misstatement. Their estimate was 40 man-days per year.

Q. And the calculation that you performed for Mr. English on the stand was based on man-days and the price of those man-days, right?

A. Yes, it was.

Q. So that calculation was accurate?

A. The calculation was accurate.

Q. If there are metering problems at the

customer's premises, shouldn't those be addressed by metering solutions?

A. I believe the issue of metering has been addressed by other Staff members. And it would seem that, from what I've read of that analysis--or that testimony, I should say, that reducing the metering errors would be very beneficial to the company.

Q. Did Mr. Dahlen suggest in his testimony that the addition of customers or addition of load could offset the increased costs of the rehabilitation program?

A. That is correct.

MS. YOUNG: No further questions. Thank you.

EXAMINER HOGERTY: Ms. Bjelland.

MS. BJELLAND: No questions.

EXAMINER HOGERTY: Mr. Finnegan.

MR. FINNEGAN: Just one question.

RECROSS-EXAMINATION BY MR. FINNEGAN:

Q. Mr. Miller, if the Commission were to order the company to seek a prospective purchaser for the system, would it be necessary for the prospective purchaser to do little more than read the record in this case, including all the exhibits, to determine whether or not they would want to purchase the system?

A. I think they would have to do a bit more

investigation on their own to verify independently what the situation is. I think it would take more than reading the record here.

Q. But hasn't basically everything been done for them so far, reviewing the system, comparing rates with other--what the competition is in the area, what the system is like?

A. Yes. I think that the analysis that we presented would give these operators a very good indication of what the cost--the situation of the system is.

Q. What else would they have to do then, if you were representing someone to purchase this?

A. Well, I can't think of anything.

MR. FINNEGAN: I didn't either. Thank you.

EXAMINER HOGERTY: Mr. Kennett.

MR. KENNETT: No questions.

EXAMINER HOGERTY: Mr. English.

MR. ENGLISH: Nothing, your Honor.

EXAMINER HOGERTY: Thank you, Mr. Miller. You may be excused.

(Witness excused.)

EXAMINER HOGERTY: We'll be in recess until 1:15.

(The noon recess was taken.)

EXAMINER HOGERTY: Come to order.

Staff may call its next witness.

MS. YOUNG: Before I do so, Madam Examiner, may I offer into the record the direct, rebuttal, and surrebuttal testimony of Mr. Miller, Exhibits 31, 32, and 33. And I would reserve offering Mr. Dahlen's testimony until his appearance on Friday.

MR. ENGLISH: No objection, your Honor.

EXAMINER HOGERTY: Exhibits 31, 32, and 33 are received.

(EXHIBIT NOS. 31 TO 33 WERE RECEIVED IN EVIDENCE AND MADE A PART OF THIS RECORD.)

MS. YOUNG: Staff would call as its next witness Mr. Philip Fuller.

(Witness sworn.)

PHILIP E. FULLER testified as follows:

DIRECT EXAMINATION BY MS. YOUNG:

Q. Would you please state your full name for the record.

A. My name is Philip E. Fuller.

Q. And by whom are you employed, Mr. Fuller.

A. I'm employed--I'm a self-employed consultant working under contract to HDR Techserv since the first of

the year.

Q. And for whom are you testifying in this case?

A. For the Staff.

Q. Are you the same Philip E. Fuller who has caused to be filed in this case direct testimony, which has now been marked as Exhibit No. 34 in this case?

A. Yes.

Q. And if I were to ask you the questions that appear in that document today, would your answers be the same as they appear in that document?

A. Yes.

Q. Do you wish to adopt that testimony as your direct testimony in this case?

A. Yes

MS. YOUNG: Staff would tender the witness for cross-examination.

EXAMINER HOGERTY: Ms. Bjelland.

MS. BJELLAND: No questions of the witness.

EXAMINER HOGERTY: Mr. Finnegan.

MR. FINNEGAN: I have no questions.

EXAMINER HOGERTY: Mr. Kennett.

MR. KENNETT: I have no questions.

EXAMINER HOGERTY: Mr. English.

MR. ENGLISH: No questions, your Honor.

EXAMINER HOGERTY: Thank you, Mr. Fuller.

(Witness excused.)

MS. YOUNG: Staff at this time would offer Exhibit No. 34 into the record.

MR. ENGLISH: No objection, your Honor.

EXAMINER HOGERTY: Exhibit 34 is received.

(EXHIBIT NO. 34 WAS RECEIVED IN EVIDENCE AND MADE A PART OF THIS RECORD.)

MS. YOUNG: That concludes the Staff's presentation at this time.

EXAMINER HOGERTY: Mr. English.

MR. ENGLISH: Thank you, your Honor. KCPL calls Mr. Levesque to the stand.

(Witness sworn.)

ROBERT W. LEVESQUE testified as follows:

DIRECT EXAMINATION BY MR. ENGLISH:

Q. Would you please state your name and by whom you are employed.

A. My name is Robert Levesque, and I am employed by the Kansas City Power & Light Company.

Q. Are you the same Robert Levesque that caused to be prefiled certain rebuttal testimony that has been identified as Exhibit 35?

A. Yes, I am.

Q. Do you have any changes or corrections to be made in Exhibit 35?

A. Yes. I would like to make a minor editorial change in one of the exhibits. I'm referring to my direct testimony, and I refer to Exhibit 4. And on the second page of Exhibit 4, which is entitled "Exhibit 4 Continued," there is a note. And Note 4 reads, "The reduction in sales (note 3) . . ." et cetera. In the middle of the second sentence, there's a date "March, 1986 KCPL forecast . . . ." I would change 1986 to read 1987. That's the only change.

Q. If I asked you the questions contained in your rebuttal testimony, would your answers be the same?

A. Yes, they would.

Q. Would you like to adopt Exhibit 35 as your rebuttal testimony in this case?

A. Yes, I would.

MR. ENGLISH: Your Honor, at this I tender Mr. Levesque for cross-examination.

EXAMINER HOGERTY: Ms. Young.

MS. YOUNG: Thank you.

CROSS-EXAMINATION BY MS. YOUNG:

Q. Mr. Levesque, staying on the page that you just corrected of your rebuttal testimony, Note 2--

A. Excuse me. Let me get to it. I closed my

book.

Q. Okay. I'm sorry.

Are you on Page 4 of Exhibit 2--I mean, Page 2 of Exhibit 4?

A. Yes, I am.

Q. The second note there references costs for gas boilers as estimated by Energy Masters Corporation for the Home Savings test site.

A. Yes.

Q. It is my understanding from the testimony of Mr. Beaudoin that Energy Masters Corporation was instructed not to study cost for gas boilers in the energy audits; is that correct?

A. My understanding is that Energy Masters was hired by Kansas City Power & Light to study facilities in the light of the expectation of on-site boilers, electric.

Q. And also one of the attachments to Mr. Beaudoin's testimony is an Energy Masters Corporation energy audit for the Home Savings building; isn't that correct?

A. I can't verify by memory a statement in his testimony.

Q. Okay. But I'm referring to the document itself that was attached, the energy audit report on that particular site?

A. I believe there was an energy audit report attached to his testimony, yes.

Q. Was the gas boiler cost that you reference in this table included in that document?

A. I don't know for a fact.

Q. Do you know what the source of the information to which this note applies was?

A. Yes. A communication that we had recently with Energy Masters.

Q. How recent was that communication?

A. My recollection it was within the last two weeks.

Q. And what was the form of that communication?

A. This was a verbal telephone communication.

Q. And did you provide in your workpapers to the Staff a document, which is a page of handwritten notes, that begins, "From EMC, Estimate 200, Boiler h.p., installation at $200,000"?

A. To my recollection, I can't place that.

Q. Let me show you the document and see if you recognize that as the workpaper you provided.

A. I'd have to verify that this was in the workpapers. I'm not sure.

Q. Is that your handwriting, sir?

A. No.

Q. Can you identify whose handwriting it is?

A. I cannot.

Q. Okay. Thank you very much.

MR. ENGLISH: Counsel, if it will help, I will give Mr. Levesque a copy of the workpapers and he can verify if that exists, if that will aid you.

MS. YOUNG: I don't think I'll pursue it further. Thank you anyway.

BY MS. YOUNG:

Q. Looking at Page 2 of the attachment to your testimony, Mr. Levesque, the document entitled Review of the District Steam Heating Scenarios, et cetera, you list on Page 2 a summary of the impact of adjustments for the year 1987--

A. Excuse me. I now have the document. What page?

Q. Okay. Page 2.

A. Yes.

Q. You have a list of the adjustments and the impact on the dollars per Mlb. basis.

A. Yes.

Q. Is it true that if we removed Adjustments 1 and 2 from that calculation, that we would deduct $5.58 from the adjusted steam cost you calculated?

A. That's correct.

Q. On Page 3 of your rebuttal testimony, at Lines 22 to 23, appears the statement "KCPL is . . . ."

A. You're in my--excuse me. --rebuttal testimony, not this attachment?

Q. Yes, sir, Page 2 of the testimony.

A. All right.

A. Line--

Q. Lines 22 and 23.

A. Yes.

Q. Appears the statement "KCPL is unwilling to ascribe to a zero plant value." In your opinion, Mr. Levesque--

A. Excuse me now. I'm in my rebuttal testimony--

Q. On Page 3.

A. Page 3, Line 21 and 22, yes. "KCPL is unwilling to ascribe to a zero plant value."

Q. In your opinion, what value can you place on a system that the owner intends to either abandon or contribute to a charitable organization?

A. Well, I think there's been several instances of testimony before this Commission that there are many ways to ascribe value. Consultant Dahlen addressed three major ways, and we have alluded to the same three major ways. And I think Mr. Beaudoin testified. So there would be different

values that could be ascribed depending on the technique that could be used.

Q. In your opinion, would the company's intentions regarding the plant have an impact upon those calculations of value?

A. Yes.

MS. YOUNG: No further questions. Thank you, sir.

EXAMINER HOGERTY: Ms. Bjelland.

MS. BJELLAND: No questions.

EXAMINER HOGERTY: Mr. Finnegan.

MR. FINNEGAN: I believe just a couple of questions.

CROSS-EXAMINATION BY MR. FINNEGAN:

Q. Mr. Levesque, with respect to your changes in the natural gas prices that you reflect in your rebuttal testimony, would it not be true that the cost of gas to natural gas customers in downtown Kansas City would also increase at the same time or in a similar period of time?

A. I'm sorry, Mr. Finnegan, I didn't understand the question. Could you restate it or rephrase it?

Q. You indicate that--you say Mr. Dahlen's natural gas forecasts were low?

A. Yes, sir.

Q. The costs of natural gas were low?

A. Yes, sir.

Q. And so you're saying that the cost of natural gas will be higher in future years than projected in Mr. Dahlen's figure?

A. Yes, sir.

Q. Would not the same be true for the cost of natural gas to customers downtown who purchase natural gas to fire boilers in their system?

A. Apparently you're drawing a distinction between different rates; for example, industrial rate versus the commercial rate. And you're asking me would these rates move in the same direction; is that correct?

Q. Yes.

A. Yes, sir, they would.

Q. And as a result, the competitiveness of natural gas and steam heat would remain somewhat in parity, would they not?

A. You're asking me, if gas prices increase, would there be a parallel with regard to on-site gas boilers?

Q. Right.

A. Well, that takes into--that's a rather broad supposition. Generally these prices would move together; they would move in concert.

MR. FINNEGAN: That's all the questions. Thank you.

EXAMINER HOGERTY: Mr. Kennett.

MR. KENNETT: I have no questions.

EXAMINER HOGERTY: Redirect?

MR. ENGLISH: No questions, your Honor.

EXAMINER HOGERTY: Thank you, Mr. Levesque.

(Witness excused.)

MR. ENGLISH: Your Honor, since this is Mr. Levesque's only time on the stand, I offer Exhibit 35.

MS. YOUNG: No objection from Staff.

EXAMINER HOGERTY: Exhibit 35 is received.

(EXHIBIT NO. 35 WAS RECEIVED IN EVIDENCE AND MADE A PART OF THIS RECORD.)

MR. ENGLISH: Your Honor, this morning Exhibit No. 36 was reserved for the Williams Natural Gas Company letter that I had discussions with Mr. Dahlen about about. I've had copies made, and I request that it be identified as Exhibit 36.

(EXHIBIT NO. 36 WAS MARKED BY THE REPORTER FOR IDENTIFICATION.)

MR. ENGLISH: Since we've had discussions on it, I offer Exhibit 36.

MS. YOUNG: Staff has no objection.

EXAMINER HOGERTY: Exhibit 36 is received.

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