

STATE OF MISSOURI  
PUBLIC SERVICE COMMISSION

TRANSCRIPT OF PROCEEDINGS

Hearing

September 1, 1999  
Jefferson City, Missouri  
Volume 6

In the Matter of Laclede Gas )  
Company's Tariff to Revise ) Case No. GR-99-315  
Natural Gas Rate Schedules. )

NANCY M. DIPPELL, Presiding,  
SENIOR REGULATORY LAW JUDGE.

SHEILA LUMPE, Chair,  
CONNIE MURRAY,  
ROBERT G. SCHEMENAUER,  
M. DIANNE DRAINER, Vice-Chair  
COMMISSIONERS.

REPORTED BY:

KELLENE K. FEDDERSEN, CSR, RPR  
ASSOCIATED COURT REPORTERS, INC.

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1 P R O C E E D I N G S

2 (EXHIBIT NO. 118 WAS MARKED FOR  
3 IDENTIFICATION.)

4 JUDGE DIPPELL: Let's go on the record.

5           Okay. First thing this morning, I believe  
6 we have a Partial Stipulation and Agreement to  
7 address.

8           MR. PENDERGAST: Thank you, your Honor. On  
9 behalf of the Company, just a couple of comments about  
10 the Partial Stipulation and Agreement that's been  
11 marked, I believe as Exhibit 118.

12          JUDGE DIPPELL: That's correct.

13          MR. PENDERGAST: We've talked over the last  
14 couple of days that we had reached a tentative  
15 agreement on a Partial Stipulation and Agreement. We  
16 now have a signed agreement. There's only a few  
17 things I would note about it.

18          First of all, it disposes of nearly all of  
19 the AAO issues, with the exception of the sunset  
20 provision. And as a footnote, in the Partial  
21 Stipulation and Agreement it says that, remains  
22 subject to litigation and ultimate Commission  
23 determination, but it will allow us to eliminate  
24 several of the witnesses that were assigned to that  
25 particular issue and should, I hope, substantially

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1 shorten the amount of time it would take to litigate  
2 that particular issue.

3          Secondly, this Partial Stipulation and  
4 Agreement also reflects the resolution of a number of  
5 other revenue requirement issues which are listed on  
6 the back in Attachment 1 which provides the dollar

7 values backing off of Staff's case and reflects a  
8 settled position at this point in time of 223,000.

9 A couple of observations about that  
10 particular number. As the asterisks indicate, some of  
11 these amounts will have to be adjusted depending on  
12 the ultimate resolution of a number of the issues in  
13 this case because they impact the dollar values of  
14 those particular issues, return on equity, so forth  
15 and so on, and we tried to note those for you.

16 And there's also one issue that has been  
17 entitled weather correction here that still remains a  
18 subject of dispute between the parties. We've also  
19 attempted to go ahead and footnote that.

20 And we had indicated earlier that there were  
21 a number of evidentiary disputes between the parties  
22 that might be resolved by this, and I think all of the  
23 disputes that existed between the Office of the Public  
24 Counsel and the Company have been resolved as a result  
25 of this Partial Stipulation and Agreement. Most

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1 notably, those that related specifically to the AAO  
2 have been resolved with the specific language that's  
3 been agreed upon in the AAOs.

4 And then the computer software issue,  
5 whereas Public Counsel I believe proposed a ten-year  
6 depreciation rate, the Company had proposed a five.  
7 And I think Public Counsel, Mr. Micheel can verify  
8 this, has agreed to the five-year.

9 I think that pretty well sums it up, and  
10 certainly if your Honor believes it would be  
11 appropriate to provide this in some sort of formal  
12 presentation to the Commission at some time, we would  
13 be available to do that.

14 JUDGE DIPPELL: Okay. I will let the  
15 Commissioners have a chance to read it and they can  
16 discuss whether they need a formal presentation of it.

17 MR. PENDERGAST: And I should finally note,  
18 there is one interlineation on this document. It's  
19 already been made in writing, and it was just designed  
20 to remove a few words that were at the end that had  
21 anticipated additional words being added that weren't.  
22 So that correction has been made. It's been agreed  
23 upon by the three parties here, and it has been  
24 provided to the court reporter.

25 We will also be making sure that the other

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1 parties to this case receive a copy of this either  
2 today or by tomorrow.

3 That's all I have.

4 MR. MICHEEL: With that, your Honor, I'd  
5 withdraw my objection to the admission of, I believe  
6 it's Exhibit 8, which is the rebuttal testimony of  
7 Mr. Fallert, if that's the correct number.

8 JUDGE DIPPELL: That is the number. So with  
9 the withdrawal of that objection, I will receive the  
10 rebuttal testimony of James Fallert, Exhibit No. 8,

11 into the record.

12 (EXHIBIT NO. 8 WAS RECEIVED INTO EVIDENCE.)

13 JUDGE DIPPELL: Also at the very end of the  
14 day after we'd gone off the record, Mr. McNeive, you  
15 mentioned to me that the Company was going to ask to  
16 present maybe a video today, and I see that you  
17 brought equipment to do that. Do we know now if  
18 there's going to be an objection to that? Have the  
19 other parties had a chance to view the video?

20 MR. MCNEIVE: I have not shown the video to  
21 them. I can tell you what it is. It's a short video.  
22 See if we have any problems. We're off the record?

23 JUDGE DIPPELL: We're on the record.

24 MR. MCNEIVE: The video is a brief, about  
25 two minutes, of the Lambert Station ASOS center so

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1 people could see that. In Dr. Hu's testimony,  
2 certainly in his deposition he indicated that he had  
3 visited that site. So this is just to get a picture  
4 of what he saw.

5 And then we also have video of the three  
6 reference stations that he used in his analysis,  
7 namely Elsberry, Union and Jerseyville, Illinois, and  
8 to be sure that what he saw is obvious.

9 So that's all it is, and if he -- I believe  
10 he'll be able to authenticate that what we have is  
11 what he saw. It was taken within -- at least the last  
12 three were taken within two weeks of when he actually

13 was there in the summer of 1999. So that's what it'll  
14 show.

15 JUDGE DIPPELL: And was this video not  
16 available when he filed his rebuttal testimony?

17 MR. MCNEIVE: Well, his -- the video that we  
18 took is video that was taken -- as I said, if he went  
19 out there in, it was mid July, the video that we took  
20 was taken before he went out there.

21 All right. Now, when did we file our  
22 rebuttal, I think is your question. And it's really  
23 not so much rebuttal as to clarify what it is that he  
24 did see, because he said a few things in his  
25 deposition on July 28 that weren't quite consistent

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1 with what we -- our people who went out there and saw,  
2 who did put it in their rebuttal by the way.

3 JUDGE DIPPELL: Before we get to that  
4 witness and before you offer this exhibit, I would  
5 like you to get together with counsel for the opposing  
6 parties and let them view the video --

7 MR. MCNEIVE: Absolutely.

8 JUDGE DIPPELL: -- so that if they have an  
9 objection they'll know it ahead of time.

10 MR. MCNEIVE: That's okay with me.

11 MR. SCHWARZ: Will the foundation for this  
12 video be laid prior to its being shown?

13 JUDGE DIPPELL: I hope so.

14 MR. MCNEIVE: Well, yes, in the sense



15 that --

16 MR. SCHWARZ: I mean, I'm not clear. Is  
17 this a cross-examination video or is this a video  
18 which the Company is going to use in its case in  
19 chief?

20 MR. MCNEIVE: No. It's a cross-examination  
21 video.

22 JUDGE DIPPELL: I'll let you-all discuss  
23 that and I'll give you a chance to discuss that before  
24 that, and then if you have objections to it, you can  
25 raise them when we -- when they present -- when they

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1 ask to present the video.

2 So are there any other preliminary matters  
3 or anything that I need to know about?

4 MR. POSTON: I just want to ask, I don't  
5 know if this Partial Stip is offered into evidence or  
6 if we need to offer it into evidence.

7 JUDGE DIPPELL: I think it -- it wasn't  
8 offered.

9 MR. POSTON: Okay. I'd like to move it be  
10 entered into evidence, please.

11 JUDGE DIPPELL: Are there any objections to  
12 the Partial Stipulation being entered?

13 MR. PENDERGAST: I would not have any  
14 objection to it being offered into the record of this  
15 proceeding. I'm not sure that saying it should be  
16 offered into evidence would be entirely appropriate,

17 but certainly no objection to it being offered in the  
18 record.

19 MR. POSTON: What would be appropriate? I  
20 can withdraw my offer if --

21 MR. PENDERGAST: No. I think entering it  
22 into the record is fine, if that's acceptable.

23 JUDGE DIPPELL: All right. Any other  
24 objections or comments?

25 (No response.)

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1 JUDGE DIPPELL: Then I'll receive it into  
2 the record.

3 (EXHIBIT NO. 118 WAS RECEIVED INTO  
4 EVIDENCE.)

5 JUDGE DIPPELL: Okay. Then, if there's  
6 nothing else, we can go ahead and ask Ms. Krieger to  
7 return to the stand.

8 MR. MCNEIVE: Mrs. Krieger, you're still  
9 under oath. You can be seated, if you will.

10 I believe, if it please the Commission, at  
11 the close of the hearing yesterday Staff had completed  
12 their cross-examination and indicated that. I believe  
13 Public Counsel was finished. I think that under the  
14 line of order of cross-examination, that would be now  
15 if the Commission had any questions.

16 JUDGE DIPPELL: Yes, thank you. Chair  
17 Lumpe, did you have questions for Ms. Krieger?

18 CHAIR LUMPE: Yes.

19 PATRICIA A. KRIEGER testified as follows:

20 QUESTIONS BY CHAIR LUMPE:

21 Q. Ms. Krieger, on page 2 of your rebuttal  
22 testimony, you talk about the Company's methods and  
23 you talk about a ten-year rolling average. When was  
24 the starting date of that ten-year rolling average?

25 A. The company first filed in the 1992 case for

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1 a rolling ten-year average.

2 Q. And would you describe what you mean then?  
3 So you started in 1992 a rolling average. How --

4 A. Well, that was the first case that we filed  
5 on weather normalization based on a rolling ten-year  
6 average, and it was based on the most recent ten years  
7 of data in that case.

8 Q. So 1982 then?

9 A. 1992.

10 MR. MCNEIVE: Pardon me. If I may --

11 THE WITNESS: I'm sorry. The 1983 to 1992  
12 period was the first time we filed that testimony.

13 MR. MCNEIVE: I don't want to interrupt you,  
14 Chair, but I think she's answering a different  
15 question. I think you wanted to know, correct me if  
16 I'm wrong, when our rolling average that we're  
17 proposing in this case would begin, what year it would  
18 begin; is that correct?

19 CHAIR LUMPE: Well, not necessarily.

20 MR. MCNEIVE: Well, then I apologize. I

21 thought that was the thrust of your question. I  
22 wanted her to answer your question. I'm sorry. I  
23 withdraw my comment.

24 BY CHAIR LUMPE:

25 Q. It simply talks about a ten-year rolling

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1 average, and you have to start somewhere, and so  
2 that's the question I was asking. So in 1992, you  
3 started talking about a ten-year rolling average,  
4 which means you were using the ten years previous  
5 which would be 1982-'83?

6 A. Right. I thought you had asked when was the  
7 first time we started to think about using a ten-year,  
8 but in this particular case, the normal that we used,  
9 the 4,420 degree days is based on ten years ended  
10 December 1998. So it starts with January 1st, 1989.

11 Q. Okay.

12 A. That ten-year period.

13 Q. That's what I want to know. There must be  
14 some start date that you used --

15 A. Right.

16 Q. -- when you do rolling averages.

17 A. Yes, ma'am.

18 Q. But you've been using that since 1982-'83,  
19 you've been using -- you've been using a rolling  
20 average, '82 to '92, '83 to '93, '84 to '94. Your  
21 first time you used it was 1980 -- '92, but you went  
22 back to 1982?

23 A. The first time we proposed that, the use of  
24 a ten-year normal, yes.

25 Q. All right. I think I understand that, then.

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1 The revenue requirement on this issue is fairly  
2 significant, right?

3 A. Correct.

4 Q. And that's why getting it right is  
5 important --

6 A. Yes.

7 Q. -- correct?

8 A. Yes.

9 Q. On page 21 of your rebuttal also, what I'm  
10 puzzled by there is, and tell me if I misinterpreted  
11 you, that you suggest using thirty years is historical  
12 and shows where we've been, but to use the past ten  
13 years is somehow future looking.

14 And I don't understand, if you're developing  
15 a trend to predict, why wouldn't you want the longest  
16 line of trend you could possibly have, even a hundred  
17 years if you could have it?

18 A. Well, a longer period of data is not always  
19 the best indicator of the future. And our position  
20 would be that, while 30 years of data are presented as  
21 normals by NOAA, that that baseline of data is  
22 presented by NOAA to use as a benchmark to compare the  
23 historical results of temperature data or to compare  
24 how cold one location is to another location, that

25 type of a benchmark.

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1 But in trying to establish what would be a  
2 more normal condition going forward, typically more  
3 recent data is more indicative of what's going to  
4 happen in the future. And the NOAA 1990 normals are  
5 only -- they're only developed at the end of each  
6 decade. So they're missing a lot of data that's been  
7 most recently experienced.

8 And that's our proposal, to use more recent  
9 data to determine what's most likely to happen in the  
10 future.

11 Q. Why wouldn't you just add that data to the  
12 long trend data that you had before and look at the  
13 longer trend? Why would three years be predictive of  
14 the future? I mean, you could have three really --  
15 three years that were just totally out of the normal  
16 and say that's going to predict the future.

17 That's what puzzled me. I would think you  
18 would want to use as long a trend as possible, maybe  
19 add the last ten years to those 30 and look at that  
20 long trend.

21 A. Well, included in my direct testimony is,  
22 and the chart that was presented in the opening  
23 remarks showed what the results of the actual weather  
24 experience has been as compared to those longer term  
25 normals, and the actual experience is not -- does not

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1 approach that level of normal. And that's our concern  
2 in trying to find a better benchmark in this case.

3 From a statistical standpoint, probably our  
4 company witness Dr. Turner can explain more fully why  
5 a shorter period is better statistically speaking, but  
6 the results are that you can predict better with a  
7 shorter time frame of data.

8 Q. You're not a statistician?

9 A. No, I'm not.

10 Q. He is?

11 A. He is more statistical or can explain the  
12 statistical results of those things, yes.

13 Q. All right. You're not suggesting, though,  
14 are you, that somehow global warming and urbanization  
15 started ten years ago?

16 A. No. We believe it's been going on longer  
17 than that, but the impacts of those things in a  
18 30-year normal are not the same in the latter part of  
19 that 30-year period as they are in the early part of  
20 that 30-year period.

21 So it would be more appropriate to recognize  
22 the more recent data where the urbanization effect and  
23 whatever impact of global warming are embedded in that  
24 data are more fully recognized rather than rely on  
25 1961 weather conditions to approximate what the

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1 weather conditions would be today.

2 Q. It's interesting. We moved to the  
3 metropolitan area in the '60s, and one of the things I  
4 noticed was the mild winters. We came through some  
5 very cold country, and the mild winters over that  
6 period in the '60s. Were they -- are they milder now  
7 than they were then?

8 A. Certainly there's been a more extended  
9 period of mild winter than what there has been in  
10 those earlier periods, yes.

11 Q. You comment, I think you do, on the double  
12 mass method. Are you familiar with that method?

13 A. I'm familiar with it to the extent that  
14 we've reviewed the Staff's use of that method.

15 Q. And do you have an opinion on it?

16 A. We believe this method doesn't take in all  
17 the factors that need to be considered in this area,  
18 and in making an adjustment to the data, there's  
19 various methods that are available to possibly use for  
20 this, and we don't believe double mass analysis maybe  
21 looks at the full picture on this thing. It's a  
22 method to calculate an effect.

23 Again, Dr. Turner can address more fully the  
24 statistical validity of the method. But we believe in  
25 trying to attempt to do a correct adjustment there

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1 would need to be taken into account more factors than  
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2 what that method can be relied on.

3 CHAIR LUMPE: I'll wait for Dr. Turner,  
4 then. Thank you.

5 JUDGE DIPPELL: Commissioner Schemenauer?

6 COMMISSIONER SCHEMENAUER: Just one. Thank  
7 you, Judge.

8 QUESTIONS BY COMMISSIONER SCHEMENAUER:

9 Q. Good morning. In your surrebuttal testimony  
10 on page 17, you state on line 5 that the Commission  
11 should recognize the need for a normal degree day  
12 benchmark that is more reliable in approximating  
13 actual weather conditions. This can be achieved by  
14 adopting a shorter normals period that will place more  
15 emphasis on recent climate conditions.

16 You said how you can do it but I don't see  
17 any argument in place that a ten-year is better than a  
18 30-year norm.

19 A. Again, statistically speaking, I'd leave  
20 that to Dr. Turner to more fully explain the  
21 statistical validity of that.

22 But in just showing the impact of using a  
23 ten-year rolling average versus the 30-year NOAA  
24 normal, we've had extended periods of shortfalls from  
25 that 30-year normal over the past 15 years, and the

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1 ten-year normal would have been a much better  
2 benchmark for what we actually experienced over that  
3 period of time.

4 Q. I understand. I mean, it just appears like  
5 ten years would suit the Company's purpose better than  
6 30 years, and all I can see is you're offering me that  
7 for that reason and no statistical evidence to really  
8 support that. So I -- Dr. Turner is the one I need to  
9 talk to about that?

10 A. As far as weather trends and that type of  
11 thing, but I'd like to add that one reason for using  
12 the more recent -- or using rolling ten-year data is  
13 to capture the more recent data that's not captured by  
14 the NOAA decade normals that are only produced at the  
15 end of each decade, and it brings into play the more  
16 recent data. It also better captures the impacts of  
17 urbanization and other warming influences that have  
18 been added in over the last few decades.

19 Q. Statistically the shorter the period that  
20 you're going to use for your universe, the more each  
21 year would impact that, correct?

22 A. Yes.

23 COMMISSIONER SCHEMENAUER: Okay. Thank you.  
24 That's all I have.

25 JUDGE DIPPELL: Okay, then. We'll go ahead

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1 and do recross based on questions from the Bench. Is  
2 there any cross-examination from AmerenUE?

3 MS. KNOWLES: No, not on this issue.

4 JUDGE DIPPELL: Public Counsel?

5 MR. MICHEEL: No your Honor. Thank you.

6 JUDGE DIPPELL: Staff?

7 MR. SCHWARZ: No, I think not.

8 JUDGE DIPPELL: Is there redirect?

9 MR. MCNEIVE: Yes, there is, just a few  
10 questions. Thank you, your Honor.

11 REDIRECT EXAMINATION BY MR. MCNEIVE:

12 Q. A moment ago I believe Chair Lumpe was  
13 asking you wouldn't it be better to take the longest  
14 amount of data possible in order to establish what we  
15 should expect in the future.

16 Based upon your experience at the company,  
17 are you familiar with whether or not the Staff and the  
18 Company used to use the full amount of data available  
19 years ago and, if so, could you explain that?

20 A. Yes. I believe after our case in 1981 it  
21 was determined that we should use the longest data  
22 possible, and from the 1981 period to approximately  
23 1992 we were using a longer period of data starting  
24 with year 1900 and moving forward.

25 Q. Do you know why that practice was abandoned?

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1 A. The Staff recommended in the 1992 case that  
2 we go to the 30-year normal at that point.

3 Q. Ms. Krieger, are you familiar with  
4 Dr. Proctor's testimony in this case?

5 A. Yes, I am.

6 Q. Are you familiar with his exhibit, Schedule  
7 No. 1 to his surrebuttal testimony?

8 A. Yes, I am.

9 Q. Would you take that out, please. I'm going  
10 to refer you to that document in Schedule 1-4. Do you  
11 have Schedule 1-4 in front of you?

12 A. Yes, I do.

13 Q. Schedule 1-4 is the third page of a letter  
14 from Professor Wayne L. Decker, State Climatologist  
15 for Missouri, is it not?

16 A. Yes, it is.

17 Q. And I'm going to refer you to the heading on  
18 the middle of that page 3 that reads, A rational  
19 approach to selection of a base period in climatology.  
20 Do you see that, at the top of page 3, the heading?

21 A. Yes.

22 Q. And the second paragraph there, which begins  
23 "it appears," would you read that paragraph, please?

24 A. It appears that the use of a 90-year average  
25 does not account for the known and possible time

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1 trends and temperature data series. The equal  
2 weighing of reported climate events of nearly a  
3 century ago with those of more recent periods places  
4 the Commission in a shaky position at best.

5 Q. So that was a document that appears in  
6 Dr. Proctor's testimony, and that was a letter from  
7 the State Climatologist, I believe, in 1992; is that  
8 correct?

9 A. That's correct.

10 Q. And I'm just asking these questions to shed  
11 a little light on the history of this. Do you  
12 understand that?

13 A. Yes.

14 Q. Now, Chair Lumpe also asked, and I believe  
15 Commissioner Schemenauer had the same point, whether  
16 there was any predictiveness in using a ten-year  
17 versus just a ten-year average which would be more  
18 helpful to our results. Do you recall that question?

19 A. Yes, I do.

20 Q. Do you have in your testimony at page 19 of  
21 your direct testimony any comments about what NOAA's  
22 doing in that regard currently? I refer you to  
23 page 19. Do you see that? At the line 17 you make an  
24 answer that begins "traditional 30 years." Do you see  
25 that?

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1 A. Yes, I do.

2 Q. And the first part of your answer speaks to  
3 the fact, does it not, that such normals as 30-year  
4 normals merely provide a baseline predicated on past  
5 history to which current experience can be compared?  
6 Is that your statement?

7 A. Yes, it is.

8 Q. And then further on it discusses the fact  
9 that a division of NOAA, the Climate Prediction  
10 Center, is using something called optimal climate  
11 normals. Can you explain what that means?

12           A.     Optimal climate normals are used for  
13     predictive purposes by the Climate Prediction Center,  
14     which is a division of NOAA, and it's used to forecast  
15     for predictive purposes weather going out for the next  
16     year and years beyond one year.

17                 It's based on a study of -- that was  
18     performed in recent years that shows that a shorter  
19     time frame is a better predictor, and it shows that a  
20     number less than 15 years is usually the best  
21     predictor. And for ease of administration they're  
22     utilizing a ten-year period in developing their  
23     optimal climate normals.

24                 MR. MCNEIVE: Thank you. That's all the  
25     questions I have.

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1                 JUDGE DIPPELL: Thank you. Ms. Krieger, you  
2     may be excused for now. I believe you're going to  
3     testify on other issues; is that correct?

4                 THE WITNESS: Yes.

5                 MR. MCNEIVE: Judge, yesterday we talked  
6     about perhaps holding her three exhibits on weather  
7     normalization until she completed. I've rethought  
8     that, and perhaps for the record it would be best that  
9     the part of her testimony that goes to weather  
10    normalization, that I would reoffer those to be  
11    admitted at this time.

12                 JUDGE DIPPELL: Okay. Are there any  
13    objections to Exhibits 14, 15 and 16 being admitted?

14 MR. SCHWARZ: Well, my understanding is he's  
15 only offering the weather portions.

16 MR. MCNEIVE: That's correct, your Honor.  
17 There's still some other portions there, but mindful  
18 how often people such as my age forget to reoffer  
19 something, so I wanted to offer it now.

20 JUDGE DIPPELL: Okay. I think that without  
21 having a specific identification of which portions of  
22 those exhibits are being admitted, I'd rather hold off  
23 and actually admit them all at one time.

24 MR. MCNEIVE: That's fine, your Honor. I do  
25 believe that we'd be able to show you what portion is

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1 what because she has a table of contents, but  
2 whichever you'd like to do.

3 MR. SCHWARZ: I think that it'll muddy the  
4 record. I'm certain that both the Bench and  
5 Mr. McNeive's cohorts will remind him at the  
6 appropriate time that the entire exhibit needs to be  
7 offered, and I expect that Staff will remind him as  
8 well. I think it --

9 JUDGE DIPPELL: I think we'll hold off on  
10 admitting those until we do them at one time, but that  
11 portion has been offered.

12 MR. MCNEIVE: Thank you, your Honor. That  
13 completes the questioning of the witness on this area.  
14 Can she step down?

15 JUDGE DIPPELL: You may step down,  
Page 23

16 Ms. Krieger. Thank you.

17 THE WITNESS: Thank you.

18 JUDGE DIPPELL: I believe Mr. Turner is your  
19 next witness; is that correct?

20 MR. MCNEIVE: Yes, your Honor. At this time  
21 I'd like to call to the stand Dr. Turner.

22 (Witness sworn.)

23 JUDGE DIPPELL: Thank you.

24 JAY R. TURNER, testified as follows:

25 DIRECT EXAMINATION BY MR. MCNEIVE:

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1 Q. Mr. Turner, would you please state your full  
2 name and business address for the record.

3 A. Jay Robert Turner with the School of  
4 Engineering at Washington University in St. Louis.

5 Q. Sir, are you the same Jay Robert Turner who  
6 had caused to be filed in this case certain rebuttal  
7 testimony identified as Exhibit 17 and surrebuttal  
8 testimony marked for identification as Exhibit 18 in  
9 this proceeding?

10 A. Yes, I am.

11 Q. I'm going to ask you if you have any changes  
12 to that rebuttal testimony in this proceeding?

13 A. Specifically for the rebuttal testimony?

14 Q. Yes, sir.

15 A. I have two changes.

16 Q. would you please tell us where they are.

17 A. The first change is on page 8, line 17. On  
Page 24



18 page 8, line 17, I would like to strike the date 1988  
19 and replace it with the date 1989.

20 Q. Do you have a second change?

21 A. Yes, I do. The second change is on page 9,  
22 lines 14 to 16. Starting on line 14, I would like to  
23 strike the phrase "As at Elsberry, according to the  
24 Union observer, the sensor." So that part should be  
25 struck, and replace it with "the sensor at Union."

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1 Subsequently, on line 15 and line 16, I  
2 would like to strike the phrase "sometime in the mid  
3 to late 1980s" and replace it with "in 1990." So  
4 quote, in 1990.

5 Q. Does that complete your changes or  
6 corrections to your rebuttal testimony, sir?

7 A. Yes, it does.

8 Q. I'm going to refer you to your surrebuttal  
9 testimony and ask you if you have any changes or  
10 corrections to make to that document?

11 A. Yes, I have one change, and that is on  
12 page 8, line 4. I would like to strike "NOAA" and  
13 replace it with "NCDC."

14 Q. Do you have any further changes or additions  
15 to your testimony or corrections?

16 A. No, I don't.

17 Q. If I were to ask you the questions today  
18 that appear in your rebuttal testimony and your  
19 surrebuttal testimony, sir, as modified, would your

20 answers be the same?

21 A. Yes, they would.

22 MR. MCNEIVE: At this time I would tender  
23 the witness for cross-examination and offer into  
24 evidence Exhibits 17 and 18, your Honor.

25 JUDGE DIPPELL: Are there any objections to  
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1 Exhibits 17 and 18 with those modifications?

2 MR. SCHWARZ: Staff has none.

3 JUDGE DIPPELL: Then I will receive those  
4 into evidence.

5 (EXHIBIT NOS. 17 AND 18 WERE RECEIVED INTO  
6 EVIDENCE.)

7 MR. MCNEIVE: Thank you, your Honor.

8 JUDGE DIPPELL: Is there cross-examination  
9 by AmerenUE?

10 MS. KNOWLES: No, none.

11 JUDGE DIPPELL: Public Counsel?

12 MR. MICHEEL: Yes, I have one.

13 CROSS-EXAMINATION BY MR. MICHEEL:

14 Q. Dr. Turner, what does the acronym NCDC stand  
15 for?

16 A. That's stands for the National Climatic Data  
17 Center, which is a division of NOAA, the National  
18 Oceanic and Atmospheric Administration.

19 MR. MICHEEL: Thank you very much. No  
20 further questions.

21 JUDGE DIPPELL: Are there cross-examination  
Page 26

22 questions by Staff?

23 MR. SCHWARZ: Yes, ma'am.

24 CROSS-EXAMINATION BY MR. SCHWARZ:

25 Q. Is it Dr. Turner?

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1 A. Yes, it is.

2 Q. Dr. Turner, what portion -- I'm looking at  
3 your job description, if you will. How much of your  
4 time is devoted to teaching and how much to research?

5 A. That varies from semester to semester, but  
6 typically between 25 to 50 percent of the academic  
7 year is devoted to teaching, with the balance devoted  
8 to research; during the summer, full-time research.

9 Q. You indicate that you conduct lab  
10 experiments. Is that part of research or is that part  
11 of teaching?

12 A. It's part of both.

13 Q. You indicate that you do statistical  
14 analysis. That's something that you teach?

15 A. I teach several engineering courses in which  
16 I do teach data analysis as part of those courses,  
17 yes.

18 Q. Would you define for me what the word bias  
19 means when used in statistics?

20 A. The word bias in statistics means a  
21 deviation from the expected value.

22 Q. On page 2, you talk about --

23 MR. MCNEIVE: Pardon me, counsel. Which  
Page 27

24 testimony are you in, please?

25 MR. SCHWARZ: Rebuttal testimony. I'm

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1 sorry.

2 MR. MCNEIVE: Thanks.

3 BY MR. SCHWARZ:

4 Q. On page 4, rather, you talk about weather  
5 data as being noisy. What is noisy data?

6 A. In this context, what I mean by noisy data  
7 is simply that there are significant day-to-day  
8 fluctuations. So that if I were to construct a graph,  
9 let's say, of temperature versus the day or versus  
10 time of day, let's say, there would be significant  
11 fluctuations.

12 Q. Okay. What's a Gaussian distribution?

13 A. A Gaussian distribution is one that if you  
14 have enough elements in a population, so if you have  
15 enough items in your sample, then it will begin to  
16 approach this bell-shaped curve centered about a mean  
17 value but will then be distributed with fewer and  
18 fewer values as you go away from that mean or average.

19 Q. So the graph of a Gaussian distribution  
20 would be the normal bell curve?

21 A. It would be the normal bell curve, yes.

22 Q. What is the central limit theorem?

23 A. In what context, please? There are several  
24 different areas of math and statistics where that  
25 would apply.

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1 Q. well, let's focus on the type of data we're  
2 dealing with here in analysis of weather, or weather  
3 data, I'm sorry, because it would refer to data, would  
4 it not?

5 A. Yes, it would refer to data. The central  
6 limit theorem is that we're going to approach a  
7 certain distribution if we collect more data. So we  
8 will, with more data, approach a given distribution.

9 Q. What distribution would we approach?

10 A. If our -- if the sampling that we are  
11 performing is random and independent, then we would be  
12 approaching the Gaussian distribution.

13 Q. Again, on your rebuttal testimony, page 4,  
14 line 7, or starting on line 6, Many data analysis  
15 tools rely upon the power stemming from the size of  
16 large data sets to handle such noise. By this I mean  
17 the size of the data set is often very important.

18 Is that the underlying population being  
19 large or the sample size?

20 A. In this case I'm talking about the sample  
21 size being large enough to capture the features of the  
22 underlying population.

23 Q. Again with reference to your rebuttal  
24 testimony, I want to talk a bit about your visits to  
25 reference stations. Can you tell me who visited the

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1 Elsberry Station?

2 A. The Elsberry Station was visited by Timothy  
3 Waldron and myself.

4 Q. And what about the Union Station, Union,  
5 Missouri Station?

6 A. Also by Timothy Waldron and myself.

7 Q. And Jerseyville, Illinois?

8 A. Mr. Ken Berra of Laclede.

9 Q. Let me ask you, did you instruct Mr. Berra  
10 as to what to look for and --

11 A. Yes. Prior to his visit we had a telephone  
12 conversation, and at that time I instructed him on  
13 various things to be looking for and questions to be  
14 asking during -- to be asked during his visit.

15 Q. So you didn't give him a punch list or  
16 prepared list of items that he would need to do?

17 A. No. He had reported to me his proposed list  
18 of information he wanted to extract from his -- from  
19 his visit, and that was sufficient in my regard.

20 Q. But he did not accompany you to either  
21 Elsberry or Union?

22 A. No, he did not.

23 Q. Let me ask you, how did the Company winnow  
24 your name out of the universe of people? Did they go  
25 through the University?

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1 A. I have no idea how they actually approached  
2 me. I never asked that question, to be honest.

3 Q. Are you responsible to the University when  
4 you take assignments like this?

5 A. No. This is as a consultant, as a private  
6 consultant. I should clarify that I do -- besides my  
7 University research, I'm also very involved in the  
8 St. Louis community, and so I am in constant contact  
9 with various people at Laclede.

10 Q. But you don't have to clear assignments like  
11 this with your fellow faculty members and that sort of  
12 thing?

13 A. No. We do have to resolve once a year any  
14 conflict of interest. We have to report if there's  
15 any perceived conflict of interest.

16 Q. When did the Company retain you to do this  
17 work?

18 A. I signed a contract in May of 1999.

19 Q. And when did they first -- if the contract  
20 was signed in May, when did they first contact you?

21 A. It was in late spring. I'm sorry. I don't  
22 have the exact date, but I would guess April.

23 Q. And what did the contract require you to do?

24 A. The main focus of our initial work was to  
25 explore through the use of data analysis and

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1 statistics, analysis and statistics, the performance

2 of a ten-year normal rolling average versus the  
3 30-year NOAA normal, and also to see if there might  
4 even be better tools to be used for weather  
5 normalization rather than these -- rather than the  
6 current and proposed.

7 Q. Do you have a copy of your contract with  
8 you?

9 A. No, I do not at this time.

10 Q. And I understand that your testimony is the  
11 extent of your product for the Company?

12 A. Yes, my testimony is the extent. I have  
13 prepared no other formal reports for the Company.

14 Q. Have you prepared informal reports for the  
15 Company?

16 A. Just updates that were used as the  
17 background material in support of preparing rebuttal  
18 and surrebuttal testimony.

19 Q. On page 2 of your rebuttal testimony, at  
20 lines 2 through 8, you criticize Mr. Patterson's use  
21 of the Student's t-test on the basis that the data  
22 underlying Mr. Patterson's calculation of mean annual  
23 HDD is not normal.

24 A. I'm sorry. Is this in my rebuttal  
25 testimony?

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1 Q. Yes, sir. Surrebuttal. I'm sorry.

2 A. Okay. Thank you.

3 Q. I'm sorry.



4 MR. MCNEIVE: What page again, please,  
5 counsel?

6 MR. SCHWARZ: Page 2.

7 MR. MCNEIVE: Thank you.

8 THE WITNESS: Yes, I see the statement  
9 you're referring to.

10 BY MR. SCHWARZ:

11 Q. Is it correct that you contend that  
12 Mr. Patterson must provide support for an assumption  
13 that annual HDD are normally distributed?

14 A. That would be one of the minimum criteria.  
15 There are also other criteria for using a Student  
16 t-test or in this case a parametric statistic in lieu  
17 of a nonparametric statistic.

18 Q. Is it your belief that annual measures of  
19 temperature such as HDD or cooling degree days, which  
20 is the summer, flip of it, are usually regarded as  
21 coming from normal distributions?

22 A. I can't answer that question if we're -- and  
23 again, let me first qualify that we're talking normal  
24 in the statistical sense, not normal in the sense that  
25 we refer to 30-year normals here. I want to make that

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1 very clear.

2 I can't answer that question in the context  
3 of an arbitrary data set. One would have to look at  
4 the specific data set that you're dealing with to draw  
5 that conclusion.

6 Q. Have you ever studied or read studies  
7 regarding the underlying distribution of annual  
8 heating degree days?

9 A. No, I have not.

10 Q. Do you agree that the central limit theorem  
11 states that the probability distribution for a sum of  
12 independent random variables of a given sample size  
13 approach a normal distribution as the sample size gets  
14 large?

15 A. That's a fair statement for the central  
16 limit theorem, yes.

17 Q. would you agree that when nothing is known  
18 about the common distribution of the original data,  
19 the rule of thumb used by Applied Statistician is that  
20 a sample size value greater than 25 is usually  
21 adequate for the distribution of the sum to resemble a  
22 normal distribution?

23 A. would you repeat the question, please?

24 Q. would you agree that when nothing is known  
25 about the common distribution of the original data, a

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1 rule of thumb used by Applied Statistician is that a  
2 sample size value of greater than 25 is usually  
3 adequate for the distribution of the sum to resemble a  
4 normal distribution?

5 A. I'm sorry. I just need a moment to think  
6 about that. It's somewhat awkward wording in the  
7 context I'm used to for that.

8 A sample size larger than 25 could often be  
9 an indicator to test whether or not a distribution is  
10 approaching that limit. I wouldn't go so far as to  
11 say that the specific statement that that -- that your  
12 quote or your question concluded with, which is a  
13 presumption that that's where we're going with the  
14 distribution, because the default is that it might not  
15 be normal.

16 Q. Fair enough. Do you agree that the annual  
17 heating degree days are simply the sum of daily  
18 heating degree days over the entire year?

19 A. Yes.

20 Q. Are you familiar with the assumptions about  
21 the distribution underlying precipitation data?

22 A. No, I'm not.

23 Q. Are you familiar with the 1987 article by  
24 Karl & Williams that deals with testing and estimating  
25 discontinuities of weather stations caused by station

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1 location and/or instrument changes?

2 A. Are we referring to his article in Journal  
3 of Climate and Applied Meteorology?

4 Q. That's it.

5 A. Yes, I am. I've read the article.

6 Q. Do you know whether or not Karl & Williams  
7 recommend using a Student's t-test for testing  
8 statistical hypotheses regarding temperature and the  
9 Wilcoxon rank sum confidence interval for

10 precipitation?

11 A. Yes, that's correct. And I would like to  
12 point out here that a distribution of temperature is  
13 not necessarily the distribution of heating degree  
14 days.

15 Q. At line 7 on page 2 you indicate that the  
16 test you applied is one that is used for testing the  
17 equality of medians of two data sets; is that correct?

18 A. I'm sorry. I have to resort back.

19 Q. Yeah.

20 A. Yes, that's correct.

21 Q. What's the difference between a mean and a  
22 median?

23 A. A mean value as we typically refer to that  
24 is the arithmetic mean, which is where we would sum up  
25 all of the elements and divide by the number of

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1 elements.

2 By the median, we are identifying the number  
3 in which half of the elements would fall -- would have  
4 numbers above that median value and the other half  
5 would fall below it.

6 Q. And those are ranked in order, are they not?

7 A. That's correct.

8 Q. Do you agree that temperature normals are  
9 reported in terms of means and not medians?

10 A. Temperature normals are reported in terms of  
11 means and not medians, that's correct.

12 Q. In the test of medians that you made, did  
13 you make any adjustments to the data for the  
14 instrument changes and station moves that have  
15 occurred at Lambert Field?

16 A. In performing my analysis, I used both  
17 unadjusted data and I also used the data provided by  
18 staff, which incorporated Dr. Hu's adjustments. I  
19 performed the analysis two times, one with each set of  
20 data.

21 Q. Which do you report in your testimony?

22 A. I obtained the same results in terms of the  
23 level of statistical significance regardless of which  
24 of the two data sets that I used.

25 Q. Again in your surrebuttal testimony, at

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1 page 3, you state that Dr. Hu's 1988 Lambert location  
2 data -- excuse me. Strike that. Let me start over  
3 and try to get my tongue out of the way.

4 MR. MCNEIVE: Could we have a line, too, if  
5 we could, counsel? Thank you.

6 MR. SCHWARZ: It's line 13.

7 MR. MCNEIVE: Thank you, sir.

8 BY MR. SCHWARZ:

9 Q. You state that Dr. Hu's 1988 Lambert  
10 location change is not documented in the official  
11 station history.

12 A. Yes, I do.

13 Q. What sources did you search to make a

14 determination that the 1988 location change at Lambert  
15 is not documented in the official station history?

16 A. I need a moment, please.

17 Q. Sure.

18 A. The official station history that I used was  
19 that provided in Appendix A to Dr. Hu's February 1999  
20 testimony in the case of Union Electric Company.

21 Q. Is this the only source you used for  
22 reaching your conclusion?

23 A. For reaching the conclusion regarding the  
24 official station history, yes, it is.

25 Q. Why did you limit your search to only this

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1 one source?

2 A. There have been previous discussions in  
3 testimonies in previous cases -- in depositions, I  
4 should say, and -- actually I must distinguish. I  
5 don't recall if it's in deposition or testimony. I  
6 would be willing to pull it out, from previous  
7 cases -- regarding whether or not that did occur.  
8 My recollection is that this was determined by Staff  
9 or by Dr. Hu that this change did occur, although it  
10 did not appear in the station history that I have just  
11 referenced.

12 So as far as consulting other station  
13 history records, the other available source would  
14 presumably be to go to NCDC directly. I did go to the  
15 Midwest Climate Center, which is a regional office,

16 and after several weeks -- requesting information of  
17 all four stations, and after several weeks I came back  
18 with, Oh, you need to go talk to NCDC. At that point  
19 we're now present here.

20 Q. I'm from the government. I'm here to help  
21 you.

22 Are you aware that while in the 1961 to 1990  
23 30-year normal NOAA made an adjustment for a 1978  
24 weather station move at Lambert Field; in NOAA's 1951  
25 to 1980 30-year normal, no such adjustment was made?

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1 A. I wasn't aware of the latter. I am aware of  
2 the former.

3 Q. Would the exclusion of an adjustment for a  
4 1978 weather station move in NOAA's 1951 to 1980  
5 30-year normal indicate that NOAA's adjustment for  
6 weather station moves might be delayed for any number  
7 of reasons?

8 MR. MCNEIVE: I'm going to object to the  
9 form of the question. It assumes that NOAA did  
10 exclude something. There's no foundation laid that  
11 NOAA excluded anything in the period 1951 to 1980. So  
12 I'd object to the form of the question unless he wants  
13 to lay a foundation for that, Judge.

14 JUDGE DIPPELL: Mr. Schwarz?

15 MR. SCHWARZ: I'll withdraw the question.

16 BY MR. SCHWARZ:

17 Q. Are you familiar with the method used by

18 NOAA to make adjustments for changes that occur at  
19 weather stations?

20 A. I have read summaries of the method, yes, I  
21 have.

22 Q. Is this method detailed in the Karl &  
23 Williams paper published in December 1987 in the  
24 Journal of Climate and Applied Meteorology that we  
25 just referred to?

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1 A. That is indeed my understanding.

2 Q. Is it your understanding that NOAA uses  
3 monthly temperature data as the basis for its analysis  
4 and estimated corrections?

5 A. It's my understanding that NOAA in one of  
6 its application products prepares monthly sequentials,  
7 which would be the data having these adjustments.

8 Q. Do you know what data it uses to make those  
9 adjustments?

10 A. What raw data that it's using to make those  
11 adjustments?

12 Q. Yes. Monthly or daily?

13 A. I don't recall.

14 Q. Is it also your understanding that NOAA  
15 estimates corrections for each month?

16 A. That's an issue that still needs to be  
17 resolved. In Karl & Williams -- and when I say  
18 resolved, of course, in terms of my research it needs  
19 to be resolved.



20 In Karl & Williams, they state that, In our  
21 analyses we use seasonal, sometimes annual  
22 difference --

23 Q. Where are you, sir?

24 A. -- analog ratio series. Yes. It's page  
25 1746, the last sentence of column 1 which continues

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1 over to the top of column 2.

2 Q. Right. I have it.

3 A. You have that?

4 Q. Yeah.

5 A. So in parentheses they have sometimes  
6 annual. So they're making seasonal, and I don't  
7 recall whether or not that's quarterly or monthly.

8 Q. Do you know what they did for the 1978  
9 adjustment at Lambert?

10 A. My basis for what they did in the 1978  
11 adjustment at Lambert was a data response, data  
12 request response submitted by Staff which had values  
13 that varied by month.

14 Q. If a change occurs, say, in January of 1978  
15 and normals are calculated through December of 1980,  
16 how much data would be available after the change for  
17 estimating the correction for each month?

18 A. Just a moment. Let me grab a sheet of  
19 paper, please. If we can go through this again. When  
20 we start using specific dates, I need to make a small  
21 sketch. Please repeat it.

22 Q. Sure. If a change occurs in January 1978,  
23 normals are calculated through December 1980, how much  
24 data would be available after the change for  
25 estimating the correction for each month?

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1 A. If we're talking monthly data in this case?

2 Q. Correct.

3 A. So we would have 1978, excluding January  
4 1979, and also then all of 1980. So we would have 36  
5 minus 1. That would be 35 months of data.

6 Q. If we're doing each month separately, that's  
7 your --

8 A. If we're doing each month separately, you  
9 would have the data from those specific months. So  
10 for all of the months -- sorry. I just need to make  
11 sure I'm getting my math right here in doing this.

12 For all the months you would have 1979 and  
13 1980 data, and in 1978 you would have everything  
14 except January. So you would have two to three,  
15 depending on which month we're talking about.

16 Q. In your opinion, are three data points after  
17 the change sufficient to make an estimate of the  
18 change on a monthly basis?

19 A. Certainly not. But I must also qualify  
20 that, that my response is with respect to the specific  
21 example you have given me of this data series  
22 consisting of only 35 months.

23 Q. Could this be one of the reasons that NOAA

24 did not include a correction for the 1988 change in  
25 its 1961 to 1990 normals?

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1 A. I'm not in a position to articulate why NOAA  
2 would or would not have made changes.

3 Q. But is it possible that that's one of the  
4 reasons?

5 A. It's certainly possible, yes.

6 Q. Would you agree that there may be other  
7 published sources of station history from NOAA that  
8 can also be considered official such as the  
9 Preliminary Coop Station Numbers Master List put out  
10 by the NCDC?

11 A. Yes.

12 Q. Have you seen Mr. Patterson's response to  
13 the Company's Data Request No. 129?

14 A. Yes, I have.

15 Q. Would you agree that the Preliminary Coop  
16 Station Numbers Master List put out by the NCDC  
17 indicates that there was some source of potential  
18 discontinuity in temperature readings that occurred in  
19 July of 1988?

20 A. First I must state that I received -- that  
21 this document was received by the Company on  
22 August 27, and I just looked at it over the last day  
23 very briefly.

24 Also, as pointed out by the submitter from  
25 staff, it is a rather complicated form to interpret,

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1 and the Staff was generous enough to provide some  
2 guidance on how to interpret it.

3 But I honestly have not sat down and done a  
4 thorough analysis to determine exactly what that form  
5 is trying to tell me at this point given the short  
6 time frame from when we received that response.

7 Q. So at the present time, you can neither  
8 confirm nor deny that data source as a source of the  
9 1988 discontinuity?

10 A. That's correct. That would be subject to my  
11 actually making sure that I know how to read this  
12 particular chart.

13 Q. Dr. Turner, is it your position that if  
14 performed in an appropriate manner, there should be  
15 adjustments made for the exposure changes that  
16 occurred in 1988 and 1996 at Lambert even though NOAA  
17 has not yet made these adjustments?

18 A. Adjustments should be made to the  
19 temperature series if any potential discontinuity is  
20 identified to have a significant bias and that there's  
21 sufficient statistical support that that bias is  
22 statistically significant. In the absence of such  
23 information, then adjustments should not be made.

24 Q. Have you made a determination as to whether  
25 or not the 1988 and 1996 changes at Lambert resulted

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1 in significant bias?

2 A. No, I have not.

3 Q. Why not?

4 A. As I mentioned, the initial focus of our  
5 work was to address the idea of normals, long-term  
6 versus shorter term rolling average normals.

7 It was also brought to my attention very  
8 early in the process that I might be called upon to  
9 address this issue of temperature adjustments or  
10 adjustments to the temperature series, but at that  
11 point in time there was still an ongoing case  
12 between -- rate case between Staff and Ameren or Union  
13 Electric, and it wasn't clear at all what direction  
14 any adjustments would take place and how that might  
15 then play out, if at all, in this particular case.

16 So given that, when the testimony in June  
17 from Dr. Hu was available in June, my analysis at that  
18 time focused on analyzing the adjustment that he had  
19 proposed, and I did not have the resources or simply  
20 the time. It's a very time consuming process to  
21 actually perform the analysis to show, if adjustments  
22 were to be made, what would be the correct adjustments  
23 to make.

24 Q. Turning again to your surrebuttal testimony  
25 on page 9, at line 20.

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1 A. Yes.

2 Q. The question suggests that Staff is using a  
3 30-year normal to predict heating degree days?

4 A. That is what the question states, yes.

5 Q. Can you show me any place in Staff's  
6 rebuttal testimony where Staff suggests that a NOAA  
7 30-year normal is appropriate for predicting heating  
8 degree days?

9 A. I did not mark in the Staff testimony that  
10 particular item and do not see it at this point.

11 Q. If you would, do you have a copy of Dennis  
12 Patterson's rebuttal testimony?

13 A. Yes, I do.

14 Q. Would you turn to page 7 of that rebuttal  
15 testimony?

16 A. Sure. Yes.

17 Q. Would you read the question and answer that  
18 begins on line 2 into the record?

19 A. Yes. Question: Does the Staff use heating  
20 degree day normals as predictors?

21 Answer: No, it does not. Missouri is a  
22 test year state. In Missouri, utility sales data from  
23 a test year are adjusted for departures from the  
24 normal condition in order to calculate a revenue  
25 requirement in a set of rates for a year where the

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1 normal conditions would have been experienced. Of  
2 course, the utility and ratepayer have equal shares in

3 the risk that any number of upcoming years will  
4 experience conditions that are not normal.

5 Q. That's fine. Thank you.

6 MR. SCHWARZ: That's all the questions I  
7 have at this time.

8 JUDGE DIPPELL: Are there questions from the  
9 Bench for Dr. Turner, Chair Lumpe?

10 CHAIR LUMPE: Yes.

11 QUESTIONS BY CHAIR LUMPE:

12 Q. Dr. Turner, on page 19 of your rebuttal, you  
13 say, The arcane notion that the NOAA 30-year normal is  
14 a NOAA, quote, sanctioned, unquote, predictor. As  
15 sort of a follow-up, are you using the 30-year normal  
16 as a predictor then?

17 A. Would you just repeat the last question? I  
18 did understand everything up until then. Am I using?

19 Q. Your quote about using the 30-year norms as  
20 a NOAA, quote, sanctioned, unquote predictor, given  
21 the question that was just asked and the response --

22 A. Yes.

23 Q. -- are we using 30 years as a predictor,  
24 then?

25 A. It's my understanding that we are using 30

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1 years as a predictor because, despite the quote that I  
2 was just asked to read, that quote talked about  
3 heating degree day normals and predictors, and that is  
4 referring to the 30-year normal. In my opinion, it is

5 being used as a predictor currently.

6 Q. And it is your position that a ten-year or a  
7 ten-year rolling normal is a preferred predictor if  
8 we're going to be predicting the weather?

9 A. Actually, I performed an analysis for the  
10 Company where I looked at a variety of options, and in  
11 particular I looked at a variety of rolling averages.  
12 My analysis actually showed that a five-year rolling  
13 average was the preferred, of all the options that I  
14 investigated, was the preferred for predicting a test  
15 year value or essentially the next year's value, but a  
16 ten-year was still -- the five-year was superior to  
17 the 30-year normal. The ten-year was still superior  
18 to the 30-year normal.

19 So my conclusion was that a five from my  
20 analysis would be the best, but if not a five, at  
21 least the ten would still be better than using the 30.

22 Q. And the reference to 15-year, where does  
23 that fit in this?

24 A. I'm sorry. There's a --

25 Q. There's some reference to here --

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1 A. Yes.

2 Q. -- about using 15 years.

3 A. Yes, there is.

4 Q. Where does that fit?

5 A. I believe that's in my surrebuttal  
6 testimony, if I may look for that one moment.



7 Yes. In my surrebuttal testimony on  
8 page 10, I quote an excerpt -- I present an excerpt  
9 from a paper by Lamb and Changnon where, unbeknownst  
10 to me when I performed my statistical analysis, they  
11 had also done a very similar analysis many years  
12 prior, and then through a literature search this  
13 became available to me, this paper.

14 And in that particular case they  
15 investigated -- in my case I investigated every year  
16 from 1 to -- I'd have to look at my notes. It was  
17 either 20 or 25 years rolling averages. In their  
18 case, due to the difficulty with computers and such  
19 back then, limited resources, they simply looked at 5,  
20 10, 15, 20 and 25 years as potentials.

21 They also found that the 5 was the best and  
22 that 10 was better, still better than the traditional  
23 30. The 5 was better than the 10, but the 10 was  
24 still better than other options. So the 10 was better  
25 than the 15. The 15 was better than the 20 and so on.

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1 Q. And the preference is five, but you didn't  
2 recommend five?

3 A. To the Company I didn't recommend five? The  
4 Company had already taken a position that they would  
5 like to go with ten, and so I simply presented to them  
6 an analysis that says ten is better than 30.

7 Q. And your response to the notion that a test  
8 year -- we use test year and that that's what we use

9 in our determination versus trying to predict the  
10 weather?

11 A. My understanding of the process is we true  
12 up various things that I don't fully understand about  
13 the rate process, but they're trued up using a test  
14 year, and then our presumption is that the same  
15 climate or weather conditions will hold over the next  
16 few years until another rate is established using some  
17 other test year. That's my understanding of the  
18 process.

19 Q. I asked Ms. Krieger about double mass, and  
20 she suggested you would be the preferred one to ask  
21 about that.

22 A. I've looked at it, yes.

23 Q. What's your opinion of it?

24 A. My opinion of it is that it's extremely  
25 lacking for an application such as this. I've read

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1 many papers in the literature over the last two months  
2 in preparation of this, in the scientific literature,  
3 and the one -- while I could talk for quite a long  
4 time about this, I think one of the most striking  
5 features is in one paper they articulate nine  
6 different objective ways of making adjustments, nine  
7 different methods for making adjustments to  
8 temperature data for situations such as this.

9 The double mass analysis was actually listed  
10 as a subjective method. So it's much more dependent

11 on the user.

12 And there's another paper that I have, that  
13 I'd be again happy to share with you, where they  
14 looked at the ability of various of these totals to  
15 detect changes, to detect changes of the so-called  
16 discontinuities in the temperature series that we've  
17 been referring to.

18 In double mass analysis, out of -- it was six  
19 or seven techniques. Again, I could look up the exact  
20 number of methods. It was at the bottom of the list  
21 in terms of its ability to detect changes in these  
22 series.

23 So in my opinion, there's more powerful  
24 techniques that really need to be investigated, and it  
25 is a time-consuming process.

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1 CHAIR LUMPE: Thank you.

2 JUDGE DIPPELL: Commissioner Schemenauer,  
3 did you have questions?

4 COMMISSIONER SCHEMENAUER: Yes, thank you.

5 QUESTIONS BY COMMISSIONER SCHEMENAUER:

6 Q. On your surrebuttal, Doctor, on page 10, you  
7 state you did your analysis and you came up with a  
8 five-year optimal and ten-year normal. Would your  
9 study and analysis apply to -- I assume you did it for  
10 the St. Louis area?

11 A. Yes.

12 Q. Would that be true for the Kansas City area,  
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13 the Chicago area?

14 A. I actually don't know, but that's a very  
15 good question. As a scientist I really only feel  
16 comfortable saying that if I actually did the  
17 analysis.

18 But if I can refer you to page 11, please,  
19 at the very top from the Lamb and Changnon paper, they  
20 do have an interesting point that I elected to place  
21 in my testimony, which is, if I may quote, The general  
22 similarity of the results obtained along the entire  
23 500-kilometer north/south Illinois transect -- that's  
24 the domain that they studied, various locations along  
25 in Illinois -- suggests that -- transect suggests that

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1 they should be reasonably transferable to other parts  
2 of the central United States.

3 Now, I'm not in a position right now to say  
4 what central U.S. would be, but Lamb and Changnon when  
5 they did their analysis felt comfortable enough to say  
6 it went beyond the precise towns or stations that they  
7 were looking at.

8 Q. And the 500 mile -- or the 500 kilometer  
9 north/south transect, was that in the Chicago area?

10 A. I don't recall.

11 Q. The study that you quoted also didn't -- I  
12 mean, it included temperature and precipitation, and  
13 would you say that precipitation in 1999 would mean a  
14 five-year average for 1993 to 1998 in St. Louis?

15           A.     I must be honest that I have intentionally  
16 stayed away at this point in time from the  
17 precipitation issue. There's some distinct  
18 differences.

19           Q.     Their study did include precipitation?

20           A.     Yeah, it did, and I mention it right here in  
21 the quote. But I -- unfortunately, I apologize, but I  
22 just don't have the -- have not looked into that  
23 precipitation issue to make that extension.

24           COMMISSIONER SCHEMENAUER: That's all I  
25 have. Thank you.

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1           THE WITNESS: You're welcome.

2           JUDGE DIPPELL: Thank you. Is there recross  
3 for Dr. Turner from AmerenUE?

4           MS. KNOWLES: No.

5           JUDGE DIPPELL: Public Counsel?

6           MR. MICHEEL: No, your Honor.

7           JUDGE DIPPELL: Staff?

8           MR. SCHWARZ: A couple.

9 RECCROSS-EXAMINATION BY MR. SCHWARZ:

10          Q.     In terms of prediction, is prediction of  
11 next year's weather different than prediction of the  
12 next few years?

13          A.     Mathematically, yes, there would be  
14 differences.

15          Q.     Which did you do for your testimony?

16          A.     For my testimony, I prepared an analysis  
Page 53

17 where I looked at various rolling averages up to a  
18 test year and looked at its ability to predict the  
19 test year. So I did not -- I did not look forward.

20 MR. SCHWARZ: I think that's all.

21 JUDGE DIPPELL: Is there redirect?

22 MR. MCNEIVE: Yes, your Honor, just a few  
23 questions.

24 REDIRECT EXAMINATION BY MR. MCNEIVE:

25 Q. I think you were asked some questions by the  
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1 Staff about Karl & Williams' document. Do you recall  
2 that?

3 A. Yes, I do.

4 Q. Have you reviewed that document, sir?

5 A. Yes, I have.

6 Q. Do you, based upon that review, find that  
7 the adjustment being made by Dr. Hu is being made  
8 consistent with the requirements of that?

9 A. No, it is not.

10 Q. Would you explain why not?

11 A. The approach taken by NOAA as articulated by  
12 Karl & Williams uses a relatively robust set of  
13 statistical measures to make their adjustments.

14 In the proposed adjustments set forth by  
15 Staff, there's no statistical underpinnings into the  
16 adjustments being presented. Some calculations were  
17 done, but no statistical determination of whether or  
18 not those changes were significant or not. Nor were

19 the data time series selected determined statistically  
20 to be the optimal.

21 Q. You say the data time series selected were  
22 not determined to be statistically the optimal. What  
23 do you mean by that?

24 A. In Karl & Williams, in their technique, what  
25 they do is look at the time periods before and after a

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1 change and run many analyses and look at what's called  
2 the confidence interval, and they take the subset of  
3 the data prior to the change in the subset of the data  
4 following the change that has the most -- it's the  
5 data with the highest confidence.

6 So they don't necessarily say we're going to  
7 take all the data right up to the date and then all  
8 the data right after or how they pick it, at what  
9 point they do chop off the data. They don't a  
10 priority say that we're going to keep a record that is  
11 1, 5, 20, 30 years. They use statistical bases for  
12 determining how they chop up their data.

13 Q. Is the way Dr. Hu's presentation appears  
14 here, did he do his chopping of data consistent with  
15 Karl & Williams, in your opinion?

16 A. Not at all.

17 Q. Would you explain why?

18 A. The work performed by Dr. Hu takes anywhere  
19 from a five to a six-year period, chooses or  
20 identifies the date at which the change took place,

21 and then, my understanding, goes back two years  
22 previously.

23 So if I can just put that in a little  
24 different terms. I understand that might be a little  
25 confusing. Essentially, let's say we're working with

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1 a five-year period of data. If a change occurs in  
2 February of a year, we would go to January and then  
3 back two more years and start our time series and  
4 march forward five years from there.

5 Q. Thank you. You were asked some questions  
6 about the 1978 discontinuity that occurred in Lambert  
7 by Staff. Do you recall that?

8 A. Yes, I do.

9 Q. And I believe they referenced you to some  
10 information you received -- we received in Staff  
11 response to our Data Request No. 34 that showed a  
12 calculation by Staff of how that NOAA adjustment was  
13 done. Do you recall that, sir?

14 A. Yes, I do.

15 MR. SCHWARZ: I'll object. I don't think we  
16 made any reference to Staff DR 34.

17 MR. MCNEIVE: Well, your Honor I think they  
18 asked the entire question. He mentioned that that's  
19 where he got the information, and I do believe that  
20 there was a reference to the fact that we had received  
21 the information from them. They had quite a bit of  
22 discussion about 1978.



23 JUDGE DIPPELL: Which data request? What is  
24 the data request?

25 MR. MCNEIVE: The data request that I'm

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1 referring to is Data Request No. 34 that we received  
2 from Dennis Patterson of the Staff, and it refers to  
3 the 1978 change at Lambert.

4 JUDGE DIPPELL: Mr. McNeive, you're saying  
5 it wasn't the question but the answer that related to  
6 that data request?

7 MR. MCNEIVE: Yes. They opened that up, and  
8 I wanted to --

9 MR. SCHWARZ: I'll withdraw my objection.

10 JUDGE DIPPELL: Thank you.

11 MR. MCNEIVE: If I may proceed?

12 JUDGE DIPPELL: Go ahead.

13 BY MR. MCNEIVE:

14 Q. My question is, do you recall that  
15 questioning from Staff, sir?

16 A. Yes, I do.

17 Q. And in that 1978 change that NOAA made that  
18 Data Request No. 34 reflects a reflection of how that  
19 pattern of change occurred. Do you have Data Request  
20 No. 34 available to you?

21 A. I do. It's in front of me.

22 Q. I'm going to refer you to page 1 as numbered  
23 at the bottom of that, sir, and that contains, does it  
24 not, a long series of data that looks like it began in

25 1961 and continues on all the way through, if you go  
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1 through the pages, all the way through 1990, correct?

2 A. That's correct.

3 Q. And during the period of 19-- of the 1978  
4 change, could you describe how that is patterned in  
5 the calculation provided by Staff?

6 A. Prior to that change, from 1961 up to that  
7 change date, there are adjustments to the data which  
8 vary by month, so a January adjustment and then a  
9 separate February adjustment and then a separate March  
10 adjustment and so on.

11 Q. Well, when you say they vary by month, does  
12 that mean the factor, for example, if you look at that  
13 for 19-- let's take one, December of 1992. Do you see  
14 that, sir?

15 A. Yes.

16 Q. The factor shown there is .95, isn't it?

17 A. I'm sorry. Which year are you referring to?

18 Q. I'm referring to 12 -- pardon me -- the 12th  
19 month 1962, page 1.

20 A. Yes.

21 Q. And that factor is .95, correct?

22 A. Correct.

23 Q. And then if we went down into the summer of  
24 '93 -- pardon me -- '63, which would be 6/1963, the  
25 factor there is 1.18, correct?

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1 A. That's correct.

2 Q. Can you describe, if you know, why those  
3 numbers would have that variation in them?

4 A. They have that variation because there  
5 are -- it was necessary to make seasonal adjustments  
6 because the way that sensors respond varies with the  
7 environmental conditions. It could have to do with  
8 solar radiation. It could have to do with wind speed.  
9 They're going to respond differently for different  
10 seasons, in this case as articulated through different  
11 monthly adjustments.

12 Q. I think you were asked a question by Staff  
13 about a Data Request No. 129 that we received just  
14 recently, and you professed an inability to have the  
15 time yet to understand the charts; is that correct?

16 A. That's correct.

17 Q. Was there a textual part to that Data  
18 Response No. 129 in addition to the charts, sir?

19 A. Yes, I recall there was. One moment,  
20 please. I have it.

21 Q. Sir, I'm going to refer you to the response  
22 to DR 129, and the first page of that is a page that  
23 has three ABCs on the left-hand side. Do you see that  
24 as marking paragraphs?

25 A. Yes, I do.

□

1 Q. All right. And on B4, it says, In March  
2 1989 NCDC records another possible discontinuity in  
3 the reading of daily temperatures for an altitude  
4 adjustment at the weather station. Do you see that?

5 A. I do.

6 Q. What was your reaction to that information  
7 when you received it?

8 A. My reaction to that is that to report that  
9 there was another possible discontinuity but not to  
10 investigate, not being presented with an investigation  
11 whether or not that discontinuity would require any  
12 adjustment to the time series raises serious questions  
13 about the quality of the adjusted temperature series  
14 being proposed.

15 Furthermore, that particular date, March  
16 1989, is only 13 months away from a proposed date  
17 change. And so now we're faced with the issue that if  
18 two changes have taken place over such a short period  
19 of time, that draws into question the analysis that  
20 was performed by Staff in February 1988 because it  
21 used data that extended through this now possible  
22 discontinuity being reported here.

23 So in my opinion it throws the 1988 -- the  
24 1988 proposed adjustment subject to reanalysis, but  
25 then again for other reasons I've already contended in

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1 my -- in my rebuttal and surrebuttal that that  
2 analysis was invalid.

3 Q. You were asked certain questions, and I  
4 think you were asked to read a portion of  
5 Mr. Patterson's testimony on how a 30-year normal in  
6 his opinion is not being used as a predictor. Do you  
7 recall that question?

8 A. I do.

9 Q. And I think your response was, your view, it  
10 was actually being used as a predictor; is that  
11 correct?

12 A. By all means.

13 Q. And is the basis for your response that, if  
14 the Commission's setting rates going forward as they  
15 do in rate cases, that they have to necessarily --

16 MR. SCHWARZ: I'm going to object. The  
17 question at issue related to Staff's position, not to  
18 Mr. Turner's position, not to the Company's position,  
19 but to Staff's position. This goes beyond the scope  
20 of cross.

21 MR. MCNEIVE: If I may respond. He opened  
22 all of this up when he wanted to present -- had our  
23 witness respond to the Staff's position. I think it's  
24 only fair to understand more fully why our witness who  
25 was asked to respond to their position feels the way

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1 he does.

2 MR. SCHWARZ: I don't believe so. The only

3 purpose of my question was to clarify an erroneous  
4 representation in the witness' rebuttal testimony,  
5 namely the implication in that testimony that Staff  
6 was using the 30-year normal as a predictor.

7 It was a very narrow and limited question,  
8 and that was the only purpose of the question. It did  
9 not venture into the witness' view of rate theories,  
10 but only as to Staff's.

11 JUDGE DIPPELL: Mr. McNeive?

12 MR. MCNEIVE: He asked the question, your  
13 Honor. Now he doesn't want our witness to explain his  
14 answer. I would like him to have the opportunity.

15 JUDGE DIPPELL: Can you repeat the question  
16 that you want to ask, Mr. McNeive?

17 MR. MCNEIVE: I want to ask the witness the  
18 question, what was his basis for saying that he  
19 believed, contrary to Staff, that actually the 30  
20 years is being used as a predictor in setting rates.

21 MR. SCHWARZ: That goes beyond the scope of  
22 my question. My question was limited to what was  
23 Staff's representation of Staff's position. Now he's  
24 asking his witness what is his witness' belief that  
25 Staff's position should have been in its testimony,

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1 and that's -- that's inappropriate.

2 MR. MCNEIVE: Your Honor, I might add one  
3 thing since we seem to be having a back and forth  
4 here. In addition to that question, Chair Lumpe also

5 asked him questions about predictiveness of 30 and 10  
6 and how it's used, and I think it's all appropriate to  
7 the question.

8 JUDGE DIPPELL: I'm going to allow --

9 MR. SCHWARZ: Well, at least I'd ask that  
10 the question be rephrased to eliminate any reference  
11 to what Staff's position ought to be. If he wants to  
12 follow up on Chair Lumpe's question, he can follow up  
13 on Chair Lumpe's question, but he should not be  
14 permitted basically to put words in Staff's mouth  
15 through his witness.

16 MR. MCNEIVE: I'm not trying to put words in  
17 Staff's mouth at all. They have their position. It's  
18 obvious in the record. We disagree with it.

19 JUDGE DIPPELL: I am going to allow you to  
20 ask the question based on that you are correct that  
21 Chair Lumpe did ask questions about the best  
22 predictors. I don't want you to ask your witness to  
23 repeat his positions which are in his direct testimony  
24 that we've already read and will read again. So you  
25 may redirect.

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1 BY MR. MCNEIVE:

2 Q. Regarding the predictiveness of a 10-year  
3 versus a 30-year which has been used at least in the  
4 past at this Commission, would you please explain why  
5 you feel the 10-year is better than a 30-year?

6 A. The 10-year is a -- is better than a 30-year

7 because, in this particular application, what we are  
8 doing is trying to predict, or forecast if you prefer  
9 to use that term, what the heating degree days will be  
10 over the next few years, few being until the next -- I  
11 would assume until the next rate case is held.

12 So my statistical analysis has showed that  
13 for the purposes of make-- of using historical data to  
14 predict or to forecast what will happen in the next  
15 year, that the 10-year was far superior to the 30-year  
16 normal.

17 Q. I believe Chair Lumpe also asked you a  
18 question about your opinion of the DMA analysis  
19 approach, did she not?

20 A. Yes, she did.

21 Q. And I believe you said it was extremely  
22 lacking and subjective, did you not?

23 A. I did.

24 Q. Is part of that subjectivity that it  
25 requires for DMA analysis correction to be successful

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1 that the individual performing that must make  
2 corrections that make the future data consistent going  
3 backwards?

4 A. Absolutely. That's one of the critical  
5 tests.

6 Q. And have you tested what Dr. Hu's results  
7 are in that regard here?

8 A. Yes. And I'd like to explain my finding on



9 that in that the issue here is that once -- I'm sorry.  
10 I shouldn't talk when I'm away from the microphone.

11 Once adjustments have been made, proposed  
12 adjustments, once adjustments have been proposed, the  
13 approach is to go back and perform an analysis, in  
14 this case for consistency the double mass analysis, of  
15 that adjusted temperature series, Lambert, St. Louis  
16 Lambert in this case, against some referenced or  
17 reference station or stations to see how it performs.

18 If everything has been appropriately  
19 adjusted, what you will obtain is a graphical  
20 representation of a double mass analysis, and that is  
21 the difference in temperature as a function of time,  
22 between Lambert and the other stations then added up  
23 with time, what you should achieve is a straight line.

24 And all this -- this has been discussed in  
25 Mr. Patterson's surrebuttal, and he shows Schedule 1

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1 in his surrebuttal, Schedule 1 is a demonstration of  
2 that graphical representation of the double mass  
3 analysis with and without the adjustment.

4 So I simply took the data that was provided  
5 by Staff used to make Schedule 1 for Mr. Patterson's  
6 surrebuttal testimony and investigated whether or not  
7 it was indeed a straight line as a function of time.  
8 The test for that, the most appropriate test is that  
9 the period from the most recent change to the present,  
10 and that would be July 1996 to the present, is deemed

11 accurate.

12 MR. SCHWARZ: I'm going to object at this  
13 stage. This is -- should have been filed in rebuttal  
14 testimony and surrebuttal at the latest. The  
15 information was available to him earlier even if  
16 Mr. Patterson's particular graphic representation of  
17 it wasn't.

18 We have -- Staff and Public Counsel and the  
19 other parties haven't had any opportunity to review  
20 this material which should have been presented at an  
21 earlier time.

22 MR. MCNEIVE: May I respond to that?

23 JUDGE DIPPELL: Yes.

24 MR. MCNEIVE: We were just pursuing the  
25 question from the Bench. In response to Mr. Schwarz,

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1 of course, we didn't know until -- or didn't see until  
2 Mr. Patterson filed his testimony, I believe it was  
3 his rebuttal or surrebuttal, I'm not sure, wherever he  
4 has the Schedule 1, we hadn't seen that document yet.

5 And secondly, we gave them a data response  
6 on this subject last week. So they at least knew at  
7 the end of the week what Dr. Turner's talking about  
8 right now. So this isn't really a surprise to them.

9 But it is responsive to the question. I  
10 think he ought to be allowed to at least finish his  
11 answer and then we'll be done with it.

12 JUDGE DIPPELL: I'm going to overrule your

13 objection. You may finish your answer.

14 THE WITNESS: Thank you.

15 So as I was saying, in this approach the  
16 current temperature is treated as the accurate or  
17 correct temperature, and then adjustments are made all  
18 the way back to 1960 to the temperature series using  
19 those adjustments proposed by Dr. Hu.

20 What that means is, if the adjustments are  
21 correct, when we make this double mass analysis graph  
22 we should get a straight line. The straight line  
23 means it should have a constant slope.

24 So I prepared a graph of that nature where  
25 for the most recent period the slope is 2.17, and then

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1 I selected various time periods, five-year time  
2 periods over the range 1960 up to that 1996 date. In  
3 this graph I chose three of those particular periods.

4 JUDGE DIPPELL: At this point let me  
5 interrupt you, Dr. Turner, because you're referring to  
6 a graph that hasn't been admitted into evidence, and I  
7 I'm starting to reconsider my previous ruling. So I  
8 I'm not sure how -- if you want to offer that as an  
9 exhibit, Mr. McNeive --

10 MR. MCNEIVE: Well, since you've raised the  
11 subject, he was using it as a visual aid. I don't  
12 know if you want me to offer it or not. I'm happy to.  
13 I just want him to finish up his answer, frankly.

14 But you brought up the subject of this, so I

15 thought I'd pass it out so everybody could see it who  
16 wants to. And then once he finishes, I'll offer it  
17 and you can do with it as you will.

18 JUDGE DIPPELL: Okay. Well, I will mark it  
19 so that the record is clear as to what the witness is  
20 referring to. I'm going mark it with Exhibit No. --  
21 it's 119.

22 MR. MICHEEL: Your Honor, if I may at this  
23 point, if we're going to start entering exhibits based  
24 on recross-examination and no parties having an  
25 opportunity to review this graph or do

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1 cross-examination, I think it would be wholly  
2 appropriate for the Bench to allow some limited  
3 recross-examination.

4 I mean, it's highly inappropriate to be  
5 putting on new exhibits in recross-examination when  
6 the practice here at the Commission is that no parties  
7 get to ask any further cross-examination questions.

8 JUDGE DIPPELL: I agree with Mr. Micheel,  
9 and so far this has not been entered as evidence on  
10 the record. I am simply marking it at this time so  
11 that in the transcript it is obvious what the witness  
12 is referring to as a visual aid.

13 MR. MCNEIVE: Madam Judge, in response to  
14 Mr. Micheel's point, we have no problem with allowing  
15 the parties to cross-examine Dr. Turner on this  
16 document if that will aid in settling the matter for

17 Mr. Micheel and anyone else.

18 JUDGE DIPPELL: I'm not certain that that's  
19 the appropriate cure at this time because of the  
20 procedure that we follow. This does appear to be new  
21 evidence being presented at this time. And again, I'm  
22 going to let the witness finish his explanation. The  
23 witness may finish his explanation.

24 THE WITNESS: So to finish my explanation of  
25 this analysis, if the adjustments are correct, we

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1 should obtain a straight line, and indeed, if the most  
2 current temperature readings are indeed our basis from  
3 which we then make adjustments to the previous data,  
4 the slope should be 2.17.

5 What we see in this graph are three  
6 different slopes with three periods that I've chosen  
7 here ranging from .8 to 1.46. What this means,  
8 because these slopes are very different from the 2.17,  
9 that the line isn't straight and, therefore, the  
10 adjustments are not correct.

11 BY MR. MCNEIVE:

12 Q. Does that complete your explanation of that  
13 point, Doctor?

14 A. Yes, it does.

15 Q. I have a few other questions. You were  
16 asked, I believe, by Staff with respect to the 1998  
17 discontinuity or event, or whether it's 1999 I'm not  
18 sure, but you were asked the fact that NOAA didn't

19 adjust for that in its 1990 sequentials could have  
20 been because there was insufficient data. Do you  
21 recall that question?

22 A. Perhaps we need to clarify what periods  
23 we're talking about. I believe you mentioned 1998.

24 Q. I'm sorry. I misspoke. I meant 1988. I  
25 apologize.

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1 A. Would you please repeat the question?

2 Q. Yes, sir. I believe you had questions from  
3 staff saying, well, NOAA in their 1990 redo of the  
4 normals didn't make an adjustment for 1988; is that  
5 correct?

6 A. That's correct.

7 Q. And they said, isn't it possible they didn't  
8 have enough data? Do you recall that?

9 A. Yes, I sure do.

10 Q. Is there an adjustment discussed in this  
11 case for June of 1996?

12 A. Yes, there is.

13 Q. Is it possible that when NOAA does their  
14 2000 redo of their normals that they may not do that  
15 particular adjustment because they don't have  
16 sufficient data?

17 A. Certainly. It is certainly possible.

18 MR. MCNEIVE: Could I have one moment,  
19 please?

20 At this time I'd offer what's been

21 identified -- and you'll have to help me with what we  
22 identified that as.

23 JUDGE DIPPELL: 119.

24 MR. MCNEIVE: -- 119 into evidence, and that  
25 completes my questioning.

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1 JUDGE DIPPELL: Objections?

2 MR. SCHWARZ: I object. I think that the  
3 information that was needed to calculate this graph  
4 has been as equally available to the Company as it has  
5 been to the Staff. It was derived from data that  
6 Staff provided early in this case, and I think that  
7 its production at this stage is -- I mean, it should  
8 have been produced either in rebuttal or in  
9 surrebuttal.

10 It is simply beyond the bounds of the  
11 Commission rules to permit something like this to be  
12 introduced in response to questions from the Bench. I  
13 think it's just totally inappropriate and a violation  
14 of the Commission rules.

15 MR. MCNEIVE: If I may respond? If it's  
16 appropriate for the witness to respond to questions  
17 from the Bench in a verbal fashion, which he has, and  
18 this chart is a reflection of his verbal response,  
19 then it's certainly appropriate to put this in because  
20 the other evidence is in the record, your Honor.

21 So this is just going to let people  
22 understand more fully, because it's a technical area,

23 what his verbal response was. So I don't think it  
24 does any harm to the record to have this document in  
25 because he has verbally described how he feels about

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1 the DMA.

2 So that would be my response, that there's  
3 rules here at this Commission that allow things to be  
4 taken with the record for what they're worth, and I  
5 don't think in this case we're in any way prejudicing  
6 Staff or anyone else because Dr. Turner has verbally  
7 described it.

8 JUDGE DIPPELL: Okay. At this time I'm  
9 going to take the coward's way out. I'm going to take  
10 a 15-minute break, and I'll give you my ruling when we  
11 come back.

12 (A recess was taken.)

13 (EXHIBIT NO. 119 WAS MARKED FOR  
14 IDENTIFICATION.)

15 JUDGE DIPPELL: We can go back on the  
16 record.

17 Okay. While we were on break I was  
18 considering the objections and the last exhibit that  
19 that was offered, Exhibit 119, and what I decided was  
20 that I am going to allow it in. I am going to allow  
21 Staff and Public Counsel and UE if they would like to  
22 cross this witness on this exhibit to do that because  
23 I do think that it's very late filed.

24 I'm sure that the Commission will give it --



25 I think the question was very tenuously related to the  
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1 Chair's question to start with. So I'm not sure how  
2 much weight it's going to have anyway, but I will  
3 allow staff and Public Counsel to cross if they would  
4 like.

5 MR. MCNEIVE: If it please the Commission,  
6 we had no intention of perhaps doing what some people  
7 felt we were doing here, and I would have no problem  
8 with withdrawing the exhibit if that would make  
9 everybody happier. I'm content to do that at this  
10 point.

11 JUDGE DIPPELL: Well, you're not here to  
12 make everybody happy, Mr. McNeive.

13 MR. MCNEIVE: Well, I'm saying if there was  
14 such an uproar, I would take the cup or the challenge  
15 off the table and just leave the witness' testimony in  
16 and withdraw from consideration that exhibit, your  
17 Honor.

18 JUDGE DIPPELL: Is that what you're doing,  
19 Mr. McNeive?

20 MR. MCNEIVE: Yes, I am. I'm withdrawing  
21 the exhibit.

22 JUDGE DIPPELL: Okay. Thank you.

23 MR. MCNEIVE: You're welcome.

24 JUDGE DIPPELL: Then Mr. Turner -- or  
25 Dr. Turner, excuse me, I believe we're finished with

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1       you. Thank you.

2                   (Witness excused.)

3                   JUDGE DIPPELL: Are we ready, then, for  
4       Mr. Waldron?

5                   MR. MCNEIVE: Yes, I believe we are. Could  
6       you please come to the stand, Mr. Waldron?

7                   (Witness sworn.)

8                   JUDGE DIPPELL: Thank you.

9       TIMOTHY WALDRON testified as follows:

10      DIRECT EXAMINATION BY MR. MCNEIVE:

11         Q.     Sir, would you please state your full name  
12       and business address for the record.

13         A.     Timothy Lee Waldron, Met Associates, 34  
14       Debra Drive, St. Peters, Missouri 63376.

15         Q.     Sir, are you the same Timothy L. Waldron who  
16       had caused to be filed in this proceeding testimony  
17       which has been marked as Exhibit No. 19, your  
18       surrebuttal testimony in this proceeding?

19         A.     I am.

20         Q.     Do you have any changes or corrections to  
21       that document, sir?

22         A.     No, sir.

23         Q.     If I were to ask you the questions contained  
24       in that document today, sir, would your answers be the  
25       same as shown?

□

1 A. Yes, they would.

2 MR. MCNEIVE: Your Honor, at this time I  
3 would move the admission of Exhibit No. 19,  
4 Mr. Waldron's surrebuttal testimony, and tender him  
5 for cross-examination.

6 JUDGE DIPPELL: Is there any objection to  
7 Exhibit No. 19?

8 MR. SCHWARZ: Not from Staff.

9 JUDGE DIPPELL: Then I will receive it into  
10 evidence.

11 (EXHIBIT NO. 19 WAS RECEIVED INTO EVIDENCE.)

12 JUDGE DIPPELL: Is there cross-examination  
13 from AmerenUE?

14 MS. KNOWLES: No.

15 JUDGE DIPPELL: Public Counsel?

16 MR. MICHEEL: No, your Honor.

17 JUDGE DIPPELL: Staff?

18 MR. SCHWARZ: Yes, your Honor.

19 CROSS-EXAMINATION BY MR. SCHWARZ:

20 Q. Is it Mr. Waldron?

21 A. Yes, sir.

22 Q. What kind of work does Met Associates do?

23 A. Mostly things to do in the environmental  
24 area, regulation with either public utilities like  
25 Union Electric. We've done work for Union Electric in

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1 its Callaway plant, doing quality assurance, auditing  
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2 and analysis as a third party for other groups. For  
3 instance, Los Alamos National Laboratory, we do most  
4 of the quality assurance on their meteorological  
5 network that they have down in New Mexico.

6 So about a third of it is what you would  
7 call applied meteorology in terms of putting out,  
8 constructing meteorological measurement systems and  
9 computer base is about a third of it, meteorological  
10 analysis of that kind of data acquisition that's  
11 required for regulatory reports, be it for the EPA or  
12 the NRC, that type of thing.

13 And then the other third of it is quality  
14 assurance or miscellaneous research tasks that might  
15 be needed by a client.

16 Q. How many employees do you have?

17 A. I keep myself full-time and all -- I want to  
18 manage science and not people. I use subcontracted  
19 people anywhere from technician level to analyze old  
20 strip charge to the Ph.D. for various things. So I  
21 run the full range, and that really is the meaning of  
22 the word associates.

23 And Met, of course, is short for  
24 meteorological because that can't be said more than  
25 twice in public without stumbling over it.

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1 Q. Thank you. On page 7 of your surrebuttal  
2 testimony, at lines 3 and 4, you state you performed  
3 various analyses to discover and correct for

4 relatively small effects in temperature time series  
5 data in the St. Louis area?

6 A. Yes, sir.

7 Q. Is it your testimony in this case that the  
8 June 1996 move of the weather station and change of  
9 instruments at St. Louis Lambert Airport has had a  
10 relatively small effect on the measurement of  
11 temperatures?

12 A. Well, you have to first of all define what's  
13 relatively small. That may be different for you than  
14 for me. The point that I'm trying to make in my  
15 testimony, having dealt with these types of issues  
16 before, is that because we go through a sensor change  
17 and a location change, it's very necessary to separate  
18 those two entities.

19 And that's one of the things that you have  
20 to sort of normalize your database, put it under  
21 conditions that will isolate the instrument effects  
22 from the siting effects.

23 So in order to answer what is the magnitude  
24 or what do I think is the magnitude, it would require  
25 a full analysis of being able to segregate the Lambert

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1 data to determine what the instrument change bias is  
2 and what the exposure change bias is because they're  
3 two separate issues really.

4 Q. well, when you use the phrase relatively  
5 small effect, would you consider a bias of a few

6 tenths of a degree to be relatively small and a bias  
7 of a couple degrees not to be relatively small?

8 A. It would be partially dependent upon your  
9 database. When I talk about analysis that I formed in  
10 the St. Louis area, it's usually based on much higher  
11 quality temperature data. We'll take actual  
12 temperature measurements every single second 15-minute  
13 averaging with standard deviations for the 15-minute  
14 periods plus and minus max and mins during that  
15 period.

16 what that does is give you a database that  
17 is very capable of finding the small fractional .2,  
18 .3, .4 degree Fahrenheit changes. Larger changes  
19 would be very obvious in that data.

20 The challenge here for Staff and everybody  
21 that utilizes National Weather Service data is that  
22 they round their data to the nearest degree  
23 Fahrenheit, and that's sometimes without any other  
24 what we would call data qualifiers, so without  
25 standard deviations in the period average, that kind

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1 of thing. Makes it much more difficult to use that  
2 data for small changes.

3 Q. Well, with respect to the data set that we  
4 have at Lambert, would you consider a few tenths of a  
5 degree to be relatively small and a couple of degrees  
6 not to be relatively small?

7 A. That would be a fair characterization.

8 Q. On page 5 of your surrebuttal, beginning on  
9 line 13, you have a quote from an article by, is it  
10 Guttman and Baker?

11 A. Yes, sir.

12 Q. The first part of that quote says, does it  
13 not, that differences in site characteristics even at  
14 the same airport play as much, if not more, of a role  
15 in assessing the comparability of measurements from  
16 the two observing systems as does the instrument bias?

17 A. Yes, sir, I see that.

18 Q. And it continues, the instrument bias at  
19 most stations is on the order of a few tenths of a  
20 degree Fahrenheit, but the siting differences can lead  
21 to biases on the order of a couple degrees?

22 A. Yes, sir.

23 Q. What is your understanding of what the  
24 authors meant by differences in site characteristics?

25 A. Difference in site characteristics would be

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1 the close-in environment of the sensor, whether it's  
2 over pavement or grass, what the elevation differences  
3 might be, whether it is shielded or not shielded from  
4 the effects of solar radiation, whether there are  
5 obstructions in the sky view that would obstruct the  
6 wind or the solar radiation, all those things, as  
7 opposed to the true instrument bias which would be the  
8 electronic measurement that's being made between one  
9 sensor and another sensor.

10 Q. Or, say, liquid sensors?

11 A. Or liquid sensors. In the case of Guttman  
12 and Baker, and one of the standard things that we do  
13 is we say normalize the atmosphere to make that  
14 determination. Cloudy, very windy conditions will put  
15 both sensors that are relatively close into the same  
16 sampling environment. That makes the comparison  
17 possible for sensor versus sensor as opposed to siting  
18 characteristics versus siting characteristics.

19 Q. Is it your understanding that one of the  
20 primary conclusions of Guttman and Baker is that while  
21 changing instruments may account for a small change  
22 with only a few tenths of a degree, if the instrument  
23 site is moved there can be much larger changes  
24 amounting to a couple of degrees?

25 A. Yes, sir. Depending on what differences are

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1 in Site A versus Site B, it can have tremendous  
2 magnitude or it can have very small magnitude. It's  
3 very case dependent.

4 Q. Would you agree that moving the weather  
5 station at Lambert Field in 1996 from a location near  
6 the weather office building out onto the airfield  
7 would be considered a difference in site  
8 characteristics?

9 A. Yes, sir. I think there are different site  
10 characteristics on the near site as opposed to the far  
11 site obviously, which is different.



12 Q. would you agree that for the 1996 move of  
13 the weather station at Lambert, it would be poor  
14 climatological practice to simply assume that this  
15 move in weather station would only result in a  
16 relatively small bias of a few tenths of a degree?

17 A. well, sir, either from a climatological or  
18 meteorological, any time that there is a change of  
19 measurement, a scientist needs to look at that  
20 carefully, do an evaluation and an analysis in the  
21 most proper way to determine whether it is or isn't  
22 significant.

23 Q. Returning to page 7, lines 4 through 7, you  
24 indicate that, in order to achieve success in both  
25 discovering and correcting these relatively small

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1 effects, hourly or subhourly temperature data must be  
2 obtained.

3 Have you performed an analysis of the June  
4 1996 move of the weather station and change of  
5 instrumentation at Lambert using such data?

6 A. No, sir, I have not. Such data are not  
7 available.

8 Q. Since you haven't performed such an hourly  
9 analysis at Lambert Field for the June 1996 move and  
10 instrumentation change, how would you conclude that  
11 the effects of this move are relatively small?

12 A. I did not -- I do not believe I have  
13 concluded, nor have I stated, that the relative

14 effects are small.

15 Q. Have you performed an analysis regarding the  
16 1978 move of the weather station at Lambert using  
17 hourly temperature data?

18 A. I have looked at the analysis that Staff has  
19 performed and provided in testimony and work papers.

20 Q. Was that an hourly study?

21 A. That was -- in the '78-'79, I believe that  
22 was using monthly data.

23 Q. Again on page 7, beginning on line 7, you  
24 state that the hourly information available in this  
25 case from Lambert and the daily summary data available

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1 from the coop stations are not sufficient to detect  
2 accurately and correct for small data effects, is that  
3 a fair --

4 A. That is how it reads, yes.

5 Q. Is it your testimony that the changes in  
6 weather station location and instruments at Lambert  
7 are so small that data does not exist to accurately  
8 detect the effect of these changes?

9 A. I think what I intend there is that there  
10 may even be procedures that can identify that a change  
11 or an aberration has occurred, but to try to narrow  
12 that down to whether it's .2, .3 degrees Fahrenheit is  
13 going beyond the capability and intent of the data  
14 that was acquired at the airport.

15 Q. Is it also your testimony that changes in

16 weather station location and instruments at Lambert  
17 are so small that data -- that the data doesn't exist  
18 to accurately estimate the effect of these changes?

19 A. Could you repeat that in continuum, please?

20 Q. Sure. Is it also your testimony in this  
21 case that the changes in weather station location and  
22 instrumentation at Lambert are so small that data does  
23 not exist to accurately estimate the effect of these  
24 changes?

25 A. No, sir, that has not been my testimony. I

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1 have not characterized all the changes as being too  
2 small to detect. But again, I would draw a  
3 differentiation between being able to be able to  
4 detect a change and being able to accurately say what  
5 the required or necessary correction might be, if any.

6 Q. Are you aware of the analysis performed by  
7 NOAA regarding the impact on temperature measurement  
8 of the 1978 move of the weather station at Lambert?

9 A. We have looked at the adjustment data that  
10 was provided as part of a data request, yes.

11 Q. Do you know whether NOAA used subhourly,  
12 hourly, daily or monthly data to correct for the 1978  
13 move of the weather station?

14 A. The corrections are presented in a time  
15 series table of monthlies.

16 Q. If I understand your answer, that's how it  
17 was presented. Do you know what data they used to

18 make the corrections?

19 A. The data NOAA would use on that, they would  
20 use the hourly data, and it's the database from  
21 Lambert Field.

22 Q. What's your basis for stating that they used  
23 hourly data?

24 A. Well, maybe there's a distinction here. The  
25 measurements are made on an hourly basis. They can be

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1 summed then as monthly, max, means, averages. The  
2 data that -- the raw data are hourly. The summation  
3 that was used was monthly.

4 Q. Do you know what NOAA used to make its  
5 calculation?

6 A. Precisely, no.

7 Q. Are you familiar with the Karl & Williams  
8 paper from December of '87 that we referred to in  
9 Mr. --

10 A. I have looked at it, yes.

11 Q. Do you have a copy of that article with you?

12 A. I believe so.

13 Q. Do you have the article?

14 A. Yes. I'm not sure I can read it because  
15 it's --

16 Q. Your print's as small as --

17 A. It's two pages to a page.

18 Q. Yes. Well, let me tell you, is copying  
19 things two pages to a page part of the scientific

20 method?

21 A. I hope not.

22 Q. Would you turn to page 1746?

23 A. Yes, sir.

24 Q. In the right-hand column, there's No. 3, the  
25 method of adjusting for discontinuities. Do you have

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1 that?

2 A. Yes, sir.

3 Q. And then it's sub A, data. Would you read  
4 the following paragraph?

5 A. In its entirety, sir?

6 Q. In its entirety, that paragraph.

7 A. The methodological approach for adjusting  
8 time series of temperature and precipitation is  
9 specifically developed to make use of station history  
10 information. Per hour in 1985 describes a historical  
11 climatological network in the United States which has  
12 over 1,200 stations. This network, consisting mostly  
13 of cooperative station data, most of which are in  
14 rural areas, over 70 percent have populations less  
15 than 10,000 and over 90 percent have populations less  
16 than 50,000, has detailed station histories which can  
17 be accessed by electronic computer as well as a  
18 relatively large number of long-time series with  
19 monthly temperature and precipitation data. The  
20 station history information can be used to ascertain  
21 all the information regarding changes in instrument

22 locations, horizontal or vertical, changes in  
23 instruments or changes in observation methods, that is  
24 tri-daily observations, maximum/minimum observations,  
25 et cetera.

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1 Q. Thank you. I'm sorry. Would you go ahead  
2 and read the next paragraph as well?

3 A. Given the availability of station history  
4 information, these data are used explicitly in the  
5 adjustment technique. Any change in instrument  
6 location, type of instrument or averaging methods are  
7 treated as a potential station discontinuity  
8 regardless of the magnitude of the change. That is, a  
9 relocation of instruments by 20 meters is treated the  
10 same as a relocation of instruments by one kilometer.  
11 Microclimatological differences can often be quite  
12 substantial, with references.

13 Q. Thank you. Based on that portion of the  
14 Karl & Williams paper, would you be -- would it be  
15 your understanding that the method suggested here and  
16 employed by NOAA is based on using cooperative  
17 stations as reference stations by which to measure the  
18 effect of a change that has occurred at a candidate  
19 station?

20 A. In reference just to these two paragraphs  
21 here?

22 Q. Yeah.

23 A. I think that, given the station history,

24 they're using the monthly data from the primary  
25 station and the station history.

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1 Q. Can you also derive from this portion of the  
2 Karl & Williams paper that the data available from  
3 these cooperative stations that is used to estimate  
4 the effects of a change in a candidate station is  
5 monthly data?

6 A. They have summed it into monthly data, yes,  
7 sir.

8 Q. Can you therefore conclude that NOAA does  
9 not use the subhourly, hourly or even daily  
10 temperature data in the adjustments that it makes for  
11 changes in weather station location and  
12 instrumentation?

13 A. Assuming the monthlies have been calculated  
14 previously, yes.

15 Q. On page 2 of your surrebuttal testimony at  
16 lines 22 and 23, you state there are numerous reasons  
17 why the Company should not use the adjustments of  
18 Dr. Hu.

19 Is it also your testimony that the Company  
20 should not make any adjustments for the change in  
21 temperature readings brought about from the June 1996  
22 move of the weather station and instrumentation change  
23 at Lambert?

24 A. No, sir. I have not made, nor was I asked  
25 to make, that determination on behalf of the Company.

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1 Q. Do you have an opinion on whether or not an  
2 adjustment needs to be made because of the June 1996  
3 move of the weather station and change of instruments  
4 at Lambert?

5 A. Do I have an opinion?

6 Q. Yes.

7 A. Or conclusive result?

8 Q. I'm asking your professional opinion.

9 A. My professional opinion, after having  
10 observed both of the instrument locations, is that  
11 there will be a difference in measured response of  
12 temperatures from ASOS versus the old location, yes.  
13 Now, whether that is a large difference or a small  
14 difference has to be determined through analysis.

15 Q. Thank you. On page 6 of your surrebuttal,  
16 lines 18 through 21, you again quote from the Karl &  
17 Williams paper. Are you with me?

18 A. Yes, sir.

19 Q. And is it your understanding from that  
20 quotation and the author's use of the words  
21 inappropriate adjustments at a nearby station are used  
22 to indicate a potential problem with using urban  
23 weather stations as reference stations rather than as  
24 candidate stations?

25 A. I'm sorry. I was trying to read along with



□

1 you, and apparently that's not what's here.

2 Q. No.

3 MR. MCNEIVE: Pardon me, your Honor.

4 Apparently there's some confusion. Could you reask  
5 the question, Mr. Schwarz? Thank you.

6 JUDGE DIPPELL: Would you reask your  
7 question, Mr. Schwarz?

8 BY MR. SCHWARZ:

9 Q. Is it your understanding that in caveat  
10 No. 4 which you cite there, the Karl & Williams use  
11 the words, quote, inappropriate adjustments at a  
12 nearby station, close quote, to indicate a potential  
13 problem with using urban weather stations as reference  
14 stations rather than candidate stations?

15 A. Well, I think what the authors are pointing  
16 out here is the danger of using one station in the  
17 comparison that is undergoing the effects of  
18 urbanization against one that is not.

19 Q. What leads you to that conclusion, just from  
20 the excerpt that you have there on page 6?

21 A. Well, I think that if you go to page 1762  
22 where it was taken from, it's in their summary of  
23 their paper where they are pointing out that any  
24 nonclimatic progressive changes due to urbanization  
25 will affect the data comparison. And all I'm

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1 advocating is that urbanization effects at a station  
2 need to be looked at and quantified.

3 Q. Would it pose a problem to use a station  
4 being affected by urbanization as a reference station  
5 in making adjustments to?

6 A. Depending what it's being compared to, yes.

7 Q. Are there such problems with stations that  
8 are not undergoing urbanization?

9 A. Would you rephrase that question?

10 Q. Do you -- does paragraph 4 suggest a problem  
11 with using a station that is not undergoing  
12 urbanization as a reference station?

13 A. No, it does not identify a problem with a  
14 station that is not undergoing urbanization as a  
15 reference station.

16 Q. You have the Karl & Williams article there?

17 A. Yes, sir.

18 Q. Page 1762, would you read the language  
19 immediately following the quotation that you've cited  
20 in your testimony?

21 MR. MCNEIVE: Your Honor, at this point I'm  
22 going to object to him asking our witness to read  
23 large portions of a document into the record. If this  
24 is something he wanted to present in his case, he  
25 could have done that, and he hasn't. It's the same

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1 objection he really had on some of the things that I

2 was trying to offer a little while ago.

3 So I think we're having the witness read in  
4 pieces that he could have put in his case. They had  
5 access to these documents for a long time, your Honor.  
6 So I'm at a point where I think I've heard enough of  
7 this and I object.

8 MR. SCHWARZ: This is surrebuttal testimony.  
9 We haven't had an opportunity to respond to it  
10 previously. The witness has chosen quotations from  
11 what I think -- we haven't qualified them as learned  
12 treatises, but I think that they've been treated that  
13 way by all the parties, and I'm just trying to get a  
14 little more balance into the quotations presented.

15 JUDGE DIPPELL: I'm going to allow him to  
16 let the witness read that portion to at least place it  
17 in context in the quote since he quoted it in his  
18 testimony.

19 MR. SCHWARZ: I don't --

20 THE WITNESS: The part that he is requesting  
21 to read was not quoted in the testimony.

22 MR. SCHWARZ: Yeah.

23 JUDGE DIPPELL: I understand that, but I'm  
24 saying he quoted the article in his testimony. I'm  
25 going to allow him to --

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1 MR. SCHWARZ: There's been a -- I'm not  
2 prepared to offer the article at this stage. If that  
3 would --

4 MR. MCNEIVE: No. I think it's again  
5 becoming a -- to the extent it's becoming a massive  
6 piece of information here, I would have the same  
7 problems that they had. They had this available to  
8 them sooner.

9 I understand he's made a quote. You're  
10 asking him to do something in the context. I'll  
11 withdraw my objection, but I think there's some  
12 limitation to this, your Honor.

13 MR. SCHWARZ: All right.

14 THE WITNESS: Okay. I will read the  
15 following paragraph. It says, The latter problem is  
16 mitigated to some extent in HCN since 70 percent of  
17 the stations have populations less than 10,000 in the  
18 1980 census and 90 percent have populations less than  
19 50,000. Also the method uses as many nearby stations  
20 as possible which reduces such effects, and the  
21 adjustments usually do not span more than 20 years, so  
22 that only a portion of the urban warming at a single  
23 station may be included in adjustments.

24 BY MR. SCHWARZ:

25 Q. I think that's enough. Thanks.

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1 A. I would like to add at the end of that  
2 paragraph that this particular paper is dealing with  
3 urbanization in a general sense of cautionary notes,  
4 and NCDC has published peer-reviewed papers trying to  
5 quantify what that urbanization effect might be, and

6 it can be as high as .15 degrees per year.

7 And I think that that's a significant thing  
8 that in any analysis between any two stations needs to  
9 be looked at.

10 Q. Right. Thank you.

11 In your surrebuttal, page 6, line 10, you  
12 talk about the area surrounding -- the area around the  
13 St. Louis Airport has undergone significant  
14 urbanization over the last 25 years or so.

15 In your opinion, during what years was the  
16 Lambert Airport area rural in nature?

17 A. Definition of rural being relative, I can  
18 tell you this. In the mid '70s, '74 through '76, I  
19 participated in the EPA boundary layer study where we  
20 studied the differences between the urban atmosphere  
21 and the rural atmosphere surrounding St. Louis. It  
22 was accomplished with a lot of ground observations,  
23 and I personally flew spirals in helicopters taking  
24 temperature profile measurements and things of that  
25 nature.

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1 Our rural corridor at that time was the 270  
2 corridor as you know it now, traffic clogged and  
3 everything else, but that's how rural that area was  
4 out by the airport.

5 And you have to remember when you're talking  
6 about environment around a sensor for urbanization  
7 effects, you're not talking about one kilometer square

8 or radius. You're talking about the invective  
9 capability of whatever the winds might be. You know,  
10 when I moved out west of the airport, I live in  
11 St. Charles County. I moved out in there in the '70s.  
12 The population of St. Peters at that time was 400.  
13 It's now in excess of 60,000.

14 There's a lot different mass of air being  
15 invected to the airport from the west now than there  
16 was back in the '60s and '70s.

17 And this is not new and it's well-known.  
18 Even Decker informed Staff of that in his letter back  
19 in '92. That's even included in Proctor's  
20 surrebuttal, a copy of his letter, where it simply  
21 states urbanization effects are in the Lambert Field  
22 data and they need to be looked at.

23 Q. Are you aware that every municipality  
24 surrounding Lambert Field has undergone a population  
25 decrease between 1980 and 1990 -- or 1996?

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1 A. Well, there are various methods to define  
2 urbanization. Population demographics is one. I have  
3 not had the time resources nor direction to look at  
4 that.

5 Vegetative index is another generally out of  
6 satellite imagery, looking at the amount of vegetation  
7 that is visible in a certain frame around a station  
8 and how that changes with time, and the more simpler  
9 quick-look methods, how are temperatures at the

10 reference site affected, the easiest one being what  
11 has the temperature range been doing.

12 So Lambert Field has been undergoing  
13 urbanization. The temperature range will decrease  
14 basically because the minimum temperature does not  
15 fall as far. So there'll be a rise in the minimum  
16 temperature. I do believe that that is apparent in  
17 the Lambert data and needs to be looked at and  
18 quantified.

19 Q. But the population -- are you aware that the  
20 population immediately surrounding the airport has  
21 been decreasing for 15 years?

22 A. I don't know which municipalities in  
23 particular border the airport. So subject to check, I  
24 would have to say no, I was not aware of that.

25 Q. Okay. On page 6, at line 14, you assert

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1 there has been a slow warming in the Lambert data  
2 compared to earlier years. Have you performed any  
3 studies that have attempted to measure that urban  
4 warming?

5 A. Particular to Lambert Field?

6 Q. Yes.

7 A. No, sir. I expected as part of the review  
8 process to be looking at where that was considered,  
9 and if it was considered by Staff, I've seen nothing  
10 where it has been quantified or addressed in the  
11 database.

12 MR. SCHWARZ: I have nothing further. Thank  
13 you.

14 JUDGE DIPPELL: I don't believe there are  
15 any questions from the Bench for Mr. Waldron. Is  
16 there redirect?

17 MR. MCNEIVE: Just a few questions, your  
18 Honor.

19 REDIRECT EXAMINATION BY MR. MCNEIVE:

20 Q. I believe you were referred a number of  
21 times to Karl & Williams' document, Mr. Waldron, and  
22 one of those questions by Mr. Schwarz, I think he  
23 asked you to read a portion that talked about the U.S.  
24 HCN network and the stations. Do you recall those  
25 questions?

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1 A. Yes, sir.

2 Q. And do you recall whether in that discussion  
3 there was discussion of station histories at those  
4 stations?

5 A. Whether the particular paragraph I read  
6 referenced those, I believe it did, sir.

7 Q. To your knowledge as a meteorologist, are  
8 station histories for those types of stations,  
9 basically U.S. HCN cooperative stations, what is the  
10 condition of those station histories, if you know?

11 A. Well, unfortunately, and I'm sure Staff  
12 won't disagree, it's a very frustrating exercise to  
13 try to recover station histories from the records.



14 Several things lead to that. When they're coop  
15 stations by observers administered by a National  
16 weather Service office some distance away, it's not a  
17 high priority item perhaps in the weather Service  
18 view.

19 Documentation is often either lacking or  
20 mistaken in dates because there's sometimes a time lag  
21 between when something happens and when it is reported  
22 or documented on a form. And there are many other  
23 changes at a cooperative station such as a simple  
24 sensor change. If it's not a sensor type change,  
25 there will be probably no report issue if it's just an

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1 exchange for one sensor with an equivalent type of  
2 sensor.

3 So that the paper trail or what we call the  
4 meta-data is sometimes very conflicting and very often  
5 incomplete.

6 Q. When I'm trying to analyze discontinuities  
7 in data between either U.S. HCN stations and target  
8 stations, can these failures in the histories create  
9 problems?

10 A. Yes, sir, they can create several problems.

11 Q. What are they?

12 A. The obvious No. 1 problem is that they may  
13 or may not be able to identify the correct date of a  
14 known move or give a false date for a move that did  
15 not occur at that time, and in many cases a move

16 adjustment or sensor change is just not recorded at  
17 all. So the researcher is challenged with that lack  
18 of adequate paper trail on a station.

19 Q. You also were questioned by Mr. Schwarz  
20 concerning again the Karl & Williams document and  
21 discussions of stations with nonclimatic progressive  
22 changes due to urbanization. Do you recall that?

23 A. Yes, sir.

24 Q. In this particular case, are there the  
25 reference stations in the target station being used

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1 to -- do you have urbanization versus nonurban  
2 situations?

3 A. Yes, sir. Lambert Field obviously is a  
4 station undergoing urbanization where, for instance,  
5 some of the outlying stations like Elsberry would  
6 certainly be far enough away to be a nonurbanized  
7 site.

8 Q. At 1762 of the document you were asked to  
9 read a paragraph under paragraph No. 4, a portion of  
10 it. Do you recall that, sir?

11 A. Yes, sir.

12 Q. And I think in the sentence that's on line 4  
13 it says, Also the method uses as many nearby stations  
14 as possible. Do you see that line?

15 A. Yes, sir.

16 Q. What's your interpretation of the meaning of  
17 nearby stations in the context of the reference

18 stations that are being used in this case?

19 A. They would like to get as many stations  
20 relatively close that have similar sampling  
21 environment.

22 Q. And that's Karl & Williams' approach, is  
23 that your statement?

24 A. Yes.

25 Q. And how many reference stations are being

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1 used by Staff in this proceeding, if you know?

2 A. I believe in each case two.

3 Q. And in terms of nearby, how do you define  
4 nearby?

5 A. Nearby is again one of those relative terms  
6 that you quantify in terms of differences. So if you  
7 go out on a five square mile cornfield and you have a  
8 station that's located one mile from the other station  
9 in the cornfield so the sampling environment's the  
10 same, you'd say that's nearby.

11 where if you take that one mile difference  
12 with a different sampling environment, maybe the  
13 cornfield ends, you're at the edge of the cornfield  
14 before it goes down into the river valley, a 50-foot  
15 drop with creeks and trees and grass, then that would  
16 not be a nearby quantification that you would want to  
17 compare those two data for because you know they would  
18 be different.

19 So nearby is a relative term that's

20 quantified by the differences between two stations  
21 more than the distance itself.

22 MR. MCNEIVE: That completes my questioning,  
23 your Honor, and I'd move admission, if it's already  
24 not been received, of his exhibits, which I believe --  
25 it's been received. I'm sorry. Thank you.

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1 JUDGE DIPPELL: All right, then. Thank you,  
2 Mr. Waldron. You may be excused.

3 (Witness excused.)

4 JUDGE DIPPELL: Are we ready, then, to go  
5 ahead with Dr. Hu's testimony or --

6 MR. MCNEIVE: I believe, your Honor, if I  
7 may -- may we be off the record for a moment?

8 JUDGE DIPPELL: Unless it's something I'm  
9 going to want to put on the record in just a few  
10 seconds.

11 MR. MCNEIVE: Well, I'm not sure. Since you  
12 suggested that we as attorneys consult occasionally, I  
13 was just going to take that opportunity if you don't  
14 mind.

15 JUDGE DIPPELL: All right. We can go off  
16 the record.

17 (A recess was taken.)

18 JUDGE DIPPELL: We can go back on the  
19 record.

20 Okay. I believe we had some pending motions  
21 with regard to Dr. Hu's testimony. Did we want to

22 address those first?

23 MR. BYRNE: Yes, your Honor. We would like  
24 to put Dr. Hu's deposition taken in a UE proceeding on  
25 May 5th, 1999 into the record, and Staff has an

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1 objection to that. So we thought we should address  
2 that proposal prior to our cross-examination of Dr. Hu  
3 because it will depend on whether the deposition is  
4 admitted or not.

5 we also have a motion pending to strike  
6 certain Staff testimony, but it's not Dr. Hu's  
7 testimony. I believe the first Staff witness'  
8 testimony we propose to strike is Mr. Gray. So we  
9 thought, pursuant to what we said before, we should  
10 address that motion when Mr. Gray takes the witness  
11 stand.

12 JUDGE DIPPELL: Okay. I understand that.

13 MR. SNODGRASS: And Judge, I'm going to  
14 handle the motion for the Staff here today. We seek  
15 to hopefully vigorously object to the use of the UE  
16 deposition in this case. I'd just like a moment to  
17 look at that deposition prior to the argument.

18 JUDGE DIPPELL: Okay.

19 MR. SNODGRASS: Just quickly because I have  
20 not seen it.

21 MR. SCHWARZ: The actual document you're  
22 going to --

23 MR. BYRNE: Your Honor, the Staff provided

24 us the document in response to a date request.  
25 They've got it.

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1 MR. SNODGRASS: I haven't seen it yet,  
2 Judge.

3 JUDGE DIPPELL: Do you have copies?

4 MR. MCNEIVE: We have a whole box full,  
5 Judge.

6 JUDGE DIPPELL: Do you also want to take up  
7 the issue of the video at this time or wait until it  
8 becomes an issue during cross.

9 Let's go off the record.

10 (Discussion off the record.)

11 JUDGE DIPPELL: Back on the record.

12 So you've now seen the deposition?

13 MR. SNODGRASS: Yes, I have.

14 JUDGE DIPPELL: And you're prepared to  
15 argue?

16 MR. SNODGRASS: Yes, I am.

17 JUDGE DIPPELL: Would you like to begin,  
18 then, Mr. Snodgrass, with what your objection to the  
19 admittance of this deposition would be?

20 MR. SNODGRASS: All right, Judge. Asking me  
21 to talk in front of the public is sort of like a  
22 situation where a dog is chasing a car. When the dog  
23 finally catches the car he goes, oops, what am I  
24 supposed to do now. So please bear with me. I'll do  
25 the best I can in presenting this argument.

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1           The Staff's position in this matter is that,  
2     in the UE case, as I understand it, I was not a direct  
3     participant in this case, Dr. Hu was in fact deposed.  
4     After the deposition was conducted, that particular  
5     case was settled.

6           As far as the Staff was concerned, the  
7     deposition then became moot from their point of view.  
8     As a result of that, Dr. Hu did not sign that  
9     deposition and swear to its accuracy and completeness  
10    and he did not correct it.

11          I'd just like to argue generally. I have a  
12    two-prong argument here. There's a general principle  
13    of evidence that, even though something may be  
14    otherwise admissible, and I am not conceding that at  
15    this point in time, but even if this deposition might  
16    be admissible, if the prejudicial effect of admitting  
17    that document outweighs its probative value, it can be  
18    excluded.

19          Now, the point I want to make is, Laclede is  
20    trying to introduce a deposition in a settled case.  
21    That deposition was not signed and verified and it was  
22    not corrected as I understand the facts, and that's  
23    certainly the Staff's prerogative in depositions.

24          I'd also like to bring up the point that  
25    they now have a current deposition of Dr. Hu which

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1     they took recently. So to come in here and ask to use  
2     two depositions, especially in a situation where they  
3     have a fresh one, seems unduly prejudicial to the  
4     Staff and outweighs the probative value of that  
5     previous document.

6             They have a fresh deposition to use. Now  
7     they're trying to come in here and use one that  
8     occurred in a previous case wherein the deposition was  
9     neither verified nor corrected. I think it's unduly  
10    burdensome and prejudicial to try to introduce that  
11    document at this point in time, especially since they  
12    have a current deposition of Dr. Hu which they took  
13    recently. That's point one of my argument.

14            Point two is, using the case law that  
15    Laclede has furnished us, if you'll bear with me, they  
16    gave us a case *Maturo vs. Stone* as a reference point  
17    in their argument that this deposition should be  
18    admissible, and I would point out to you that, first  
19    of all, the long-standing general rule is that a  
20    deposition taken in a prior case is inadmissible in a  
21    present case. Now, that's the general rule.

22            As far as the Staff is concerned, that's the  
23    big print which giveth to the Staff. However, there's  
24    some small print, and that's the print Laclede is  
25    counting on taking away from the Staff.

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1           Now, there is some case law, and I  
2     acknowledge it, that there is an exception to the  
3     general rule of inadmissibility of prior depositions,  
4     and those exceptions were set out in several cases.  
5     And using again the cases that Laclede has furnished  
6     us, *Maturo vs. Stone* in particular, I believe you have  
7     a copy of that for your reference, before you can get  
8     a previous deposition into a current case you have to  
9     show a clear, and I emphasize that word, clear  
10    identity of issues and of parties. And according to  
11    the case law, the issues in the two proceedings must  
12    be the same.

13           The second requirement is the parties need  
14    not be identical but must be in privity with one  
15    another. Now, privity has been found in several cases  
16    where, for example, a husband and wife are suing  
17    separately for a wife's injuries in an auto accident,  
18    and the court found there was a sufficient community  
19    of interest or privity between them to use depositions  
20    in prior cases that involved their issues.

21           The courts have also found that there's  
22    privity between an employer and employee that's being  
23    sued because of that master/servant relationship and  
24    commonality of interest.

25           Now, the courts have gone further to say

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1     that privity also means parties that have an identity  
2     of interest. These are kind of words of art as I

3 interpret them.

4 Now, unless I'm missing something, I fail to  
5 see where in the prior case Laclede was in privity  
6 with UE which was the proponent and main party in that  
7 case. They were an intervenor only, and I can't see  
8 as how their interests are necessarily in commonality  
9 with UE. I don't see that relationship of privity.

10 It's certainly not similar to a husband and  
11 wife suing for a wife's injuries, and it's certainly  
12 not similar to an employee and employer being sued for  
13 the employee's negligence. I fail to see frankly how  
14 there's clearly privity between UE and Laclede, which  
15 I assume is the basis of their privity argument in  
16 this case.

17 And again, I just go back to the general  
18 rule of evidence that, even if you think this  
19 deposition in the UE case is admissible, we feel it's  
20 too prejudicial to the Staff's interests because it  
21 wasn't corrected, it wasn't signed, and they have a  
22 fresh deposition they just took recently.

23 So we feel that the prejudice to the Staff  
24 under these circumstances certainly outweighs the  
25 probative value of a past and stale deposition since

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1 they have a fresh one here to use.

2 That is essentially our argument, Judge.

3 Thank you.

4 JUDGE DIPPELL: would you like to respond,  
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5 Mr. Byrne?

6 MR. BYRNE: Yes, your Honor, I certainly  
7 would.

8 Your Honor, in our view there's absolutely  
9 no question that under the applicable Missouri rule of  
10 evidence and the applicable case law we are entitled  
11 to put this deposition into the record.

12 The document that we're proposing to put  
13 into the record is a deposition taken of Dr. Hu on  
14 May 5th, 1999 in a Union Electric Company case, Case  
15 No. EM-96-149. In that case Dr. Hu was performing  
16 exactly the same function as he is in this case. He  
17 was adjusting temperature data in the St. Louis area  
18 for the period 1961 to 1990.

19 We think Dr. Hu's deposition in the UE case  
20 is very relevant to his testimony in this proceeding  
21 and it should be admitted.

22 Everyone agrees that the Missouri rule  
23 that's applicable to this decision is Rule 57.07. As  
24 I pointed out yesterday in our argument over  
25 depositions, the rule draws a distinction between

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1 adverse parties, and it says that the deposition of  
2 adverse parties can be used, quote, for any purpose,  
3 and the depositions of other witnesses who are not  
4 adverse parties can only be used for impeachment  
5 purposes or if they're dead or missing or unavailable.

6 In this case, Dr. Hu is clearly an adverse  
Page 107

party, just as Mr. Broadwater was. By filing his direct testimony Staff has designated Dr. Hu as their weather witness in this case, and, therefore, he's an adverse party. Consequently, the rule gives Laclede wide latitude to introduce his depositions as an admission by an adverse party.

The Missouri courts have clearly and consistently ruled that this applies to depositions taken in another proceeding conducted prior to the proceeding in which the witness appears.

For example, in the case of White vs. Burkeybile, a 1965 Missouri Supreme Court case, the court said, and I quote, In order for a statement of a party to be competent as an admission against interests, it is not necessary that it be a direct admission of the ultimate fact in issue, but it may be competent if it bears on the issue incidentally or circumstantially.

Furthermore, a statement made in a

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deposition relevant to the issues may be admitted against the deponent as admissions against interest in the same or another action in which he is a party even though he is present in court and able to testify or has testified.

This 1965 Missouri Supreme Court case was reaffirmed in 1997 by the Missouri Court of Appeals for the Eastern District. Again the court said,

9 quote, Rule 57.07(A)(2) explicitly provides that a  
10 party may use the deposition of an adverse party,  
11 quote, for any purpose, unquote.

12 when a deposition is offered as an admission  
13 by a party opponent, the deponent's availability is  
14 not a factor in determining whether or not the  
15 deposition testimony is admissible, nor must the  
16 testimony be a direct admission of the ultimate facts  
17 of the issue. Rather, it may be introduced into  
18 evidence if it bears on the issue incidentally or  
19 circumstantially.

20 There's absolutely no question that Dr. Hu's  
21 deposition in the UE case bears on this issue that's  
22 being addressed by the Commission in this case much  
23 more than incidentally.

24 Some Missouri decision -- court decisions  
25 have suggested that identity of issues and parties is

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1 also relevant in determining whether a court should  
2 admit a deposition. In this case you cannot find a  
3 better example of identity of issues and parties.

4 As far as the parties go, of course Laclede  
5 and the Staff, the two parties who were involved in  
6 this dispute are the identical parties to the parties  
7 that were in -- the parties that were in the UE case.  
8 In addition, other parties, UE is an obvious example.  
9 Public Counsel's another example, the industrial  
10 customers.

11           There's almost an exact identity of parties  
12       between this case and the UE case, and most  
13       significantly Staff was a party in the UE case and  
14       they're a party in this case.

15           JUDGE DIPPELL: Can I ask you a question,  
16       Mr. Byrne? Are you saying Laclede was a party to the  
17       case --

18           MR. BYRNE: The UE case.

19           JUDGE DIPPELL: -- that this deposition was  
20       taken in?

21           MR. BYRNE: Yes, your Honor.

22           JUDGE DIPPELL: Thank you.

23           MR. BYRNE: And with regard to identity of  
24       issues, you couldn't hardly find more identical  
25       issues. Dr. Hu was adjusting St. Louis area

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1       temperatures for the period from 1961 to 1990 in that  
2       case, and that's exactly what he's doing in this case.

3           In his deposition that we're proposing to  
4       put in the record in the UE case, he acknowledged the  
5       relationship between his testimony in that case and in  
6       this case. On page 13 and 14 of his deposition in the  
7       UE case it says, Question, did you --

8           MR. SNODGRASS: He's offering parts of a  
9       deposition we're objecting to now. I think that's  
10      improper.

11          MR. BYRNE: I'm not offering it as evidence.

12          JUDGE DIPPELL: It's proper. He's just  
                                    Page 110

13 making -- letting me know what the issues are.

14 MR. BYRNE: Question: Did you spend any  
15 time in 1998 working on this case?

16 Answer: Yes or no, because let me explain.  
17 This case is related to the Laclede Gas Company's  
18 case. So I can't say. I can't say I didn't work on  
19 this because I was working on the same similar  
20 material but I wasn't signed to any kind of a contract  
21 for working on this particular case except for one  
22 visit here in last -- when was that -- last year.

23 Question: They are actually very closely  
24 related, aren't they?

25 Answer: Yes.

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1 In fact, your direct testimony in this case  
2 is nearly identical to your direct testimony in the  
3 Laclede case; isn't that true?

4 Answer: Yes.

5 He also reaffirmed that in his deposition  
6 that Laclede took of Dr. Hu in this proceeding. In  
7 that deposition on page 26 it says, Question: Let me  
8 ask you this. In the documents you have in front of  
9 you as Deposition Exhibits 1, 3 and 4, Depositions 3  
10 and 4 are the Laclede case in 1998, and the AmerenUE  
11 case actually occurred in 1999 but it has a 1996 case  
12 number on it. Do you understand that?

13 Answer: Yes.

14 Question: Those two testimonies were, I  
Page 111

15 believe, fairly identical, were they not?

16 Answer: Yes, they are fairly identical.

17 And in addition to that, in this case, Staff  
18 witness Proctor filed surrebuttal testimony in which  
19 he points out that adjustments made by Dr. Hu stem  
20 from the UE case, again tying what Dr. Hu did in the  
21 UE case to this case.

22 You know, all I can say is, I can't imagine  
23 a case where there would be more identity of issues  
24 than the UE case and this case.

25 In summary, here we have a deposition by an  
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1 admittedly adverse party on exactly the same issue  
2 he's testified on in this proceeding taken recently in  
3 a separate proceeding with substantially identical  
4 parties and identical issues.

5 Under these circumstances, under Rule 57.07  
6 of the Missouri Rules of Civil Procedure, Laclede is  
7 clearly permitted to utilize Dr. Hu's deposition,  
8 quote, for any purpose, and the rule compels the  
9 admission of the deposition into evidence in this  
10 proceeding.

11 MR. MCNEIVE: If we could have a minute,  
12 please.

13 MR. BYRNE: I'd also point out that Staff  
14 provided Dr. Hu's deposition in the UE case as a  
15 response to a data request in this case.

16 And in another case, Henson vs. Washington  
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17 School District, the Missouri Eastern District Court  
18 of Appeals found that the fact that a witness  
19 testified to matters addressed in his deposition did  
20 not render -- did not permit the trier of fact to  
21 exclude the deposition because the testimony in the  
22 deposition was more damaging than the testimony that  
23 he provided at the trial. That's exactly the case  
24 that we have here, your Honor.

25 JUDGE DIPPELL: Which case is that?

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1 MR. BYRNE: This is Henson vs. Washington  
2 School District. And I have copies of all the cases  
3 that I've mentioned in my argument here for you.

4 Anyway, that concludes my argument. We  
5 believe we should be allowed to put the deposition  
6 into the record.

7 JUDGE DIPPELL: Let me ask you one more  
8 question, Mr. Byrne. What about the fact that this  
9 deposition was not signed by Dr. Hu, what is the rule  
10 on that?

11 MR. BYRNE: Well, my understanding is, first  
12 of all, Dr. Hu is here. We can ask him when he's  
13 under oath if that was his deposition, and he can  
14 verify that it was his deposition.

15 With regard to corrections, I understand  
16 Dr. Hu, like anyone who's deposed, might want to make  
17 corrections, and apparently the Staff didn't do that  
18 in the UE case because it was settled. I have no

19 objections to Dr. Hu making whatever corrections he  
20 needs to to his deposition.

21 JUDGE DIPPELL: Thank you. I'm going to  
22 allow the deposition to come in. I believe the court  
23 cases do allow for that, and it will be given the  
24 weight that it deserves. I will allow again the Staff  
25 to make objections to that deposition as we did, as

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1 we're going to do in the other one.

2 And if there are corrections that Staff --  
3 that Dr. Hu feels need to be made to that deposition  
4 that weren't made before, Staff can can move that  
5 those corrections be made.

6 MR. SNODGRASS: I'd like to ask respectfully  
7 for what purpose this previous deposition is being  
8 admitted into the record?

9 JUDGE DIPPELL: Mr. Byrne, I'll let you  
10 respond to that.

11 MR. BYRNE: Your Honor, the deposition is  
12 admissions that bear on the issue that he's addressing  
13 in his testimony. Under the Supreme Court -- or under  
14 the Supreme Court cases I cited, they have to be  
15 related to his testimony in this case. They are  
16 related to his testimony in this case.

17 JUDGE DIPPELL: Mr. Byrne informed me  
18 earlier that these were -- in his arguments just a  
19 moment ago that these were being admitted as  
20 admissions of an adverse party.

21 MR. BYRNE: That's correct.

22 JUDGE DIPPELL: That's the purpose that I  
23 was admitting them.

24 MR. BYRNE: Yes, your Honor.

25 JUDGE DIPPELL: And again, I'm going to make  
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1 it clear that this is basically preliminary arguments.  
2 That's how I'm going to rule when that deposition is  
3 offered, but I would expect that a foundation would be  
4 laid and that deposition would be offered.

5 Are there any other preliminary matters with  
6 regard to Dr. Hu's testimony? Were there going to be  
7 objections to the video or do we know?

8 MR. MCNEIVE: Could I address that, your  
9 Honor? I've shown the video to counsel who seem to be  
10 interested, that was Public Counsel and the counsel  
11 for the Staff, and I'm advised that neither one has  
12 objection to the presentation of the video. And if  
13 they'd like to speak to that, please go ahead.

14 MR. SCHWARZ: Staff will not object to the  
15 video. Although I'm not prepared at the present time  
16 to offer specifics, I would like the Commission to  
17 take official notice of census data of the various  
18 locations, that would be the area immediately  
19 surrounding Lambert Airport, Jerseyville, Illinois,  
20 Elsberry, Missouri and Union, Missouri, from  
21 appropriate and reliable governmental sources, whether  
22 it be U.S. census data, and that Staff be allowed to

23 reference such information as it feels necessary in  
24 Briefs.

25 JUDGE DIPPELL: And you have copies of --

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1 MR. SCHWARZ: No, I don't have copies.

2 JUDGE DIPPELL: Or can get copies?

3 MR. SCHWARZ: They'll be published -- I

4 would expect to cite to published government

5 information, be it state or federal.

6 MR. MICHEEL: Your Honor, just for --

7 JUDGE DIPPELL: Mr. Micheel?

8 MR. MICHEEL: For the purpose of this

9 proceeding, we won't object to the videotape. That

10 doesn't mean that in some other proceeding we wouldn't

11 object to certain videotapes.

12 JUDGE DIPPELL: I understand.

13 MR. MCNEIVE: Your Honor, in response to

14 Mr. Schwarz' suggestion, we don't have any objection

15 to his administrative notice request in concept

16 certainly, and, of course, if we found something that

17 we felt was wrong with the data or was irrelevant we

18 would bring that to the Commission's attention. But

19 since I don't have the numbers in front of me at this

20 time, I really can't say what that might be, but we

21 have no objection to his general offer.

22 JUDGE DIPPELL: Okay. I will -- the

23 Commission will take administrative notice of the

24 census data, but for our convenience --

25 MR. SCHWARZ: Absolutely.

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1 JUDGE DIPPELL: -- if you could provide us  
2 copies of any information that you reference.

3 MR. SCHWARZ: Absolutely, and the other  
4 parties as well.

5 JUDGE DIPPELL: Thank you. Okay. Let's go  
6 ahead and break for lunch and start with Dr. Hu's  
7 testimony after lunch.

8 Off the record.

9 (The noon recess was taken.)

10 JUDGE DIPPELL: On the record.

11 Okay. After the lunch break counsel  
12 informed me that there may be possibility of some  
13 settlement of some of the weather issues, and so we're  
14 going to switch gears and jump ahead in our proposed  
15 procedural schedule here to the accounting authority  
16 order issue that's still remaining. And correct me if  
17 I'm wrong, then, counselors, that means we start with  
18 Mr. Fallert?

19 MR. PENDERGAST: Yes.

20 JUDGE DIPPELL: If he'd like to go ahead and  
21 come forward. Welcome back. Mr. Fallert, I'll remind  
22 you that you're still under oath from previously being  
23 sworn.

24 THE WITNESS: Okay.

25 JUDGE DIPPELL: Have a seat. Let me go

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1 ahead with your -- do you have direct examination?  
2 His exhibits have already been admitted.

3 MR. PENDERGAST: Yes, and I think he's just  
4 ready to stand cross-examination.

5 JUDGE DIPPELL: Okay, then. Is there  
6 cross-examination by AmerenUE?

7 MS. KNOWLES: No.

8 JUDGE DIPPELL: I'm sorry. I see  
9 Mr. Landwehr has joined us.

10 MR. LANDWEHR: No questions.

11 JUDGE DIPPELL: Is there cross-examination  
12 from Public Counsel?

13 MR. MICHEEL: Yes, there is, your Honor.

14 JAMES A. FALLERT testified as follows:

15 CROSS-EXAMINATION BY MR. MICHEEL:

16 Q. Mr. Fallert, do you have a copy of your  
17 rebuttal testimony which has been marked for purposes  
18 of identification as Exhibit 8 with you?

19 A. Yes, I do.

20 Q. Could you turn, sir, to page 7 of that  
21 testimony?

22 A. Okay. Got it.

23 Q. And I guess I'm focusing there on line 7 and  
24 8. Is it correct that you claim that the current  
25 two-year deferral period utilized historically in

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1 granting an AAO is too brief and arbitrary?

2 A. Yes.

3 Q. Would you agree with me, Mr. Fallert, that  
4 the purpose of granting an Accounting Authority Order  
5 is to allow the company to defer items that have been  
6 deemed extraordinary?

7 A. I think the purpose of the Safety Accounting  
8 Authority Order is to allow the company to defer items  
9 related to the replacement of mains and services which  
10 the -- are being replaced under the company's safety  
11 replacement program. I don't think -- I don't think  
12 whether those are extraordinary really figures into  
13 that in my opinion.

14 Q. In your opinion. I was just asking you  
15 about AAOs in general, if you know, not this specific  
16 AAO.

17 A. Could you repeat the question?

18 Q. Sure. I said, would you agree with me that  
19 the purpose of AAOs is to allow generally a company to  
20 defer items that are deemed extraordinary in nature?

21 A. That's one purpose.

22 Q. Would you agree with me that the deferred  
23 accounting allowed by Accounting Authority Orders is a  
24 departure from traditional accounting treatment?

25 A. What do you mean by traditional accounting

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1 treatment?

2 Q. Traditional regulatory accounting treatment  
3 and traditional accounting treatment, nonregulatory.

4 A. I think from a regulatory accounting  
5 standpoint Accounting Authority Orders are not an  
6 uncommon device for handling regulatory accounting  
7 matters. From a strictly accounting sense, in a  
8 Generally Accepted Accounting Rules sense, it is a  
9 departure from accounting practice, which is permitted  
10 under the accounting rules for a regulated utility.

11 Q. Would you agree with me that generally  
12 carrying over an item, a cost item from one period to  
13 another period is not traditionally done from one  
14 accounting period to another accounting period?

15 A. Again, it depends if you're talking about  
16 regulatory accounting or --

17 Q. Let's talk about regulatory accounting  
18 first.

19 A. Well, it's done in the concept of Accounting  
20 Authority Order.

21 Q. Absent Accounting Authority Orders?

22 A. Absent Accounting Authority Orders, you  
23 would record costs in the period they occurred.

24 Q. What's the average amount of SRP deferrals  
25 for the Company for the last five years per year?

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1 A. I don't have all those numbers right in  
2 front of me, but I can tell you that in this case



3 we've got about \$2 million worth of deferrals that  
4 accrued over a period of three years or so.

5 Q. If I understand your proposal -- well, let  
6 me first go with the current two-year proposals. Is  
7 it your understanding that currently the Commission  
8 requires the Company to file a rate case within two  
9 years of the granting of an AAO or the AAO goes away  
10 essentially?

11 A. Yes.

12 Q. Okay. So that would allow the Company, if  
13 I'm correct, to file a rate case one year and 364 days  
14 after the AAO was granted; is that correct?

15 A. That's correct.

16 Q. And then let's assume for purposes of this  
17 question that on the 364th day the Company files a  
18 rate request seeking recovery of the amounts deferred  
19 in this case pursuant to the safety AAO. Will you  
20 make that assumption?

21 A. Uh-huh.

22 Q. Is it correct, then, that there's another  
23 11-month time period before a rate case statutorily is  
24 processed in Missouri, if you know?

25 A. That would be the maximum period, yes.

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1 Q. So is it correct that under the current  
2 practice you essentially are receiving three years, is  
3 that correct, or almost three years?

4 A. Well, it would be two years and 11 months

5 under your example.

6 Q. And is that close to three years?

7 A. Well, it's one month away from three years.

8 Q. Would you agree with me that a limitation on  
9 accruing the AAO deferrals prevents ongoing  
10 accumulation in large amounts, making a cutoff date so  
11 they're not accumulated or deferred indefinitely?

12 A. Well, it certainly keeps any balance from  
13 getting bigger if you cut it off at some point.

14 Q. And is it correct in this case that you  
15 testified in your surrebuttal testimony, if there was  
16 a total disallowance of the AAOs, that -- and I  
17 recognize we settled that, but if there was a total  
18 disallowance as proposed prior to settlement by Public  
19 Counsel of the AAOs, that the Company would be out  
20 about \$8.7 million; is that correct? And that's at  
21 page 10, I think, of your surrebuttal testimony.

22 A. Yes, that was the number.

23 Q. And also at page 12 of your surrebuttal  
24 testimony, at line 5 you indicate that that would --  
25 that that disallowance would be approximately,

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1 assuming it was granted, 19 percent of your net  
2 income; is that correct?

3 A. That's correct. I think we need to clarify  
4 that that number was a result of five AAOs, four of  
5 which we've already agreed to eliminate.

6 Q. Certainly. I'm just trying to get an idea

7 of the magnitude of disallowances of AAOs.

8 would you agree with me that your proposal  
9 is found in Schedule, I guess it is, 3-1 of your  
10 rebuttal testimony on how you propose to treat the  
11 AAOs on a going-forward basis with respect to the  
12 sunset period?

13 A. Yes.

14 Q. And if I understand your proposal correctly,  
15 the Company is requesting that the Company be granted  
16 a three-year amortization period; is that correct?

17 A. No.

18 Q. What amortization period is the Company --  
19 or not -- what deferral period is the Company  
20 requesting?

21 A. Deferral period, the proposal we laid out is  
22 that at a point six months prior to three years we'd  
23 be required to make a filing at the Commission  
24 requesting what we felt should happen with the SRP AAO  
25 going forward. The Commission would then make a

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1 determination. If the Commission required us to file  
2 a rate case, we'd have to do so within six months of  
3 the Commission's determination.

4 Q. Let me unpack that. So you'd have an AAO in  
5 place for 30 months; is that correct?

6 A. Right.

7 Q. And then in the 30th month, which is two and  
8 a half years, approximately?

9 A. Yes.

10 Q. The Company would file a request with the  
11 Commission; is that correct?

12 A. Yes.

13 Q. And what do you envision would be included  
14 in that request?

15 A. I think it would depend on the situation at  
16 the time. But in the absence of the Company filing a  
17 rate case at that time, I think we would probably  
18 request a continuation of the AAO.

19 Q. And what information would be included in  
20 that request?

21 A. We've already agreed to set up a monitoring  
22 system where we're going to keep track of our AAO  
23 balances and report those monthly to the Commission's  
24 financial services staff. So I think one of the key  
25 pieces of information for the Commission at that point

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1 would be what the balance is that had been accrued in  
2 that AAO.

3 Q. Under your proposal, after you filed for the  
4 six months, you're going to give the Commission an  
5 idea of what balances have been deferred, if I  
6 understand your last answer correct; is that correct?

7 A. That's correct.

8 Q. Are you going to provide the Commission  
9 information with respect to the Company's financial  
10 position during that 30 months that the deferrals have

11 been in place?

12 A. I think we'd leave it to the Commission to  
13 decide what additional information they might need at  
14 that point.

15 Q. So your proposal in that sense is open  
16 ended; is that correct?

17 A. Can you tell me what you mean by open ended?

18 Q. Well, you don't know what specific  
19 information you're going to give the Commission other  
20 than you're going to give them an account and say,  
21 Commission, we've deferred X dollars?

22 A. Well, we really feel that the determination  
23 is one that should be made at that time and not at  
24 this time as to what the appropriate information is  
25 and what the decision should be in that respect.

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1 Q. Okay. So you would ask the Commission to  
2 approve that and then we'll fill out the details at  
3 some later date; is that your testimony?

4 A. I think that we would ask that -- our  
5 concept is that the real decision to be made on  
6 whether an AAO should be extended should be made at  
7 that point in time based on the information that's  
8 available at that point in time and really shouldn't  
9 be made now, today.

10 Q. Now, you filed your continuing request for  
11 six months, and that would -- at the 30th month, six  
12 months before the end. Then what do you anticipate

13 the other parties' rights to be at that point?

14 A. I think the other parties would have the  
15 right to respond in any manner that they wished.

16 Q. Would you believe that the other parties  
17 would have a right to request a hearing?

18 A. If they so desired.

19 Q. Is there any time limit in your proposal for  
20 the Commission to rule on your request to extend the  
21 AAO?

22 A. No.

23 Q. So those deferrals could go on indefinitely  
24 if the Commission, for whatever reason their docket  
25 was full or they couldn't get a decision out or, you

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1 know, they determined we were going to have a hearing  
2 and do discovery? There is no time period there; is  
3 that correct?

4 A. There's -- it's my understanding in that  
5 type of proceeding there's no statutory time period.

6 Q. So you could be deferring these amounts  
7 indefinitely in theory; is that correct?

8 A. Well, perhaps in theory.

9 Q. Okay. Let's assume that the Commission  
10 determines that a rate case is necessary utilizing  
11 your theory that you've set out on Schedule 3-1.  
12 Okay. We've gone through your filing and we've had  
13 the hearing or we've taken whatever evidence we're  
14 going to take and the Commission determines Laclede

15 needs to file a rate case.

16 Is it a correct understanding of your  
17 proposal, then, that Laclede could get another six  
18 months to prepare that rate case?

19 A. Yes.

20 Q. Okay. And during that six-month interim  
21 period, would those deferrals continue, Mr. Fallert?

22 A. Yes.

23 Q. Okay. So even if we're proceeding at all  
24 due speed, those deferrals are -- okay. Then we've  
25 got the rate case filed. Is it correct then, once the

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1 rate case is filed, there's a statutory time period of  
2 another 11 months for processing a rate case?

3 A. Yes.

4 Q. And so even best case scenario, assuming the  
5 Commission determined that a rate case was necessary,  
6 you're requesting that the Commission stretch the  
7 deferral period out to at least four and a half years;  
8 is that correct?

9 A. Well, no. That would assume that the  
10 Commission had decided they wanted to do that.

11 Q. And that was -- that was my assumption built  
12 into my question, Mr. Fallert.

13 A. And that's my point. I think that if the  
14 Commission decides that's appropriate at that point in  
15 time, that's what should happen. We're not suggesting  
16 that the Commission must extend that AAO in any manner

17 at that point in time. We're suggesting that they  
18 should have the opportunity to make that decision at  
19 that point in time.

20 Q. Let me ask you this. Let's assume for the  
21 purpose of this question that the Commission continues  
22 to keep the AAO cutoff at two years. Is there  
23 anything that prevents Laclede right now from  
24 requesting an extension of those AAOs?

25 A. Not to my knowledge.

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1 Q. So in other words, if the Commission decided  
2 to keep the two-year sunset provision, there would be  
3 nothing that would prevent Laclede from asking for an  
4 extension; is that correct?

5 A. No. We have that right, as I understand it.

6 MR. MICHEEL: Thank you very much,  
7 Mr. Fallert.

8 JUDGE DIPPELL: Is that all your questions?

9 MR. MICHEEL: Yes.

10 JUDGE DIPPELL: Is there cross-examination  
11 from Staff?

12 MR. WILLIAMS: No, your Honor.

13 JUDGE DIPPELL: Are there questions from the  
14 Bench on this issue from Commissioner Murray?

15 COMMISSIONER MURRAY: I have none. Thank  
16 you.

17 JUDGE DIPPELL: Is there redirect?

18 MR. PENDERGAST: Just a little bit, your



19 Honor.

20 REDIRECT EXAMINATION BY MR. PENDERGAST:

21 Q. Mr. Fallert, you were asked a couple of  
22 questions about the potential magnitude of  
23 disallowances under the AAO, and I believe Mr. Micheel  
24 referred you to a part in your testimony where you  
25 talk about the potential write-offs that we might have

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1 had in the event that we had not reached a settlement  
2 of the AAO issue.

3 And I believe you indicated that the number  
4 you gave him represented the amount for only the five  
5 AAOs that we had in effect; is that correct?

6 A. Actually, if that's what I said, I misspoke.  
7 That number actually would have represented the four  
8 AAOs that we eliminated.

9 Q. Okay. The four AAOs that are being  
10 eliminated. And if you just look at the one that we  
11 are talking about continuing, what was the amount  
12 accumulated for that?

13 A. That one was about \$2 million.

14 Q. About \$2 million. You also indicated that  
15 there would be a monitoring system under which we  
16 would provide information to Staff. Would that  
17 information be provided to Public Counsel as well?

18 A. That's my understanding. Public Counsel  
19 would have -- be able to get that information as well.

20 Q. Are you aware of whether or not Public

21 Counsel can ask data requests of the Company and ask  
22 for information regardless of whether we have a  
23 proceeding before the Commission?

24 A. Yes, I believe they can.

25 Q. Okay. And the same thing would be true of

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1 Staff?

2 A. Yes.

3 Q. Okay. And are you aware of whether or not  
4 Staff and Public Counsel, if they believe that we're  
5 in an overearnings situation, have a right to either  
6 seek authorization or directly file a complaint  
7 against the Company?

8 A. Yes, they do.

9 Q. Okay. And in response to Mr. Micheel's  
10 concerns about the process continuing on, in the event  
11 the Commission decides that it doesn't want us to file  
12 a rate case, do you have concerns about giving the  
13 Commission the discretion to make those kinds of  
14 determinations?

15 A. No, I don't.

16 MR. PENDERGAST: Thank you. I have no  
17 further questions.

18 JUDGE DIPPELL: Thank you. Mr. Fallert, I  
19 believe that's the end of your testimony, then. You  
20 may be excused.

21 THE WITNESS: Thank you.

22 (Witness excused.)

23 JUDGE DIPPELL: It's my understanding that  
24 Mr. Hoeferlin's no longer necessary to testify on this  
25 issue.

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1 MR. PENDERGAST: That's correct.  
2 JUDGE DIPPELL: So that brings us to Office  
3 of the Public Counsel's first witness.  
4 MR. MICHEEL: We would call Ted Robertson,  
5 your Honor.  
6 (Witness sworn.)  
7 JUDGE DIPPELL: You may proceed,  
8 Mr. Micheel.  
9 TED ROBERTSON testified as follows:  
10 DIRECT EXAMINATION BY MR. MICHEEL:  
11 Q. Would you state your name for the record and  
12 how you're employed.  
13 A. My name is Ted Robertson. I'm employed by  
14 the Missouri Office of the Public Counsel. Our  
15 address is P.O. Box 7800, Jefferson City, Missouri  
16 65102.  
17 Q. And are you the same Ted Robertson who's  
18 caused to be filed before this proceeding your direct  
19 testimony which has been marked for purposes of  
20 identification as Exhibit 47, your rebuttal testimony  
21 which has been marked for purposes of identification  
22 as Exhibit 48, and your surrebuttal testimony which  
23 has been marked for purposes of identification as  
24 Exhibit 49?

25 A. Yes.

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1 Q. Do you have any corrections that you wish to  
2 make to any of those testimonies?

3 A. No.

4 Q. And if I asked you the same questions  
5 contained in your direct, rebuttal and surrebuttal  
6 testimonies, would your answers be the same or  
7 substantially similar?

8 A. Yes, they would.

9 MR. MICHEEL: With that, your Honor, I would  
10 move admission of Exhibits 47, 48 and 49 and tender  
11 Mr. Robertson for cross-examination.

12 JUDGE DIPPELL: Okay. Do we still have a  
13 motion to strike pending on Mr. Robertson's testimony?

14 MR. PENDERGAST: We did, your Honor, but  
15 that motion is now withdrawn by the Company in light  
16 of the settlement we've reached on the AAO issues.

17 JUDGE DIPPELL: Are there any objections to  
18 the admission of Exhibits 47, 48 and 49?

19 MR. WILLIAMS: No objection.

20 JUDGE DIPPELL: Then I'll receive those into  
21 evidence.

22 (EXHIBIT NOS. 47, 48 AND 49 WERE RECEIVED  
23 INTO EVIDENCE.)

24 JUDGE DIPPELL: Is there cross-examination  
25 by MRT?

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1 MR. LANDWEHR: No, your Honor.

2 JUDGE DIPPELL: AmerenUE?

3 MS. KNOWLES: None.

4 JUDGE DIPPELL: Staff?

5 MR. WILLIAMS: No, your Honor.

6 JUDGE DIPPELL: Laclede?

7 MR. PENDERGAST: Yes, thank you, your Honor.

8 CROSS-EXAMINATION BY MR. PENDERGAST:

9 Q. Just by way of clarification, we've had some  
10 discussion, but since it was in your testimony,  
11 Mr. Robertson, I thought I'd ask you. We had an issue  
12 earlier about what the proper depreciation period was  
13 for computer software; is that correct?

14 A. That is correct.

15 Q. And I think you had recommended ten years  
16 and the Company had recommended five, and am I correct  
17 that Public Counsel is now acceptable with the five  
18 years?

19 MR. MICHEEL: I'm going to object. We  
20 settled that issue, your Honor, and Mr. Robertson is  
21 up there with respect to AAOs. I think counsel's made  
22 that representation on the record and we haven't  
23 objected to it, but I think it's inappropriate to be  
24 asking him about matters that we've settled.

25 MR. PENDERGAST: Well, my only purpose was

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1 to make sure that it was clear on the record that that  
2 had been the case, and I'll certainly accept  
3 Mr. Micheel's -- I know he hasn't objected to my  
4 statement when I've said it, but I just --

5 MR. MICHEEL: Well, to the extent that his  
6 statement says we've accepted the five years for  
7 purpose of settlement, we've agreed to that, but as a  
8 substantive position we haven't.

9 JUDGE DIPPELL: I understand.

10 MR. PENDERGAST: And that's fine. Quite  
11 frankly, in light of Mr. Micheel's statement, I don't  
12 even have to ask Mr. Robertson. I withdraw the  
13 question.

14 JUDGE DIPPELL: Thank you.

15 BY MR. PENDERGAST:

16 Q. Mr. Robertson, Laclede has had a fairly  
17 consistent practice over the last 15 to 20 years of  
18 filing rate cases pretty much every two years; is that  
19 your understanding?

20 A. Well, I haven't been here that long. I can  
21 remember in the nine years I've been here two or three  
22 cases, yes.

23 Q. That's been a pretty routine happening as  
24 far as Laclede is concerned?

25 A. Yes.

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1 Q. And is it your understanding that one of the  
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2 objectives the Company is trying to pursue with its  
3 particular proposal in this case is to be able to stay  
4 out longer than two years?

5 A. In private discussions, I believe the  
6 Company personnel has stated that. I don't know that  
7 it's in testimony anywhere.

8 Q. Well, would you draw the inference from the  
9 fact that we would like to not have the obligation to  
10 file a rate case in two years in order to keep alive  
11 our AAO an indication that maybe one of your  
12 objectives is to be able to stay out longer?

13 A. I guess I could infer that, yes.

14 Q. Okay. And let me ask you this. As somebody  
15 who represents ratepayers in the state of Missouri,  
16 are you generally pleased as a general matter when  
17 utilities can defer seeking rate relief?

18 A. I don't know that I have a personal  
19 preference in that matter. I enjoy doing rate cases.

20 Q. Yes, and that enjoyment shines through,  
21 Mr. Robertson.

22 (Laughter.)

23 But I was asking really for your  
24 observations as somebody that works for an agency that  
25 is -- has the statutory obligation to represent the

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1 interests of utility consumers, and is deferral of  
2 rate increases in your view good or bad for the  
3 consumer?

4 A. In the context that you just stated where  
5 deferral of a rate increase is good or bad, I'd say  
6 probably good for the consumer from our viewpoint.

7 Q. Okay. And would you generally agree with me  
8 that, as evidenced by our experience over the last ten  
9 years, that Laclede is different from electric  
10 utilities you may be familiar with in the sense of  
11 being more of an inclining cost rather than declining  
12 cost company?

13 A. I've heard that comment made, but I don't  
14 know that I could really express an opinion on that  
15 one way or the other. I don't know that I have exact  
16 knowledge whether you are a declining or increasing  
17 cost industry in comparison to other utilities.

18 Q. Okay. Fair enough. Now, as I understand  
19 it, you've got two concerns that I think you've  
20 addressed in your testimony as to why this 24-month  
21 period is, in your view, an appropriate period, and  
22 let me see if I can characterize these and tell me  
23 whether you agree with my characterization.

24 One is that you believe these costs should  
25 be extraordinary, and if you take longer than two

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1 years to come back in for rate relief, that's a sign  
2 to you that they're not big enough to justify the AAO  
3 in the first place; would that be a fair statement?

4 A. would you restate that again?

5 Q. Yes. One of the concerns is that if you  
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6 don't come in within two years, that's kind of an  
7 indication that maybe the costs weren't extraordinary  
8 enough, and under those circumstances maybe there  
9 wasn't a justification for the AAO in the first place?

10 A. In reading past Commission Orders, the  
11 rationale for granting an AAO is that the costs be  
12 extraordinary. That being the case, extraordinary  
13 meaning that the costs are material and could have  
14 some kind of detrimental financial impact on the  
15 Company's operations, the quicker you come in for  
16 review so the Staff and Public Counsel and the  
17 Commission can review your financial information  
18 allows them to make a determination whether the costs  
19 are actually extraordinary or not.

20 So the longer that you stay out kind of  
21 implies that the costs may not have a severe financial  
22 impact on your operations.

23 Q. And hence may not be big enough to justify  
24 an AAO?

25 A. That would be another component of it, yes.

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1 Q. And on the other hand, I think another  
2 concern you've mentioned is that if you let a utility  
3 stay out too long, the costs may become so big that it  
4 becomes difficult for the Commission to go ahead and  
5 disallow them; is that right?

6 A. I had in my testimony, I use that testimony  
7 as you stated it, and also referred to a portion of

8 Mr. Fallert's testimony where he has used that exact  
9 argument under for -- I believe it was manufactured  
10 gas plant, that the costs that they deferred become so  
11 large that if they were to write them off, the  
12 financial community might take a dim view of that.

13 Q. Well, were you in the room just a little  
14 while ago when we talked about Mr. Fallert's testimony  
15 and how he clarified that the numbers he was referring  
16 to were all five AAOs?

17 A. I know when you were talking about when  
18 Mr. Micheel discussed \$8 million.

19 Q. Right.

20 A. I think the piece of testimony I'm referring  
21 to was specific to manufactured gas plant.

22 Q. Well, let me ask you this, then. On the one  
23 hand you're concerned that the costs may be not big  
24 enough to justify the AAO, and on the other hand you  
25 seem to be telling me that you're concerned that they

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1 may be too big that the Commission may disallow them.

2 And I guess my question for you is, how was  
3 it determined that 24 months was the precise and  
4 appropriate period of time for all occasions and all  
5 companies to sort of strike that balance between too  
6 big and not big enough? How did 24 months become that  
7 perfect dividing line for that?

8 A. Could I address the first part of your  
9 question where you stated that the Commission would

10 maybe decide that costs were not big enough to put  
11 into an AAO and then later on they might be too big to  
12 keep or not write off?

13 I don't know whether -- if you extended it  
14 for a number of years, I don't know that the  
15 Commission would disallow the costs because based on  
16 the fact that they were large. And as far as that,  
17 that's all I've got to say.

18 As far as the two-year limitation, I don't  
19 know. The case that I probably considered a similar  
20 case in AAOs was the EO -- EO-91-358, EO-91-360, I  
21 believe. I think Staff witness Mr. Oligschlaeger  
22 presented some testimony in that case that recommended  
23 a 12-month sunshine provision, sunset provision. How  
24 it got from 12 months to two years, I don't know.

25 Q. So you really don't know at this point what

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1 the basis for two years is and how it relates to  
2 specifically either one of the arguments that you're  
3 making?

4 A. I know I've been involved in other AAO cases  
5 where the Commission approved a two-year. Why they  
6 approved it exactly over 12 months, I don't know.

7 Q. Or over three years?

8 A. That's correct.

9 Q. Okay. And let me ask you this. Are you  
10 concerned about giving the Commission, Mr. Robertson,  
11 the discretion to make a determination on whether

12 Laclede should be required to file a rate case in  
13 order to continue its AAO? Is that something that  
14 gives you pause for concern?

15 A. Could you restate that?

16 Q. Yes. Is it your understanding of the  
17 Company's proposal that what we're saying is we'll  
18 come to the Commission within a set period of time and  
19 file something saying, Look, Commission, we'd like to  
20 continue to not have to file a rate case and, you  
21 know, we'd request the opportunity to do that and --  
22 and then parties would have an opportunity to respond  
23 and ultimately the Commission would decide what it  
24 wants to do. Is giving the Commission the ability to  
25 decide what it wants to do a matter of concern to you?

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1 A. Well, actually, I don't have the authority  
2 to tell the Commission to do anything or I don't give  
3 them the authority to do anything.

4 My concern is that, by extending the amount  
5 of time that you're allowed to defer those costs, the  
6 further you get away from the actual time period that  
7 the costs are deferred, the more difficult it becomes  
8 to look at your investment, your revenues and your  
9 expenses and make a rational recommendation to the  
10 Commission whether they should have been considered  
11 extraordinary or not and whether you should be allowed  
12 to recover them.

13 As far as giving the Commission discretion  
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14 to do one thing or the other, I don't have that power.

15 Q. I know you don't have the power, and I'm not  
16 asking you whether you do. I'm asking you whether or  
17 not a proposal that instead of automatically  
18 restricting the ability of the Commission to make that  
19 determination and putting it on automatic pilot  
20 instead says we'll let the Commission decide at the  
21 appropriate time, whether in your view providing that  
22 kind of discretion is a matter of concern to you?

23 A. I don't mean to be argumentative. I guess I  
24 just don't understand your question because I'm just  
25 making a recommendation to the Commission to continue

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1 the two years. If they decide in their -- in their  
2 study of the situation that they want to do three  
3 years, they have that opportunity. My recommendation  
4 is to stay to the two years.

5 MR. PENDERGAST: Okay. Just a moment.

6 I have no further questions. Thank you.

7 JUDGE DIPPELL: Commissioner Murray, did you  
8 have questions for this witness?

9 COMMISSIONER MURRAY: No.

10 JUDGE DIPPELL: Is there redirect?

11 MR. MICHEEL: Yes, there is, your Honor.

12 REDIRECT EXAMINATION BY MR. MICHEEL:

13 Q. Mr. Robertson, Mr. Pendergast asked you  
14 about whether or not it was a good idea for companies  
15 to stay out for rate cases longer than two years or

16 longer overall. Do you recall those questions?

17 A. I do.

18 Q. Do you have an opinion about whether or not  
19 it's appropriate to extend deferred accounting matters  
20 out over a longer time to prevent the filing of rate  
21 cases?

22 A. Do I have an opinion on that?

23 Q. Yes.

24 A. Yes, I do.

25 Q. And what's that opinion?

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1 A. My opinion is that if you -- if you extend  
2 those costs or the time period out to where they defer  
3 the costs, what you're actually doing is you're  
4 getting away from the period, the time period that  
5 those costs are deferred, and so that the plant,  
6 revenue, the investment during those time periods  
7 cannot be audited to determine whether or not the  
8 costs that you deferred per the AAO are really  
9 extraordinary and financially or materially impact the  
10 financial operation of the company.

11 Q. And are you aware of any practical auditing  
12 problems that elongated deferrals can cause?

13 A. Yes, I am. As an example, if under the  
14 Company's proposal they were allowed to defer costs  
15 for the entire length of the possible period under the  
16 proposal, which is about four and a half years, I  
17 think during that time period the Commission made them

18 do their rate case, you would base the rate case, the  
19 test year, probably on the most current period that  
20 was available.

21 If you did that, four and a half years,  
22 you'd be looking at the last 12 months or so, 12 to 18  
23 months maybe. The time period at the beginning, the  
24 first year or second year, maybe portion of the third  
25 year, you wouldn't look at the operations in the

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1 financial operations. So you wouldn't know whether or  
2 not they were actually earning their return or not.

3 Q. Do you know -- when a utility company stays  
4 out, as Mr. Pendergast said, for three years, do you  
5 know whether or not it's assumed or whether or not the  
6 Company thinks it's earning an appropriate return on  
7 its investment?

8 MR. PENDERGAST: I'm going to object to  
9 that. He's asking Mr. Robertson to make some kind of  
10 assumption about what a utility that's unnamed and  
11 unspecified might be thinking about why it's staying  
12 out, and it seems to be unduly speculative.

13 MR. MICHEEL: I think it's directly  
14 relevant, your Honor, to the questions asked about  
15 whether or not it's good for utilities to stay out,  
16 whether or not it benefits consumers. I'm asking him  
17 a basic question about essentially do utilities have  
18 rights if they feel that they're underearning to file  
19 rate cases.

20 MR. PENDERGAST: If he's going to ask that  
21 question, I'm fine with that question.

22 JUDGE DIPPELL: Okay. You may ask your  
23 question.

24 BY MR. MICHEEL:

25 Q. Mr. Robertson, do you know whether or not

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1 utilities, if they feel they're underearning, have the  
2 right to file for rate cases?

3 A. If a company is underearning, they can file  
4 a rate case. Actually, the company can file a rate  
5 case at any time. The only purpose for filing a rate  
6 case would be if they thought they were underearning.

7 Q. And if the company doesn't file a rate case?

8 A. Inherent in that belief is they're either  
9 earning their return or more than, or if they're  
10 earning less than the Commission approved return, it's  
11 not material enough for them to come in and seek  
12 recovery of higher returns.

13 Q. Mr. Pendergast also asked you a question  
14 about whether or not, along the same lines, whether or  
15 not you had an opinion whether it's good for consumers  
16 for companies to stay out longer from rate cases.

17 I guess do you have an opinion of whether or  
18 not it's good for consumers and maybe even good for  
19 utilities to have large amounts or any amounts of  
20 deferred costs on their books?

21 A. Are you asking me from a regulatory



22 standpoint if it's a good thing to have deferred costs  
23 on the books?

24 Q. Yes, for consumers.

25 A. For consumers? I think in that kind of

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1 situation there's the potential risk that those costs  
2 will be passed on to consumers, so it would be money  
3 out of their pockets. So I'd say it's probably not a  
4 good thing for consumers.

5 Q. Mr. Pendergast asked you a line of questions  
6 about the discretion of the Commission to grant an  
7 extension of the deferrals pursuant to Laclede's  
8 proposal. Do you recall those questions?

9 A. Restate that, please.

10 Q. Mr. Pendergast asked you about the  
11 Commission whether -- a question about whether or not  
12 you were afraid to give the Commission the discretion  
13 to grant continued deferrals or make a determination  
14 of a rate case with respect to the proposal that the  
15 Company set out in Mr. Fallert's Schedule 3-1. Do you  
16 recall those questions?

17 A. I do recall the question.

18 Q. Is your opposition based on that discretion  
19 or the lack of details in the Company's proposal about  
20 how that discretion would -- how the Commission would  
21 be presented that information?

22 MR. PENDERGAST: I'm going to object to  
23 that. You know, I guess you could say Mr. Pendergast

24 asked you a question about discretion, and do you have  
25 a problem with the proposal for that or let me take

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1 you to any other subject that he didn't ask about in  
2 cross-examination. I just think that's beyond the  
3 scope.

4 MR. MICHEEL: I'm asking him if the problem  
5 was with the discretion, and I don't think that's  
6 where the problem is.

7 JUDGE DIPPELL: I think the question just  
8 clarifies what the witness was answering. Objection  
9 overruled.

10 THE WITNESS: You overruled it?

11 JUDGE DIPPELL: You may answer.

12 THE WITNESS: Okay. My testimony does  
13 not -- is not related to the fact whether or not the  
14 Commission has discretion or not to order two years or  
15 three years.

16 Our concern is with the fact that the  
17 deferral period would be extended and the deferrals  
18 themselves, how you would audit them, how you would  
19 set up the system that the Company's proposed, what  
20 kind of hearings we would have, all the administrative  
21 burden of extending it past the already set two years,  
22 which is in my opinion far, far too long anyhow.

23 BY MR. MICHEEL:

24 Q. Mr. Pendergast also asked you a question  
25 with respect to the manufactured gas plant deferrals.

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1 Do you recall those questions?

2 A. Yes.

3 Q. Could you turn to page 9 of your surrebuttal  
4 testimony?

5 A. Okay.

6 Q. And on line 7, are you discussing, do you  
7 give the specific cite to Mr. Fallert's testimony  
8 where he discusses the MGP deferral?

9 A. I do.

10 Q. And was that what you were referring to in  
11 response to Mr. Pendergast's question?

12 A. That is correct.

13 MR. MICHEEL: I have nothing further, your  
14 Honor.

15 JUDGE DIPPELL: Thank you. Mr. Robertson, I  
16 believe we're finished with you. You may be excused.

17 (Witness excused.)

18 JUDGE DIPPELL: Again, according to my list,  
19 there's no longer a need for Mr. Gibbs' testimony on  
20 this issue, and so that brings us to Mr. Rackers for  
21 Staff; is that correct?

22 MR. WILLIAMS: Yes.

23 (Witness sworn.)

24 JUDGE DIPPELL: Thank you.

25 STEPHEN M. RACKERS testified as follows:

□

- 1 DIRECT EXAMINATION BY MR. WILLIAMS:  
2 Q. Would you please state your name.  
3 A. Stephen M. Rackers.  
4 Q. Would you spell your name, please.  
5 A. S-t-e-p-h-e-n M. Rackers, R-a-c-k-e-r-s.  
6 Q. Who's your employer?  
7 A. The Missouri Public Service Commission.  
8 Q. And did you prepare or have prepared on your  
9 behalf testimony that was prefiled in this case?  
10 A. Yes, I did.  
11 Q. Was that direct testimony, rebuttal  
12 testimony and surrebuttal testimony?  
13 A. That's correct.  
14 Q. And has your direct testimony been marked as  
15 Exhibit 81 in this case?  
16 A. Yes.  
17 Q. Has your rebuttal testimony been marked as  
18 Exhibit 82?  
19 A. Yes.  
20 Q. And has your surrebuttal testimony been  
21 marked as Exhibit 83?  
22 A. Yes.  
23 Q. If I were to ask you each question as set  
24 forth in each of those exhibits, would your answers  
25 that are written thereto be the same today as they

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1 were at the time you wrote them?

2 A. Yes.

3 MR. WILLIAMS: I offer Exhibits 81, 82 and  
4 83.

5 JUDGE DIPPELL: Are there any objections to  
6 Exhibits 81, 82 and 83 being admitted?

7 (No response.)

8 JUDGE DIPPELL: Then I'll receive those into  
9 evidence.

10 (EXHIBIT NOS. 81, 82 AND 83 WERE RECEIVED  
11 INTO EVIDENCE.)

12 MR. WILLIAMS: Tender the witness.

13 JUDGE DIPPELL: Is there cross-examination  
14 by MRT?

15 MR. LANDWEHR: No questions.

16 JUDGE DIPPELL: AmerenUE?

17 MS. KNOWLES: No.

18 JUDGE DIPPELL: Public Counsel?

19 MR. MICHEEL: No.

20 JUDGE DIPPELL: Laclede?

21 MR. PENDERGAST: Yes, thank you.

22 CROSS-EXAMINATION BY MR. PENDERGAST:

23 Q. Good afternoon, Mr. Rackers.

24 A. Good afternoon.

25 Q. I'd like to begin by asking you just a

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1 couple of questions about which accounting

2 authorization we're talking about here.

3 You're aware, of course, that the only  
4 Accounting Authority Order that Laclede is proposing  
5 to continue is the one for the safety replacement  
6 program?

7 A. That's correct.

8 Q. And the parties have agreed to eliminate on  
9 a going-forward basis the other four AAOs slash  
10 trackers that Laclede had?

11 A. That's correct.

12 Q. Okay. And under the Accounting Authority  
13 Order that we propose be continued, can you tell me  
14 how the costs that would be deferred under that, what  
15 type of carrying cost is applied to those?

16 A. The carrying cost that's applied is the  
17 Company's AFUDC rate minus 1. I think that rate would  
18 be approximately 7 percent.

19 Q. Okay. And how is the AFUDC rate determined?

20 A. The AFUDC rate incorporates all the  
21 Company's vehicles for funding short-term debt,  
22 long-term debt, equity.

23 Q. And maybe we ought to just say, what does  
24 AFUDC stand for?

25 A. Allowance for funds used during

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1 construction.

2 Q. Okay. And it's that amount minus 1 percent  
3 that would be used to determine the carrying costs?

4 A. Well, that rate minus 1 percent.

5 Q. That rate, right. And can you tell me, is  
6 AFUDC something that is also used in the electric  
7 industry?

8 A. Yes, it is.

9 Q. Okay. And when is it used in the electric  
10 industry?

11 A. It can be used in the same way in an  
12 Accounting Authority Order. Most commonly it's used  
13 to accumulate carrying costs on construction work in  
14 progress.

15 Q. And when it's used to accumulate carrying  
16 costs on construction work in progress, is there a  
17 requirement for an accounting order under those  
18 circumstances?

19 A. No, because the associated cost, the  
20 capitalization of carrying costs, property taxes,  
21 whatever other costs would cease as soon as that plant  
22 came into service.

23 Q. Okay. But there would be a balance of those  
24 deferred costs left over; is that correct?

25 A. Well, the costs that we're speaking about

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1 would be construction costs that would be common costs  
2 of the asset.

3 Q. Right. But there is a balance that  
4 accumulates over time through that AFUDC; is that  
5 correct?

6 A. If there was AFUDC capitalized on the  
7 project, it would be accumulated and become -- and  
8 would become a cost of that asset.

9 Q. Okay. And so when you come in for rate  
10 recovery, when that asset is put into service, let's  
11 say that you had a -- the plant cost \$1,000 just for  
12 illustration purposes and then you had the carrying  
13 costs while it was not yet completed, say AFUDC of 10  
14 percent. Let's say that's \$100. You could come in  
15 and ask for recovery of the \$1,000 plus the \$100; is  
16 that correct?

17 A. Within the context of a rate case.

18 Q. Right, within the context of a rate case.  
19 And, in fact, utilities with large generating projects  
20 and that type of thing have accumulated AFUDC for  
21 years, have they not, at a time?

22 A. When you say accumulated it for years, you  
23 mean it's been a practice to accumulate it on various  
24 plant or construction projects?

25 Q. Sure. If it takes five years to go ahead

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1 and complete that construction project, they can  
2 accumulate that AFUDC for five years; is that correct?

3 A. That's correct.

4 Q. Is there any limitation when they come --  
5 well, first of all, is there any limitation that  
6 you're aware of in Missouri that says you can  
7 accumulate that AFUDC, that carrying cost on that for



8 two years but after two years you have to give it up  
9 if you haven't filed a rate case?

10 A. Well, it's a whole different situation. As  
11 I said before, the AFUDC accumulates until the plant  
12 becomes -- until the plant comes in service, and then  
13 accumulation stops. In the situation we're talking  
14 about, we're allowing the accumulation of AFUDC after  
15 the plant is in service.

16 Q. Right. But you're talking about a situation  
17 where AFUDC in the electric industry permits an  
18 electric utility when it is putting out costs to go  
19 ahead and fund a construction project to basically  
20 obtain carrying costs on those funds that it's using  
21 to finance that project, isn't that correct, until it  
22 can get rate relief?

23 A. While it's under construction, until it's  
24 completed.

25 Q. While it's under construction. I realize

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1 your distinction that this is being permitted after  
2 it's already placed in service.

3 But would you agree with me that replacing  
4 10,000 service lines from the standpoint of carrying  
5 costs associated with having to do that and the  
6 financing that you have to do to do that can  
7 eventually become equivalent to the financial cost of  
8 building a generating plant?

9 A. Well, my understanding of what it might cost

10 to build a plant is, I mean, that's a huge cost.  
11 we're talking about billions of dollars. I don't  
12 think we're talking about billions of dollars here.

13 Q. Well, you've heard the concern about not  
14 wanting to authorize AAOs to continue for a  
15 significant period of time because it would  
16 potentially result in large deferral costs that would  
17 make it difficult for the Commission to write off; is  
18 that correct?

19 A. Yes.

20 Q. Okay. And what you're telling me, though,  
21 is that, on the other hand, in the electric industry  
22 you have even larger costs with a larger AFUDC  
23 carrying cost associated with it, and despite this  
24 write-off concern, that hasn't stopped AFUDC from  
25 being used in the electric industry; is that correct?

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1 A. I don't even see that the two items we're  
2 talking about here are even related.

3 Q. Well, did you just indicate to me that  
4 AFUDC -- or that AFUDC is collected on projects in the  
5 electric industry that from a financial standpoint  
6 could be much more costly than what you say would be  
7 incurred in connection with a replacement program?

8 A. Would you ask me that again?

9 Q. Yes.

10 A. I'm not sure I followed you.

11 Q. Is it your testimony AFUDC is permitted on

12 projects in the electric industry that can have a  
13 significantly greater cost impact than what we're  
14 talking about in the replacement program?

15 A. Yes.

16 Q. Okay.

17 A. But again, that carrying cost is accumulated  
18 while the plant is under construction.

19 Q. That's fine.

20 A. And that's not what we're talking about.

21 Q. And because it's accumulated while the  
22 plant's under construction, the utility, from the  
23 standpoint that it's using funds to finance it,  
24 receives some measure of financial compensation, does  
25 it not?

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1 A. In the form of accumulated AFUDC, it gets to  
2 accrue its cost to finance that project.

3 Q. It gets to accrue its cost, and then it gets  
4 to come back in, and when it seeks to recover the cost  
5 of that plant, it also gets to seek to recover that  
6 accrued cost; is that correct?

7 A. That's correct. However, the project itself  
8 is subject to prudence reviews. It's not some kind of  
9 a guarantee that just because I've accumulated this  
10 cost I'm going to get to recover it in rates.

11 Q. Absolutely. And I think one thing we can  
12 all say is that, under the language we have in our  
13 Accounting Authority Order, you probably would not

14 characterize that as a guarantee that we'll be able to  
15 recover those deferred costs, would you?

16 A. I agree.

17 Q. Okay. And despite the fact that these  
18 projects may be even larger and the AFUDC associated  
19 with them may be even larger than anything we've been  
20 permitted to defer under these Accounting Authority  
21 Orders, you're not aware of the concern being raised  
22 that we ought to try and eliminate AFUDC because it  
23 results in the potential for too large of a write-off  
24 if, as you said, the prudence or reasonableness or  
25 whatever if those plants are questioned and

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1 disallowed, that hasn't been a consideration there,  
2 has it?

3 A. Well, you seem to be focusing on this one  
4 item. The deferral is more than just AFUDC.

5 Q. Well, that's fine, but I'd like to go ahead  
6 and focus on this one item if I can. And my question  
7 to you is, Mr. Rackers, despite the fact that the  
8 amount that's being deferred and accumulated for  
9 future recovery in connection with the generating  
10 plant is much larger in your view than what might be  
11 deferred under these Accounting Authority Orders for  
12 our replacement programs.

13 To your knowledge, has that necessitated or  
14 resulted in anybody coming in and saying we've got to  
15 stop allowing AFUDC to be accumulated on these plants?

16 A. Not to my knowledge.

17 Q. Okay. Has it resulted in anybody coming in  
18 and saying, look, we have to have a two-year time  
19 period where if a utility accumulates it for longer  
20 than that they better file a rate case or forget about  
21 it?

22 A. Well, no. But again, that's not what we're  
23 talking about here. We're not talking about  
24 construction work in progress.

25 Q. Well, I understand the distinction you're

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1 trying to make between construction work in progress,  
2 and that's fine. But what I'm talking about now is  
3 AFUDC and whether or not anybody has used the  
4 arguments that are being used over here as a reason  
5 for not permitting AFUDC to be accumulated?

6 MR. MICHEEL: I'm going to object at this  
7 point. That question, that particular question has  
8 been asked and answered.

9 MR. PENDERGAST: That's fine.

10 MR. MICHEEL: I believe Mr. Rackers said no.

11 MR. PENDERGAST: He said no what?

12 MR. MICHEEL: No, the argument has not been  
13 used.

14 MR. PENDERGAST: Okay. Thanks. I withdraw  
15 the question.

16 BY MR. PENDERGAST:

17 Q. And is it your understanding that electric

18 utilities can accumulate AFUDC in these carrying costs  
19 regardless of whether their earnings are above some  
20 authorized level by the Commission or below some  
21 authorized level by the Commission? Is that a factor  
22 that's played out in the ability to accumulate AFUDC?

23 A. I'm not aware that that argument has been  
24 specifically made, but if -- I certainly think that  
25 that's something that you can challenge, that if a

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1 company was in an overearnings situation, you could  
2 challenge that aspect.

3 Q. Well, do you know, just to provide an  
4 example, and you've had some discussion about UE and  
5 its alternative regulation plan. Is it forbidden to  
6 accumulate AFUDC under that alternative regulation  
7 plan?

8 A. No, not on construction work in progress.

9 Q. Fine. And has it been under some sort of an  
10 arrangement where it is not supposed to file for rate  
11 relief for a five-year period?

12 A. The current incentive plan extends for three  
13 years.

14 Q. Okay.

15 A. And there are -- I'm sorry. There are  
16 certain out clauses which would allow UE to file a  
17 case during that three-year period.

18 Q. And that three years, is that an extension  
19 of another two years that went before it?

20 A. That's an extension of three years that went  
21 before it.

22 Q. So it's six years altogether?

23 A. Yes.

24 Q. Okay. And so they, unless they have one of  
25 these outs, have an obligation to stay out for six

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1 years; is that correct?

2 A. Yes.

3 Q. Okay. And if they had come in on day one  
4 and started building a power plant and wanted to go  
5 ahead and accumulate AFUDC on that, would they have  
6 been permitted to do that for the entire six years not  
7 only without an obligation to file a rate case but  
8 being prohibited from doing so?

9 A. They would only have been able to accumulate  
10 AFUDC during the time that that construction progress,  
11 before it became in service.

12 Q. Okay. Well, let's say it had a five-year  
13 project. They would have been able to accumulate it  
14 during that entire period of time; isn't that correct?

15 A. Yes.

16 Q. Was there ever any thought on the part of  
17 staff of saying, look, these guys are going to be out  
18 for five years. They may be accumulating this  
19 carrying cost on some of their projects. We better  
20 prohibit them from doing that. Was there ever that  
21 thought?

22 A. That doesn't really seem to be a logical  
23 argument to me. So no, we didn't consider that.

24 Q. Would you agree with me it's been your  
25 experience that UE has been a declining cost company

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1 or at least a declining rate company over the last six  
2 or seven years?

3 A. Yes.

4 Q. Okay. Would it be declining cost or  
5 declining rate that you agree with me on?

6 A. Well, there have been rate reductions and  
7 cost reductions.

8 Q. Okay. Mr. Rackers, to your knowledge, does  
9 Staff and Public Counsel and Staff, at least with the  
10 permission of the Commission, have the right to file a  
11 complaint if it believes a utility is overearning?

12 A. Yes.

13 Q. Okay. And does Staff have the right to  
14 perform an audit of the utility or ask a data request  
15 without a formal proceeding being established?

16 A. I believe we do.

17 Q. And has Staff in the past, based on  
18 financial information that's been provided by the  
19 utility and, if you will, many audits, made  
20 determinations as to whether a utility's overearning?

21 A. Would you ask me that again, please?

22 Q. Yes. Has Staff in the past made  
23 determinations based on something less than a



24 full-blown rate case audit that a utility is  
25 overearning?

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1 A. I think we've used analyses that I would  
2 characterize as less than a full-blown rate case to  
3 get a sense of what the company's earnings were.

4 Q. Okay. In your view, Mr. Rackers, are you  
5 comfortable with giving the Commission the discretion  
6 to determine without an artificial deadline whether or  
7 not Laclede should be required to file a rate case in  
8 order to continue its accounting authority  
9 authorization?

10 A. My recommendation to this Commission would  
11 be that the Company be required to file a case within  
12 two years to gain recovery of deferred dollars.

13 Q. Does that suggest or imply, or is it meant  
14 to, that you're not comfortable with the Commission  
15 having the discretion to make that determination?

16 A. The Commission has the discretion to make  
17 that determination. That would not be my  
18 recommendation to them.

19 Q. Can you tell me approximately how long it  
20 took to build the UE plant, Callaway plant?

21 MR. WILLIAMS: I object to that as being  
22 irrelevant.

23 MR. PENDERGAST: well, let me rephrase it.

24 BY MR. PENDERGAST:

25 Q. We've had a long, extended discussion that

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1 nobody has characterized as irrelevant yet on AFUDC.  
2 Was AFUDC collected on the Callaway plant?

3 A. AFUDC was accumulated on the Callaway plant.

4 Q. And can you tell me for how long?

5 A. It was in excess of five years.

6 Q. In excess of five years. Could it have been  
7 in excess of ten years?

8 A. I don't know that specifically off the top  
9 of my head.

10 Q. Do you know how long KGNE or KCPL  
11 accumulated AFUDC on Wolf Creek?

12 A. No.

13 Q. And just finally, you mentioned something  
14 about what AFUDC was. Can you tell me how the  
15 interest rates that are incorporated in AFUDC, I think  
16 you said it was a combination of short-term debt  
17 and long, and if short-term debt is greater than  
18 construction work in progress, do they use the  
19 short-term debt rate for AFUDC, if you know?

20 A. I think short-term debt is exhausted first  
21 in the determination of that rate.

22 Q. Okay. And do you know what the short-term  
23 debt rate is in Laclede's case?

24 A. I can look it up in Mr. Broadwater's  
25 schedules. I don't know off the top of my head.

□

1           Q.     Okay. So you would apply the short-term  
2     debt rate in our AFUDC calculation first; is that  
3     correct?

4           A.     Yes.

5           Q.     And then you would accept -- subtract from  
6     that 1 percent?

7           A.     Well, to the extent you needed more than  
8     short-term debt, then you would consider long-term  
9     debt and equity rates, and whatever the final  
10    combination, whatever that rate was determined, then  
11    you would subtract 1 percent.

12          Q.     But --

13          A.     For the carrying cost on the AAOs.

14          Q.     Right. But to the extent that short-term  
15    debt was sufficient to recover, you use that first and  
16    subtract 1 percent from it; is that correct?

17          A.     If the company's AFUDC rate during any  
18    specific month was totally made up of short-term debt,  
19    it would be 1 minus that rate.

20          Q.     Okay. And 1 minus that rate, that rate  
21    would be what at least in Staff's case Mr. Broadwater  
22    has for his short-term debt; is that correct?

23          A.     If the AFUDC rate was made up of short-term  
24    debt exclusively for that one month, whatever rate  
25    that was minus 1 would be the rate for the AAO.

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1           Now, whether that would be the rate that  
2   Mr. Broadwater's used for the calculation of his rate  
3   of return I don't know. It would be whatever the rate  
4   is that month.

5           Q.    Does 5.37 percent sound familiar to you?

6           A.    As I said, I could look it up in the  
7   schedules.

8           Q.    That's fine. The record will speak for  
9   itself.

10           MR. PENDERGAST: I think that's all I have.  
11   Thank you, Mr. Rackers.

12           JUDGE DIPPELL: Commissioner Murray, did you  
13   have questions for this witness?

14           COMMISSIONER MURRAY: No, thank you.

15           JUDGE DIPPELL: Is there redirect?

16           MR. WILLIAMS: Yes, your Honor.

17   REDIRECT EXAMINATION BY MR. WILLIAMS:

18           Q.    Mr. Rackers, Mr. Pendergast related to you  
19   an example regarding construction projects with  
20   figures of \$1,000 plus \$100 of AFUDC. Do you recall  
21   that?

22           A.    Yes.

23           Q.    In that example, would that \$1,100 have been  
24   included in rate base only if the plant was  
25   operational and in service?

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1           A.    That's correct.

2           Q.    When would rate relief from that \$1,100 in  
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3 plant be granted if the plant was placed into service  
4 one month following the operation of law date?

5 A. Ask me that question again, please.

6 Q. When would rate relief be granted from that  
7 1,000 -- or rephrase it.

8 When would rate relief from that \$1,100 in  
9 plant be granted if the plant was placed into service  
10 one month following the operation of law date?

11 A. When rates took effect in the Company's next  
12 case.

13 Q. During that time, would the Company be  
14 required to depreciate that plant?

15 A. Yes, it would.

16 Q. During Mr. Pendergast's cross-examination of  
17 you, he tried to compare AFUDC associated with CWIP  
18 with the recovery of AAOs. In your mind, is there a  
19 significant difference between these two points?

20 A. Yes, there is.

21 Q. Could you please explain?

22 A. Yes. As I said several times during the  
23 cross-examination, AFUDC on a plant in service project  
24 is only accumulated through the date that it goes in  
25 service. After that, accumulation of AFUDC ceases

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1 regardless of whether the plant is included in rates  
2 or not.

3 What an AAO envisions is that the AFUDC  
4 continues to accumulate after a project is placed in  
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5 service and until that AFUDC or that balance of AFUDC  
6 is either recovered in a rate mechanism or disallowed  
7 or however it's dealt with.

8 And what Staff is proposing is that that  
9 accumulation of AFUDC would cease after two years if  
10 the Company didn't file a case.

11 Q. How long must the construction project last  
12 before AFUDC should be included?

13 A. I believe it's three months.

14 MR. WILLIAMS: No further questions.

15 JUDGE DIPPELL: Thank you, Mr. Rackers. You  
16 may step -- you may be excused.

17 (Witness excused.)

18 JUDGE DIPPELL: Are we going to be prepared  
19 to move on to the next issue?

20 MR. PENDERGAST: I think we're going to be  
21 prepared to do cash working capital next.

22 JUDGE DIPPELL: Then I suggest we just  
23 continue on if Mr. Buck is available.

24 Off the record.

25 (Discussion off the record.)

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1 JUDGE DIPPELL: Back on the record.  
2 Welcome back, Mr. Buck. I'll remind you  
3 that you're still under oath from your previous  
4 testimony.

5 THE WITNESS: Thank you.

6 JUDGE DIPPELL: Was there anything  
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7 additional, Mr. Byrne, before we begin  
8 cross-examination?

9 MR. BYRNE: No, your Honor.

10 JUDGE DIPPELL: Is there cross-examination  
11 from AmerenUE?

12 MS. KNOWLES: No, none.

13 JUDGE DIPPELL: Public Counsel.

14 MR. MICHEEL: None, your Honor.

15 JUDGE DIPPELL: Staff?

16 MR. STUEVEN: Just a few.

17 GLENN W. BUCK testified as follows:

18 CROSS-EXAMINATION BY MR. STUEVEN:

19 Q. Mr. Buck, in your testimony you talked about  
20 customers who are shut off for service in calculating  
21 the -- in calculating the collection. What percentage  
22 of customers who are shut off are eventually turned  
23 back on, do you know?

24 A. Could I first ask where you're referring to  
25 in my testimony, please?

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1 Q. Sorry, I didn't write it down. Rebuttal,  
2 page 7.

3 A. Thank you.

4 Q. Looking at line 3 is the question. Line 4  
5 is the answer where it talks about 175,908 turn  
6 arounds and cutoffs performed at customer premises.

7 A. Okay. First of all, I apologize. My  
8 rebuttal testimony is out of my folder right now. If  
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9 I may ask for a copy.

10 Thank you. Okay. Could you repeat the  
11 question, please?

12 Q. I was wondering what percentage of the  
13 customers -- basically in any given month, about what  
14 percentage of customers that are shut off are  
15 eventually turned back on?

16 A. How many that are shut off are eventually  
17 turned back on?

18 Q. Yeah.

19 A. I really don't have that percentage.

20 Q. Okay. What's the duration of time from when  
21 a customer is shut off and when they're turned back  
22 on?

23 A. I would imagine that time varies depending  
24 on multiple circumstances.

25 Q. But do you know generally what the average

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1 is?

2 A. Make sure I understand the question and I'll  
3 repeat it back to you. How long the average customer  
4 who's turned off stays turned off before they get  
5 turned back on again?

6 Q. Yeah. What's the average duration of time  
7 between when a customer is shut off and when they're  
8 turned back on?

9 A. I don't have statistics of that nature.  
10 Again, it could range from a day for a person who got



11 cut off and comes in the next day to make payment  
12 arrangements or somebody that gets cut off in the  
13 spring who gets a heat grant in the fall or has some  
14 assistance in making payment, comes back on in the  
15 fall period when cold weather rolls back in. But  
16 individually, no, I have no statistics.

17 Q. So you don't know?

18 A. No, sir.

19 Q. What are the conditions a customer must meet  
20 to be turned back on if they've been turned off? Do  
21 you know?

22 A. Well, it depends on what the circumstances  
23 are. Are you talking about Cold Weather Rule or are  
24 you talking about --

25 Q. Sure, Cold Weather Rule.

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1 A. Okay. Under Cold Weather Rule, they  
2 basically -- excuse me a moment.

3 Okay. According to a copy of our tariffs  
4 and the Cold Weather Rule, reconnection policies for  
5 cold weather under the Cold Weather Rule, it's on  
6 page -- or Tariff Sheet R34. During the period from  
7 November 1st through March 31st, this company shall  
8 reconnect the service of the customer without  
9 requiring deposit provided: A, the customer contacts  
10 the company, requests the company to reconnect service  
11 and states an inability to pay in full; B, the  
12 customer applies for financial assistance in paying

13 for his or her heating related bill under federal,  
14 state or local or other heating payment fund program  
15 which he or she shall be eligible; C, the company  
16 receives an initial payment and the customer enters  
17 into a payment agreement, both of which are in  
18 compliance with Section 8 of the rules. And I'll  
19 spare us the trouble of reading of Section 8 if that's  
20 all right.

21 Q. If that's all right. That's fine. What  
22 about a customer who doesn't qualify for Cold weather  
23 Rule?

24 A. Customers who don't qualify for the Cold  
25 weather Rule, generally they can call the company up.

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1 There are also, once again, other circumstances. The  
2 company has, for example, an elderly or a handicapped  
3 program where they can notify the company in advance  
4 that there is somebody that either is elderly or  
5 handicapped, and if they are in a situation they may  
6 be cut off, we are supposed to contact that social  
7 service agency or a relative and try and make payment  
8 arrangements through them.

9 If not, they can call the Company up and  
10 request to be put on a special payment program. So  
11 long as they meet the requirements, we set up a  
12 payment program that is appropriate to both the  
13 customer and the Company. They can take as long as 24  
14 months to pay off their remaining balance plus trying

15 to stay current on their bills.

16 Q. Just so I get a better feeling for this, for  
17 example, if I was a customer and I'm not old, I'm  
18 getting there but I'm not there yet, I don't qualify  
19 for Cold Weather Program, just an average residential  
20 customer with no special requirements or needs, what  
21 would it take for me to get hooked up if I got cut off  
22 for failure to pay a bill?

23 A. For failure to pay a bill?

24 Q. Or if it got to the point where you guys cut  
25 me off for failure to pay my bill.

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1 A. I want to make sure that I establish this.  
2 A customer who has not yet been cut off or this is a  
3 customer who has been cut off?

4 Q. Has been cut off.

5 A. They have been cut off. They would be  
6 required to make a certain percentage of their payment  
7 most likely. Once again, we'd work with them to  
8 create a long-term payment plan to pay that bill off.

9 Q. Are there situations where you require the  
10 customer to pay off the entire bill owed before you  
11 reconnect?

12 A. If you're asking whether it's happened that  
13 a customer pays off their bill before we reconnect, I  
14 would say yes, that's probably occurred. Generally, I  
15 would assume they make payment arrangements.

16 Q. Do you increase their deposits if they

17 don't -- on a reconnect if they've been disconnected  
18 for failure to pay the bill?

19 A. I don't have the deposit rules here. It  
20 would be speculation on my part, but I -- my  
21 speculation states or would make me guess that, yes,  
22 we probably would ask for a deposit.

23 MR. STUEVEN: No further questions.

24 JUDGE DIPPELL: There are no questions from  
25 the Bench. Is there redirect?

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1 MR. BYRNE: No, your Honor.

2 JUDGE DIPPELL: Mr. Buck, you may be  
3 excused.

4 THE WITNESS: Thank you.

5 (Witness excused.)

6 JUDGE DIPPELL: Is Staff ready to present  
7 Mr. Griggs?

8 MR. STUEVEN: Yes, we are, your Honor. Can  
9 we go off the record for a second?

10 JUDGE DIPPELL: Off the record.

11 (Discussion off the record.)

12 JUDGE DIPPELL: Back on the record.

13 (Witness sworn.)

14 JUDGE DIPPELL: You may proceed,  
15 Mr. Stueven.

16 MARK D. GRIGGS testified as follows:

17 DIRECT EXAMINATION BY MR. STUEVEN:

18 Q. would you please state your name.

- 19 A. Mark D. Griggs.
- 20 Q. And whom are you employed by?
- 21 A. By the Missouri Public Service Commission.
- 22 Q. And what is your position with the Missouri
- 23 Public Service Commission?
- 24 A. I'm a regulatory auditor.
- 25 Q. Did you have testimony prepared in this case

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- 1 and have it filed, and would that testimony be direct
- 2 testimony, rebuttal testimony and surrebuttal
- 3 testimony?
- 4 A. Yes, it would.
- 5 Q. And those exhibit numbers would be 84 for
- 6 direct testimony, 85 for rebuttal testimony and 86 for
- 7 surrebuttal testimony?
- 8 A. That's correct.
- 9 Q. And if I asked you the same questions that
- 10 appear in that testimony, would your answers be the
- 11 same today as they were when you had that testimony
- 12 filed?
- 13 A. They would not.
- 14 Q. They would not be the same?
- 15 A. Yes. I have some corrections.
- 16 Q. What would your corrections be?
- 17 A. If you'd turn to page 3 of my rebuttal
- 18 testimony, line 7, the number 22 should read 20.
- 19 Q. Okay.
- 20 A. And in line 8, the number 9 percent should

21 read 8 percent. And in line 9, the number 8 percent  
22 should read 7 percent.

23 And then in my surrebuttal testimony,  
24 page 4, line 20, the number 84.7 should read 89.33.

25 Q. Do you have any other corrections?

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1 A. No, I do not.

2 Q. With those corrections to your testimony,  
3 would the rest of your answers be the same as they  
4 were when you caused the testimony to be filed?

5 A. Yes, they would.

6 MR. STUEVEN: At this point staff offers up  
7 Exhibits 84, 85 and 86 be accepted into the record.

8 JUDGE DIPPELL: Are there any objections to  
9 Exhibits 84, 85 and 86 with those corrections?

10 (No response.)

11 JUDGE DIPPELL: Then I'll receive those into  
12 evidence.

13 (EXHIBIT NOS. 84, 85 AND 86 WERE RECEIVED  
14 INTO EVIDENCE.)

15 MR. STUEVEN: Staff tenders the witness for  
16 cross-examination.

17 JUDGE DIPPELL: Thank you. Is there  
18 cross-examination by AmerenUE?

19 MS. KNOWLES: No.

20 JUDGE DIPPELL: Public Counsel?

21 MR. MICHEEL: No.

22 JUDGE DIPPELL: Laclede?

23 MR. BYRNE: Yes, your Honor.

24 CROSS-EXAMINATION BY MR. BYRNE:

25 Q. Good afternoon, Mr. Griggs.

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1 A. Good afternoon.

2 Q. Let me understand. My understanding is the  
3 only cash working capital issue left in this  
4 proceeding is the revenue collection lag; is that  
5 correct?

6 A. Yes, the collection lag is the only  
7 remaining issue.

8 Q. And my understanding is that revenue  
9 collection lag is the time period in between the day  
10 that a customer's bill is placed in the mail and the  
11 day that the Company receives payment from a customer;  
12 is that correct?

13 A. That's right.

14 Q. And the difference is, as far as my  
15 understanding goes, you're recommending a 25.4 day  
16 revenue collection lag; is that right?

17 A. That's right.

18 Q. Whereas Mr. Buck is proposing a 34.8 day  
19 collection lag?

20 A. That's right.

21 Q. And if my math is correct, that appears to  
22 be a 9.4 day difference between you and Mr. Buck; is  
23 that correct?

24 A. Yes, that's correct.

25 Q. Okay. And do you know the dollar impact of  
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1 this issue on Laclede's rate base?

2 A. I believe it's around \$11 million.

3 Q. Around \$11 million?

4 A. Uh-huh.

5 Q. Okay. And so -- and that's the difference  
6 between your position and Mr. Buck's?

7 A. Yes, that's right.

8 Q. And so would it be fair to say that the rate  
9 base impact per day would be \$11 million divided by  
10 9.4 days or, and subject to check, \$1,170,000 or so  
11 per day of collection lag?

12 A. I'm sorry. Could you repeat that question?

13 Q. I guess I'm asking, if the total value of  
14 the issue is \$11 million and the difference is 9.4  
15 days, can you figure out how much each day is worth by  
16 dividing the \$11 million by the 9.4 day difference  
17 between your position and Mr. Buck's?

18 A. I don't see how dividing by 9.4 would see  
19 how much each day -- you mean --

20 Q. Would that tell you how much each day of the  
21 revenue lag that's the difference between your  
22 position and Mr. Buck's position is worth?

23 A. Yes, it would.

24 Q. Okay. And would you accept, subject to  
25 check, that that's about \$1,170,000 per day?



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1 A. Yes.

2 Q. Okay. Mr. Griggs, on page 1, line 22 of  
3 your rebuttal testimony, you say that Mr. Buck's 34.8  
4 days is not a reasonable collection lag because  
5 residential customers have only 21 days to pay their  
6 bills and commercial customers have only 15 days to  
7 pay their bills. Do you see that?

8 A. Could you repeat exactly where you're  
9 referring to?

10 Q. Yeah. I'm sorry. I'm on page -- in your  
11 rebuttal testimony on page 1, and it's the answer that  
12 starts on line 22. Are you there?

13 A. Yes, I'm there.

14 Q. Okay. And I'm paraphrasing, but I think it  
15 basically says that Mr. Buck's revenue collection lag  
16 of 34.8 days is not a reasonable number of days  
17 because residential customers have only 21 days to pay  
18 their bills and commercial customers have only 15 days  
19 to pay.

20 A. Yes, that's right.

21 Q. Okay. And why is the amount of time that  
22 they have to pay the bills relevant to this  
23 calculation of collection lag?

24 A. Well, it would have to be assumed that on  
25 average customers would pay their bills around the

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1 delinquent period.

2 Q. Well, isn't it true that really the only  
3 thing that's relevant is when they actually do pay  
4 their bills, not when they're supposed to pay their  
5 bills?

6 A. Well, the delinquent period is used as a  
7 reasonableness check, but --

8 Q. But aren't we really trying to figure out  
9 when they actually do pay their bills in this  
10 exercise?

11 A. Well, yes, we are.

12 Q. And isn't it true that even under your  
13 analysis where you're showing about 25 days of  
14 collection lag, that's in excess of the 21 days and 15  
15 days that they're required to pay their bills?

16 A. On average, yes.

17 Q. So, I mean, we all agree, I think, then,  
18 that the customers are paying their bills in the  
19 aggregate after they're due, it's just a question of  
20 how much later than the due date are they paying them;  
21 is that a fair statement?

22 A. Yes.

23 Q. Okay. Could you explain to me exactly how  
24 your revenue lag was calculated?

25 A. Well, the balance outstanding for a sales

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1 customer, the bills, our payments were applied to that  
2 balance, and the number of days the balance was  
3 outstanding was weighted by -- or the balance was  
4 weighted by the number of days it was outstanding.

5 Q. well, let me ask you this. Is your  
6 calculation of the revenue lag days based on a sample?

7 A. It is based on a sample.

8 Q. Okay. Start at the beginning. How did  
9 you -- how did you get that sample? Did you ask the  
10 company for the sample?

11 A. Yes. We asked the Company for 300  
12 customers. These customer numbers were selected based  
13 on a randomly generated computer list.

14 Q. Okay. And when did you ask the Company to  
15 pull that sample?

16 A. In the last rate case.

17 Q. In the last rate case. So is that --

18 A. GR-98-374.

19 Q. And do you remember when you asked them to  
20 do it in the course of that rate case? Was it a year  
21 ago or --

22 A. No, I don't recall exactly when we asked.

23 Q. But it was probably at least a year ago,  
24 wasn't it, since it was in the last rate case?

25 A. Yes, it would have been almost a year, at

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1 least a year.

2 Q. Okay. You generated a -- the computer

3 generated a list of random account numbers or random  
4 numbers?

5 A. Random account numbers, yes.

6 Q. Okay. And then you provided the Company  
7 with those random account numbers? You provided them  
8 with 300 randomly generated account numbers?

9 A. That's right.

10 Q. Okay. And asked them to pull the data  
11 related to those account numbers?

12 A. Yes.

13 Q. And what -- exactly what data did you ask  
14 them to pull?

15 A. Billing records for each of those customers.

16 Q. For what period of time?

17 A. For 12 months.

18 Q. Okay. So for a past 12 months at the time  
19 you asked them to do it?

20 A. Yes.

21 Q. So if you asked them to pull the sample a  
22 year ago, let's say, then the data would have been for  
23 the year before that; is that true?

24 A. Yes.

25 Q. Okay.

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1 A. Yes. The data was for calendar year 1997.

2 Q. How did you generate the random numbers? Is  
3 it a computer program?

4 A. Yes. Well, it's not a program. It's just a

5 tool with Lotus.

6 Q. Okay. And is there any chance that these  
7 numbers weren't random?

8 A. No.

9 Q. Okay. And you asked the Company to pull 300  
10 accounts?

11 A. Yes.

12 Q. Why did you pick that number of accounts for  
13 the Company to pull?

14 A. It was thought that, in the time that was  
15 allowed, that would give the -- that would allow for  
16 analysis of each of those accounts.

17 Q. Well, do you know if that is a statistically  
18 valid number of accounts to pull for a sample?

19 A. No. Staff has not performed an analysis to  
20 determine that.

21 Q. And you're not a statistician, are you,  
22 Mr. Griggs?

23 A. No, I'm not.

24 Q. So for all you know, from a statistical  
25 standpoint it may be perfectly valid or it may be

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1 perfectly invalid?

2 A. Yes, that's correct.

3 Q. Okay. What percent of Laclede's customers  
4 are included in this sample of 300, if you know?

5 A. I don't know what percentage.

6 Q. Well, are you aware that Laclede has

7 approximately 630,000 customers?

8 A. Yes, I am.

9 Q. And would you accept, subject to check, that  
10 a sample of 300 equals about .05 percent of those  
11 customers?

12 A. No. I don't have that information.

13 Q. Well, could you do that calculation? Could  
14 you divide 300 by 630,000 for me? I'll give you a  
15 calculator if you need one.

16 A. Yeah.

17 MR. BYRNE: May I approach the witness, your  
18 Honor?

19 JUDGE DIPPELL: Yes.

20 THE WITNESS: Yes, the answer is .005  
21 percent.

22 BY MR. BYRNE:

23 Q. Okay. And when you took this sample, did  
24 you ask the Company -- or when you asked the Company  
25 to pull the sample of accounts, did you ask the

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1 Company to exclude any types of customers?

2 A. No, I did not.

3 Q. Did you ask the Company to exclude customers  
4 for which there was less than 12 months of data?

5 A. Yes.

6 Q. Okay. Did you ask the Company to exclude  
7 any other kinds of customers?

8 A. No.

9 Q. Okay. And what was the Company to do if in  
10 employing this random list of accounts it encountered  
11 a customer account where there was less than 12 months  
12 of data?

13 A. We asked the Company to pull the immediately  
14 preceding record.

15 Q. And I guess if that immediately preceding  
16 record had less than 12 months of data, they'd go back  
17 to the one before that?

18 A. Yes, that's correct.

19 Q. Until they found an account that had 12  
20 months of data?

21 A. Yes.

22 Q. Okay. How many accounts did the Company  
23 actually give you records for?

24 A. There were 275.

25 Q. And do you know why the Company didn't give

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1 you 300 and only gave you 275?

2 A. Because some of those customers were  
3 merchandise only customers.

4 Q. And the Company excluded those customers as  
5 well?

6 A. Yes.

7 Q. And do you think, was it appropriate to  
8 exclude those customers from this analysis?

9 A. Yes, it was.

10 Q. Because they're not utility customers

11 really?

12 A. Right.

13 Q. Okay. So then you ended up using 275  
14 customers?

15 A. Yes.

16 Q. Okay. And let me ask you this. In your  
17 direct testimony on page 7, line 5, if you could turn  
18 there for me.

19 A. I'm there.

20 Q. Well, that's not the right reference. Now,  
21 I don't have a page and line to give you, but I  
22 believe in your direct testimony you say that the  
23 company was involved in some way in calculating --  
24 okay. It's -- I'm sorry. It is in your direct  
25 testimony on page 7, line 5.

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1 You say that the Company calculated the 25.4  
2 days that you're using in the last rate case. I guess  
3 I'd like to ask you, do you see that in yours?

4 A. Yes, I do.

5 Q. I was looking at the wrong set of testimony.  
6 I apologize.

7 What was the Company's role in calculating  
8 that 25.4 days in the last rate case?

9 A. Well, the Company computed the sample.

10 Q. Okay. So in other words, we just gave the  
11 staff the sample data, and then did the staff  
12 calculate the 25.4 days?



13 A. No.  
14 Q. Okay. Did the Staff calculate some other  
15 number of days?  
16 A. No.  
17 Q. Okay.  
18 A. Not for the -- not for the preceding case.  
19 Q. Then you're saying -- then who calculated  
20 the 25.4 days?  
21 A. The Company did.  
22 Q. Okay. And was that -- so was that the  
23 Staff's recommendation in GR-98-374?  
24 A. No. The Staff's recommendation was 21.07  
25 days.

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1 Q. Well, what was the difference between the  
2 21.07 days that the Staff calculated and the 25.4 days  
3 that the Company calculated?  
4 A. Well, the 21.07 days was the result of the  
5 '96 sample.  
6 Q. Okay. So that was a completely different  
7 sample pulled several years before?  
8 A. Well, whatever the time period between the  
9 '98 and '96 case was.  
10 Q. Okay. Mr. Griggs, do you think that the  
11 sample that you pulled of customer accounts was  
12 representative of the demographics of the customers in  
13 Laclede's customer base?  
14 A. I don't know.

15 Q. You don't know whether it's representative  
16 or not?

17 A. Yes.

18 Q. Well, let me ask you this. How many budget  
19 bill customers were contained in your sample, if you  
20 know?

21 A. 79.

22 Q. 79. And what -- do you know what percent of  
23 the overall sample that 79 customers makes up?

24 A. 29.5 percent.

25 Q. Okay. And do you know what percent of

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1 Laclede's overall customer base is made up of budget  
2 billed customers?

3 A. If I may refer to my testimony?

4 Q. Sure.

5 A. Approximately 23.5 percent of the total  
6 customer population is budget billing.

7 Q. Okay. So would you agree on a percentage  
8 basis your sample contained approximately 25 percent  
9 more budget bill customers than Laclede's customer  
10 population as a whole?

11 A. We calculate that it's 20 percent.

12 Q. 20 percent. Okay. Does that seem like a  
13 significant difference to you?

14 A. I don't know if it's a significant  
15 difference, but when the effect of that -- or when, as  
16 I say in my surrebuttal testimony, when the -- when

17 the weighting of those customers was reduced by  
18 20 percent, the effect on the revenue lag was only .5  
19 days. So it had an immaterial effect on the revenue  
20 lag, or on the collection lag. Excuse me.

21 Q. You say it had .5 days?

22 A. Yes.

23 Q. And you believe that's immaterial?

24 A. Yes, in --

25 Q. Well, wouldn't a .5 day change result in

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1 over a half a million dollars change in the Company's  
2 rate base based on your calculation of the per day  
3 amount?

4 A. Actually, the difference is only -- cash  
5 working capital is only about \$20,000.

6 Q. But the rate base, the difference in the  
7 rate base would be over half a million dollars,  
8 wouldn't it?

9 A. I don't know.

10 Q. Well, didn't you say earlier that each day  
11 was worth \$1,170,000 in rate base?

12 A. Yes, I did say that.

13 Q. So wouldn't half a day be worth more than  
14 half a million dollars in rate base, or am I missing  
15 something?

16 A. I don't know.

17 Q. Okay. Do you know if budget bill customers  
18 are more likely than the average customer to pay their

19 bills on time?

20 A. I don't know that.

21 Q. Do you know how many merchandise only  
22 customers were included in your sample?

23 A. 32.

24 Q. 32 merchandise only customers?

25 A. Yes.

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1 Q. Do you know what percent of the sample that  
2 is? And feel free to use that calculator if you want  
3 to.

4 A. It's approximately 12 percent of the sample.

5 Q. 12 percent of the sample. And do you know  
6 in Laclede's customer base as a whole what percent of  
7 the accounts are merchandise only?

8 A. No, not -- no.

9 Q. Well, would you -- would you accept, subject  
10 to check, that it's .1 percent?

11 A. No. I don't have that information.

12 Q. Well, if it was .1 percent and if your  
13 sample did yield 12 percent merchandise only accounts,  
14 would that difference between the relative magnitude  
15 of merchandise only accounts in your sample as  
16 compared to the customer base as a whole give you any  
17 concern?

18 A. I'm sorry. Could you repeat the question?

19 Q. Well, I guess what I'm saying is, if the  
20 merchandise only accounts in the customer base as a

21 whole are 1/10 of 1 percent, which is contained in  
22 Mr. Buck's testimony, if that's true, and if your  
23 sample yielded 12 percent merchandise only accounts,  
24 does that difference cause you any concern?

25 I mean, you've got a hundred -- you know,

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1 120 times as many -- well, I don't know if that's  
2 right. You've got many more times as many merchandise  
3 only accounts in your sample as there are in the  
4 customer base as a whole. Does that give you any  
5 concern?

6 A. If it had a significant impact on the  
7 revenue lag or the collection lag, yes, it would cause  
8 me concern.

9 Q. Does it suggest that there might be  
10 something wrong with your sample?

11 A. No, it doesn't suggest that.

12 Q. It's just chance that there's 12 percent  
13 merchandise only customers?

14 A. Yes.

15 Q. Okay. How many commercial and industrial  
16 customers do you have in your sample?

17 A. I think I answered that earlier, 32.

18 Q. No. I don't think I asked you that.

19 A. Commercial and industrial?

20 A. I think you do have 32 commercial and  
21 industrial. You answered the budget billing before,  
22 but does 32 sound like the right number of commercial

23 and industrial customers that you have in your sample?

24 A. Yes, it is the number.

25 Q. And do you know what percentage of the

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1 sample that constitutes? Feel free to use the  
2 calculator.

3 A. I'm sorry. I don't know how many commercial  
4 and industrial. I was confused by the --

5 Q. You don't know how many commercial and  
6 industrial customers are in your sample?

7 A. No.

8 Q. Well --

9 MR. STUEVEN: Staff will stipulate that it  
10 was 32.

11 MR. BYRNE: Okay. Thank you.

12 BY MR. BYRNE:

13 Q. And so if it was 32, would you agree that  
14 that -- well, what percent of your sample does that  
15 constitute?

16 A. 32?

17 Q. Yes.

18 A. 12 percent.

19 Q. 12 percent. And are you aware that  
20 Laclede's customer base as a whole has 6 percent  
21 commercial and industrial customers?

22 A. Yes, I am.

23 Q. And does the fact that your sample had twice  
24 as many proportionately commercial and industrial

25 customers as the customer population as a whole, does  
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1 that trouble you at all?

2 A. Oh, if it had a significant impact on the  
3 revenue lag, yes.

4 Q. Well, does it suggest that there might be  
5 something wrong with your sample?

6 A. No.

7 Q. Okay. Do you think it did not have a  
8 significant impact on the revenue collection lag?

9 A. Yes, I do.

10 Q. And what do you base that on?

11 A. Just on reducing the weight of the  
12 commercial customers.

13 Q. And when you reduce the weight of the  
14 commercial and industrial customers, what effect did  
15 that have on the revenue collection lag?

16 A. Had an effect of .5 days.

17 Q. Okay. And again, just like in the other  
18 case with the budget billed customers, you don't think  
19 that's significant?

20 A. Right.

21 Q. Are commercial and industrial customers more  
22 likely to pay their bills sooner than average or later  
23 than average?

24 A. I don't know.

25 Q. Well, isn't it true that commercial and

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1 industrial customers only have 15 days to pay their  
2 bills, whereas residential customers have 21 days to  
3 pay their bills?

4 A. That is true.

5 Q. So wouldn't you think that on the whole  
6 commercial and industrial customers would pay their  
7 bills sooner than residential customers?

8 A. Yes.

9 Q. Do you know what the collection lag for just  
10 the commercial and industrial customers in your sample  
11 was?

12 A. No, I don't.

13 Q. Do you have any idea of an order of  
14 magnitude of that?

15 A. No.

16 Q. Okay. Now I want to talk to you about  
17 specifically your request that Laclede exclude  
18 customers without 12 months of billing information  
19 from the sample. Wouldn't that exclusion have the  
20 effect of eliminating all charge-off, final billed and  
21 inactive customers from your sample?

22 A. Yes, it would.

23 Q. I guess except in a rare circumstance where  
24 such a customer might have been immediately  
25 reconnected but still had 12 months of data?



□

1 A. Yes.

2 Q. But that would be a pretty rare situation,  
3 wouldn't you think?

4 A. I don't know how often that occurs.

5 Q. Do you know if there were any such customers  
6 in your sample?

7 A. Yes.

8 Q. And I noticed in your surrebuttal testimony  
9 on page 5, line 6, you have a question and answer that  
10 talks -- I think talks about that?

11 A. Yes.

12 Q. And so were there -- the question looks like  
13 there was a customer, but then the answer looks like  
14 there was more than one customer like that. Which is  
15 it? Do you know how many there were like that in your  
16 sample?

17 A. There were at least three.

18 Q. Three customers in your sample?

19 A. Yes.

20 Q. And I guess the reason that they got through  
21 the net of having 12 months of data is they probably  
22 immediately reconnected after they were disconnected?

23 A. Yes.

24 Q. Why did you want to exclude customers  
25 without 12 months of billing data?

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1 A. We wanted to obtain customers that would be  
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2 representative of the ongoing payment data of  
3 Laclede's customers.

4 Q. Well, why aren't having some customers in  
5 the sample with less than 12 months of billing data,  
6 why isn't that representative of ongoing Laclede  
7 operations?

8 A. If a customer has less than 12 months of  
9 billing data, they may no longer be a Laclede  
10 customer, in which case they wouldn't be  
11 representative of the ongoing payment average for  
12 Laclede's customer.

13 Q. Well, but doesn't Laclede year after year  
14 after year have new customers who have less than 12  
15 months of billing data in its customer population?

16 A. Yes, they do.

17 Q. Do you think the customers that you  
18 excluded, charge-off final, billed and inactive  
19 customers, have better than average or worse than  
20 average payment histories?

21 A. I really don't know.

22 Q. Wouldn't your requirement that there be 12  
23 months of data also exclude customers who move during  
24 the course of the year?

25 A. I don't know.

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1 Q. You don't know?

2 A. Right.

3 Q. So you -- if a customer lived in a house or  
Page 194

4 an apartment --

5 A. Yes.

6 Q. -- and he moved and he got a new house or  
7 apartment, you don't know if that would be excluded  
8 from your sample?

9 A. Yes, that's right.

10 MR. STUEVEN: I think I'm going to object to  
11 the question as vague. He's saying that the person's  
12 moved. He doesn't say if he's moved to someplace  
13 within Laclede's territory or someplace outside of  
14 Laclede's territory.

15 MR. BYRNE: I'll clarify the question.  
16 That's fair.

17 BY MR. BYRNE:

18 Q. Within Laclede's territory, let's say.  
19 Let's say he moved from a house or apartment within  
20 Laclede's service territory to another house or  
21 apartment within Laclede's service territory. Do you  
22 know if your sample would exclude that person?

23 A. Well, if that person did not -- did not have  
24 12 months of billing data, then yes, he'd be excluded  
25 from the sample.

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1 Q. And no such customers would, would they,  
2 because there would be an account at their old house  
3 and then there would be another account at their new  
4 house; isn't that true?

5 A. Yes, that's true.

6 Q. So all customers who moved during the course  
7 of the year would be excluded from your sample; is  
8 that right?

9 A. That's right.

10 Q. Do you know if -- do you have an opinion as  
11 to whether people who rent houses or apartments are  
12 more likely or less likely to move than homeowners  
13 during the course of a year?

14 A. Yes, I'd say they'd be more likely to move.

15 Q. Okay. And therefore, they'd be more likely  
16 to be excluded from your sample?

17 A. If they were more likely to move, yes.

18 Q. Okay. Do you think renters are more likely  
19 to pay their bills late than homeowners?

20 A. I personally have not conducted an analysis  
21 of that situation.

22 MR. BYRNE: I'd like to mark an exhibit, if  
23 I could.

24 JUDGE DIPPELL: Exhibit No. 120 is the next  
25 number.

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1 (EXHIBIT NO. 120 WAS MARKED FOR  
2 IDENTIFICATION.)

3 BY MR. BYRNE:

4 Q. I've handed you, Mr. Griggs, what's been  
5 marked as Exhibit No. 120. Could you identify that  
6 document for me?

7 A. It's a response to Staff Data Request  
Page 196

8 No. 203.

9 Q. Okay. And could you please read the  
10 question?

11 A. Has the Company performed any studies to  
12 evaluate the following: No. 1, customer paying habits  
13 by class; No. 2, customer paying habits by area or  
14 location? If so, please provide copies of such  
15 studies.

16 Q. Okay. And I believe the response consists  
17 of three studies that the Company has done of the  
18 payment habits of renters versus homeowners; is that  
19 correct?

20 A. Yes, it does.

21 Q. And I believe that the results of those  
22 studies show that renters had a significantly poorer  
23 payment history than homeowners; is that true?

24 A. Yes, it does show that they have a poorer  
25 payment history.

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1 Q. Okay. Do you know how many customers that  
2 your -- that were excluded from your sample by virtue  
3 of the requirement that they have 12 months of billing  
4 data?

5 A. No, I do not.

6 Q. Well, Mr. Buck has testified that, based on  
7 turn-on and turn-off statistics, somewhere between 22  
8 and 29 percent of Laclede's customers were not  
9 eligible to be in the sample. Do you have any reason

10 to believe that that's not a correct calculation?

11 A. Yes, I do.

12 Q. And what reason do you have?

13 A. Well, that would require a significant  
14 amount of fluctuations in customer balances from month  
15 to month.

16 Q. Yes. Mr. Buck filed -- let me point you  
17 exactly to where it is in Mr. Buck's rebuttal  
18 testimony. Do you have Mr. Buck's rebuttal testimony  
19 up there?

20 A. Yes, I do.

21 Q. It's on page 7, near the top of the page.  
22 Starting on line 4 he talks about, based on the  
23 turn-ons and cut-offs, if there's -- depending on how  
24 much of an overlap there is, there could be between 22  
25 percent and 29 percent customer population not

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1 eligible. And I don't believe -- did you file any  
2 surrebuttal testimony responding to that?

3 A. No, I didn't.

4 Q. And do you have any reason to think that's  
5 not correct?

6 A. No, I don't.

7 Q. Okay. And does the exclusion of such a  
8 substantial number of Laclede's customers from  
9 possible inclusion in your sample bother you at all?

10 A. No, it doesn't bother me.

11 Q. Does it suggest at all to you that your  
Page 198

12 sample might not be representative of Laclede's  
13 population of customers as a whole?

14 A. No, it doesn't suggest that to me. We've  
15 not performed any analysis to determine that fact.

16 Q. Let me ask you this. I don't want to mark  
17 this as an exhibit because -- if I can avoid it, but  
18 let me just have you look at Data Request No. 57. Can  
19 you just read the question, if you would.

20 well, first of all, is this a data request  
21 requested by Glenn Buck from Laclede Gas Company  
22 submitted to you and your response to that data  
23 request?

24 A. Yes, it is.

25 Q. Could you just read the question into the

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1 record?

2 A. Information requested: Please provide any  
3 and all reasons, rationale and analyses supporting  
4 Staff's belief that a revenue lag based on a random  
5 sample of customers is more accurate and preferable to  
6 using an analysis based on the universe of customers.

7 Q. And then can you read the response as well?

8 A. Response to Company Data Request No. 57.  
9 Staff does not believe that a random sample is  
10 preferable to the universe. The universe would be  
11 preferable to a random sample assuming the measurement  
12 techniques are the same.

13 Q. And do you agree with that response?

14 A. Yes, I do.

15 Q. Okay. In your rebuttal testimony, on  
16 page 2, line 15, there's a sentence that says, If it  
17 were -- if it were assumed that 5 percent of --

18 A. Excuse me. I'm not there yet.

19 Q. I'm sorry.

20 A. Okay. I'm there.

21 Q. There's a sentence that says, quote, If it  
22 were assumed that 5 percent of residential customer  
23 revenues are derived from Cold Weather Rule customers  
24 and that the remainder of the Company's customers pay  
25 their bills on time, Cold Weather Rule customers would

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1 need to have an average collection lag of 436.1 days  
2 in order to produce an overall collection lag of 34.8  
3 days. Is that an accurate reading?

4 A. That is accurate.

5 Q. Okay. Do you know whether 5 percent of  
6 Laclede's residential customer revenues are derived  
7 from Cold Weather Rule customers?

8 A. I don't know the percentage of revenues  
9 derived from Cold Weather Rule customers.

10 Q. Isn't it true that the 5 percent figure is  
11 the number of Cold Weather Rule customers, not the  
12 amount of the revenues?

13 A. Yes, it is the number of Cold Weather Rule  
14 customers.

15 Q. Do you know whether the Company's non-Cold  
Page 200



16 weather Rule customers in the aggregate pay their  
17 bills on time?

18 A. No. We've done no sample specifically of  
19 non-Cold weather Rule customers.

20 Q. Okay. Do you know what the average  
21 collection lag for the Company's Cold weather Rule  
22 customers is?

23 A. Yes. It's 89.33 days.

24 Q. Can you tell me just very briefly how the  
25 Cold weather Rule works? I mean, maybe I can shorten

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1 this up. Isn't it true that under the Cold weather  
2 Rule, under certain circumstances the Company is not  
3 allowed to cut off customers for failure to pay their  
4 bills during the winter period?

5 A. Yes, that's right.

6 Q. Okay. So as long as the customers satisfy  
7 the requirements of the Cold weather Rule, they can  
8 continue to have a balance owed throughout the course  
9 of the winter; is that fair to say?

10 A. Yes.

11 Q. Okay. And then on page 3 of your rebuttal  
12 testimony, line 1, you say at the top -- the question  
13 reads, is it appropriate to allow the revenue lag for  
14 approximately 600,000 customers to be skewed by the  
15 paying habits of 30,000 customers? And your answer is  
16 no, it is not. Do you see that?

17 A. Yes, I see that.

18 Q. And I assume by the 30,000 customers, are  
19 you talking about the Cold Weather Rule customers?

20 A. That's right.

21 Q. Okay. Shouldn't the Company be compensated  
22 for the cost of serving these Cold Weather Rule  
23 customers even though they only constitute 5 percent  
24 of our customer base?

25 A. Yes, if they are customers of Laclede. And

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1 as a matter of fact, in our sample we've  
2 overcompensated for Cold Weather Rule customers.

3 Q. But you're not suggesting here that we  
4 shouldn't be paid the cost of carrying these accounts  
5 just because they only constitute 5 percent of our  
6 customer base, are you?

7 A. No. I mean, we're just -- no.

8 Q. Okay. So you're saying the Company should  
9 receive the cost that it takes to serve these  
10 customers, aren't you?

11 A. Yes, some compensation, but not to the  
12 extent of 34.8 days.

13 Q. You're not being critical of the Cold  
14 Weather Rule here, are you?

15 A. No, not at all. I'm not criticizing the  
16 Cold Weather Rule.

17 Q. At one point in your testimony you're  
18 critical of Mr. Buck's treatment of uncollectibles.  
19 Could you explain to me what's wrong with Mr. Buck's

20 treatment of uncollectibles?

21 A. Yes. Well, Mr. Buck has included  
22 uncollectibles in cash working capital, and  
23 uncollectibles are not a cash expense. There's no  
24 cash flow associated with them, and the inclusion of  
25 them in a cash working capital study is improper.

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1 Q. And so you've completely excluded any  
2 uncollectible account, right?

3 A. Yes. They've been assigned a zero in our  
4 cash working capital schedule.

5 Q. Isn't it true that Mr. Buck has accounted  
6 for uncollectibles by taking a balance of  
7 uncollectibles and backing out that amount from his  
8 revenue collection lag for a six-month period?

9 A. I am not sure at all that he's accounted for  
10 it. Our position is that it's appropriate to include  
11 uncollectibles in and to determine the collection lag  
12 for utility customers, and to somehow compensate for  
13 that by an adjustment to cash working capital is  
14 simply beyond the cash working capital study.

15 Q. Let me ask you this. Isn't it true that  
16 some -- an account becomes uncollectible when the  
17 customer is turned off and then fails to pay for six  
18 months; is that correct?

19 A. I'm not familiar with Laclede's policy on  
20 disconnecting customers.

21 Q. Why don't you assume for me that that's how  
Page 203

22 an account becomes uncollectible. Okay?

23 A. I can't assume that for you.

24 Q. Okay. Well, isn't it possible -- let me ask  
25 you this. Isn't it possible that customers whose

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1 accounts eventually become uncollectible are poor  
2 paying customers, albeit not uncollectible, before  
3 that?

4 A. Again, I have no source of analysis or  
5 anything to refer to to make an evaluation such as  
6 that.

7 Q. Okay. In your rebuttal testimony on page 3,  
8 you refer to a United Telephone Company case in which  
9 the Commission adopted a sample to determine the  
10 collection lag. Do you see that? It's rebuttal,  
11 page 3, line 18.

12 A. Yes, I see that.

13 Q. Okay. And I believe it's Case No. TC-93-181  
14 you have, but I think it should be TR-93-181; is that  
15 correct?

16 A. Yes.

17 Q. Okay. Have you read that case, Mr. Griggs?

18 A. I've read the relevant portion to the  
19 collection lag, the relevant portion of the Order.

20 MR. BYRNE: May I approach the witness?

21 JUDGE DIPPELL: Yes. Would you like to show  
22 that to witness' counsel first?

23 MR. BYRNE: I'm sorry.

24 BY MR. BYRNE:

25 Q. Mr. Griggs, I'm handing you a copy of the  
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1 decision in the United Telephone Company case,  
2 TR-93-181, and does that look like the decision in the  
3 case that you're referring to?

4 A. Yes, it does.

5 Q. I'd like to turn you to page -- well, it's  
6 page 407 in the Public Service Commission Reporter,  
7 and can you see on that page how many access lines  
8 United Telephone Company has? And it's the part  
9 that's underlined in the middle of the page.

10 A. Yes. The report states that UTM currently  
11 serves approximately 198,000 access lines.

12 Q. So to the extent that each customer only has  
13 one access line, the most customers they could have is  
14 198,000; is that correct?

15 A. I don't know how many access lines each  
16 customer has.

17 Q. Well, but there couldn't be more than  
18 198,000 customers because they've only got 198,000  
19 access lines? I mean, some customers may have more  
20 than one access line, so there could be less, but  
21 there can't be more; isn't that correct?

22 A. I don't know.

23 Q. Okay. Well, would you agree that to the  
24 extent they only have 198,000 or less customers,  
25 that's a lot fewer than Laclede's 630,000 customers?

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1 A. Yes, that is fewer.

2 Q. Okay. I'd like to refer you to the portion  
3 of that Order that deals with cash working capital  
4 revenue lag. I think I have it marked, and it's on  
5 page -- starts on page 408 and continues on to page  
6 409. And I guess I'm referring to Volume 2 of the  
7 MoPSC 3rd Reporter, and I'd like you to just read to  
8 yourself the -- well, in fact, I'd like you to read  
9 into the record the portions I've marked starting with  
10 "it should be noted".

11 MR. STUEVEN: Staff would be willing to take  
12 administrative notice of the section of the PSC  
13 Reporter.

14 BY MR. BYRNE:

15 Q. Well, let me ask you this, then. That's  
16 fine. I won't have him read it into the record. But  
17 could you read it to yourself because I'd like to ask  
18 you a question about it? Just let me know when you're  
19 finished.

20 A. Okay. I'm finished.

21 Q. Isn't it true, as evidenced by the portions  
22 of that Order that you just read, that both the Staff  
23 and the Company in that case submitted samples for  
24 purposes of calculating the revenue collection lag?

25 A. Yes, they both submitted samples.

□

1 Q. And isn't it true that the Staff sample  
2 which was ultimately adopted by the Commission  
3 consisted of 500 accounts?

4 A. Yes, according to the report.

5 Q. As opposed to 275 accounts that you're using  
6 in this case; is that right?

7 A. Yes, that's right.

8 Q. And isn't it true that the Order suggests  
9 that the Staff made some adjustments to its sample in  
10 that case to make it reflective of the demographics of  
11 the customers that United had?

12 A. Again, I wasn't part of that case. I don't  
13 know any of the reasons behind Staff's adjustments.

14 Q. But you didn't make any such adjustments to  
15 the results of your sample, did you?

16 A. No, we didn't.

17 Q. Mr. Griggs, do you think it's better to use  
18 more current data or less current data in making an  
19 adjustment or in calculating the Company's revenue  
20 collection lag? All other things being equal, is it  
21 better to use more current data or less current data?

22 A. All other things being equal, it would be  
23 more current data.

24 Q. Okay. On page 2 of your surrebuttal  
25 testimony, and hopefully I can give you a line,

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□

1 beginning -- the answer that begins on line 12.

2 A. I'm sorry. What was the page again?

3 Q. I'm sorry. Page 2 of your surrebuttal.

4 A. Okay. I'm there.

5 Q. And I think in that answer you're saying  
6 that the results, your 25.4 days is consistent with  
7 the results of other samples that you've taken; is  
8 that true?

9 A. Yes.

10 Q. And you cite three examples. One was the --  
11 I think the first one is 300 residential and  
12 commercial/small industrial customers sampled in Case  
13 No. GR-96-193?

14 A. Yes, that's right.

15 Q. Is that -- that was Laclede's rate case two  
16 rate cases ago; is that right?

17 A. Yes, it is.

18 Q. Okay. And you say that produced a  
19 collection lag of 21.07 days?

20 A. Yes, that's right.

21 Q. Did you utilize the same methodology to  
22 calculate the revenue collection lag in that case as  
23 you are using in this case?

24 A. I wasn't involved in that case. I'm not  
25 exactly sure of the methodology that was used.

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1 Q. So for all you know it might have been the



2 same methodology or might have been a completely  
3 different one?

4 MR. STUEVEN: Asked and answered. He  
5 already said he didn't know what the methodology used  
6 in the prior case was.

7 MR. BYRNE: If that's his answer, I'll  
8 accept that? Do you not know? I mean --

9 JUDGE DIPPELL: I don't think he did ask  
10 that exact question. I do think it may have been the  
11 answer the witness gave. I'll let him answer again to  
12 clarify.

13 THE WITNESS: Actually, my past answer  
14 wasn't correct. I have looked at the Staff's  
15 calculation that measured days between bills and  
16 payments, bills and when payments for those bills were  
17 received. The one in this case was slightly different  
18 in that it measures the days the balance of payment  
19 was outstanding.

20 BY MR. BYRNE:

21 Q. I'm sorry. Can you explain to me a little  
22 bit about what the difference is between what you did  
23 in this case and what was done in 96-193?

24 A. Well, the -- my understanding of the method  
25 in 96-193 is that, when a customer received a bill,

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1 the number of days from the time the customer received  
2 the bill until the Company received payment was used  
3 to compute the lag.

4 Q. Okay. And whereas now it's from the time  
5 the Company mails the bill?

6 A. Well, whereas now it's the -- it's the  
7 number of days the balance is outstanding, and each  
8 time a customer receives a payment it reduces the  
9 balance.

10 Q. So it was measuring something slightly --  
11 was it measuring something different in the 96-193  
12 case?

13 A. I don't know if it was measuring something  
14 different.

15 Q. So it might have been measuring something  
16 different than in the 96-193 case?

17 A. I don't know, sir.

18 Q. Okay. Well, let me ask you about the two  
19 other samples, you know. On line 16 there you've got  
20 100 residential customers sampled and 100  
21 commercial/small industrial customers, and those were  
22 both in GR-94-220?

23 A. Yes. And each of those samples had 100 or  
24 200, so it was a total of 400. Each had 100  
25 residential and 100 commercial.

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1 Q. I see. So it was two samples of 200 in each  
2 sample --

3 A. Yes.

4 Q. -- is that correct?

5 A. Yes.

6 Q. Okay. And was GR-94-220 Laclede's rate case  
7 before GR-26-193?

8 A. Yes, it was.

9 Q. And again, do you know if the same  
10 methodology was used in calculating the revenue  
11 collection lag for those samples as you used in this  
12 case for your sample?

13 A. I don't know.

14 Q. Okay. Mr. Griggs, do you know what the  
15 total amount of cash working capital you are -- that  
16 the Staff is sponsoring in this case is?

17 A. It would be \$2,257,000 according to the  
18 Staff's filed schedule.

19 Q. Does that include interest offsets?

20 A. I'm not aware if it includes interest  
21 offsets.

22 Q. I think they're shown at the bottom of your  
23 schedule, if you're looking at your schedule there.

24 A. Yes, they are.

25 Q. Does that help you answer the question, does

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1 it include interest offsets?

2 A. If I may check the calculation?

3 Q. Sure.

4 A. It does not include interest offsets.

5 Q. Okay. Well, what is the total cash working  
6 capital amount if you include interest offsets?

7 A. \$680,000.

8 Q. And you're the only Staff witness that filed  
9 testimony on cash working capital; is that correct?

10 A. Yes, that's correct.

11 Q. So no other Staff witness is sponsoring any  
12 adjustments related to cash working capital or  
13 testimony for that matter?

14 A. No, not to my knowledge.

15 MR. BYRNE: Okay. I have no other  
16 questions. Thank you, Mr. Griggs.

17 JUDGE DIPPELL: Okay. There aren't any  
18 questions from the Bench for Mr. Griggs. Let's take a  
19 ten-minute break, and then we'll come back and do  
20 redirect and maybe wrap up for the day. Off the  
21 record.

22 (A recess was taken.)

23 JUDGE DIPPELL: Let's go back on the record.  
24 We're ready for redirect, Staff.

25 MR. STUEVEN: May I approach the witness,

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1 please?

2 JUDGE DIPPELL: Yes.

3 REDIRECT EXAMINATION BY MR. STUEVEN:

4 Q. Handing you what was previously marked as  
5 Exhibit 120.

6 A. Yes.

7 Q. If I could have you turn to the, I believe  
8 it's the third page where it talks about what the  
9 study was of. Would you review that?

- 10 A. The entire page or --
- 11 Q. Yeah, just review the page.
- 12 A. Laclede --
- 13 Q. Just review it. You don't need to read it.
- 14 A. I'm sorry. Okay. I'm finished.
- 15 Q. Does that have -- does this study have to do
- 16 with slow pay accounts or uncollectible accounts or
- 17 what kind of accounts?
- 18 A. These are accounts that have been written
- 19 off.
- 20 Q. And that would be uncollectible?
- 21 A. Uncollectible, yes.
- 22 Q. And so those accounts wouldn't be included
- 23 in your study?
- 24 A. No, they would not.
- 25 Q. And it's Staff's policy that they shouldn't

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- 1 be?
- 2 A. That's correct.
- 3 Q. If you look to the first page of that, the
- 4 first page of that DR, what did Staff request?
- 5 A. The Staff requested studies to evaluate
- 6 customer paying habits by class and customer paying
- 7 habits by area or location.
- 8 Q. In your opinion, does this -- does the
- 9 response actually reply to that request?
- 10 A. It provides no paying habits by area or
- 11 location.

12 Q. Thank you. Now, should the Commission be  
13 concerned with the utility management sufficiency in  
14 collecting moneys owed to it by customers for service  
15 received?

16 A. Yes, they should.

17 Q. And would the collection lag be of a nature  
18 the Commission could use to judge operation of  
19 utilities in collecting moneys owed to it by  
20 customers?

21 MR. BYRNE: I'm going to object. That's  
22 outside the scope of anything I asked in cross.

23 JUDGE DIPPELL: Do you have a response,  
24 Mr. Stueven? Do you know what that's responsive to  
25 directly?

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1 MR. STUEVEN: He opened the door on the  
2 applicability of -- or the reasonableness of our  
3 collection lag. I'm going to the purposes of why the  
4 Commission needs a collection lag, and I will tie this  
5 back in.

6 MR. BYRNE: Your Honor, that's got nothing  
7 to do with anything I opened the door on, I don't  
8 think.

9 JUDGE DIPPELL: I can't think of how that's  
10 directly related to any of the questions that  
11 counselor asked. So I'm not going to allow that  
12 question. Sustain that objection.

13 BY MR. STUEVEN:

14 Q. Now, you were asked some questions about the  
15 177,908 turn-ons and cut-offs cited in Mr. Buck's  
16 rebuttal testimony, correct?

17 A. Yes, I was.

18 Q. Do you remember those? Have you ever  
19 performed an analysis of the number of customers at  
20 the end of each month, number of Laclede customers at  
21 the end of each month?

22 A. Yes, I have.

23 Q. And where did you get those numbers from?

24 A. Those numbers were taken from the Company's  
25 operating reports.

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1 Q. Could you identify the month with the  
2 highest number of customers?

3 MR. BYRNE: I'm going to object again, your  
4 Honor. Again, I don't see how this ties to anything I  
5 asked him on cross.

6 MR. STUEVEN: They talked about 177,000  
7 connects and disconnects. I'm exploring to see what  
8 kind of effect that would have on the numbers of --  
9 the numbers of Laclede customers over a 12-month  
10 period.

11 MR. BYRNE: I did talk about the  
12 disconnects, but I don't -- I'm having a disconnect.  
13 I don't understand how his question relates to the  
14 disconnects.

15 JUDGE DIPPELL: I believe counsel did ask a

question as to whether or not he had any reason to believe that that number was or wasn't correct. So to the extent that Mr. Stueven is asking the basis for his answer to that question, I'll allow him to answer the question.

THE WITNESS: In the month of March, there were 630,414 customers.

BY MR. STUEVEN:

Q. And what was the lowest month in the number of the customers?

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A. In the month of September there was 617,861.

Q. And the difference in those two months?

A. The difference is 12,553.

Q. Did you calculate an average change in monthly customer levels?

A. Yes, I did. The average was 2,250.

Q. Do you have any knowledge on the collection lags of other electric or gas utilities in the state of Missouri?

A. Yes, I do.

Q. And are you aware of any of those companies sponsoring a collection lag greater than 21 days?

MR. BYRNE: I'm going to object. It's beyond the scope of anything I asked.

MR. STUEVEN: They went into the reasonableness of how Staff calculates the collection lag that we came up with in comparison to other



18 companies within the state of Missouri. There must be  
19 some basis for the Commission to determine whether our  
20 position's reasonable.

21 MR. BYRNE: I didn't talk at all about other  
22 companies in the state of Missouri.

23 MR. STUEVEN: He questioned the  
24 reasonableness of our study.

25 JUDGE DIPPELL: I'll allow him to answer.

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1 THE WITNESS: Could you repeat the question,  
2 please?

3 BY MR. STUEVEN:

4 Q. Are you aware of any utility companies,  
5 electric or gas, that have sponsored a collection lag  
6 greater than 21 days?

7 A. No, I'm not.

8 Q. Mr. Griggs, when you were working on this  
9 case, did you ask the Company if anything had changed  
10 since the '96 case with respect to these calculations?

11 A. Yes, we did. We asked in a -- in Data  
12 Request No. 74 we asked for changes since the  
13 performance of the 1996 cash working capital study,  
14 and the Company replied that there were none.

15 Q. Mr. Griggs, do you know what the overall lag  
16 is when you weight the residential/commercial customer  
17 span on their delinquent date?

18 A. Yes. It is 19.4 days.

19 Q. Were merchandise sales only accounts

20 included in the collection lag calculation?

21 A. No, they were not.

22 Q. I have one more. Has the Company provided  
23 any analysis indicating that Staff's sampling is not  
24 statistically significant?

25 A. No, they have not.

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1 MR. STUEVEN: No further questions.

2 JUDGE DIPPELL: Thank you, Mr. Griggs. You  
3 may be excused.

4 (Witness excused.)

5 JUDGE DIPPELL: I think since it's almost  
6 4:30 we should probably stop with witnesses for today.  
7 I appreciate your being able to jump ahead in the  
8 order and be flexible.

9 Let's see. Are there any other issues that  
10 need to be addressed on the record this afternoon?

11 MR. BYRNE: Your Honor, we have some of the  
12 exhibits that the Commissioners asked for. I guess we  
13 can do that off the record.

14 JUDGE DIPPELL: That's good. I was going to  
15 ask you about the Exhibits 113 and 114 that  
16 Commissioner Drainer had asked for by today.

17 MR. BYRNE: And we have 115 based on  
18 Commissioner Schemenauer's question as well.

19 JUDGE DIPPELL: Okay. I'll let you provide  
20 copies to me for the Commissioners and myself, and be  
21 sure and provide copies to the parties. And then we

22 will address objections to those exhibits and their  
23 admittance as any other late-filed exhibit. I'll give  
24 you-all a chance after the hearing to make written  
25 objections.

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1 MR. BYRNE: Your Honor, I'd also like to  
2 offer Exhibit 120 from the cross-examination I had for  
3 Mr. Griggs. I forgot to offer it.

4 JUDGE DIPPELL: That was Exhibit No. 120,  
5 and it was Data Request No. 203. Is there any  
6 objection to admitting that exhibit?

7 MR. STUEVEN: No objection.

8 JUDGE DIPPELL: Then I will admit that.

9 (EXHIBIT NO. 120 WAS RECEIVED INTO  
10 EVIDENCE.)

11 JUDGE DIPPELL: Are there any other matters  
12 that need to be taken care of?

13 I guess we will -- presumably we will  
14 continue with advertising in the morning, or will we  
15 be ready to go back to weather?

16 MR. BYRNE: I think -- well, I don't know.

17 JUDGE DIPPELL: Let me state it this way.  
18 Be prepared to continue with advertising and on down  
19 the list, and then we'll decide when to work in the  
20 weather situation. We had -- someone had requested a  
21 depreciation witness that could only be available on  
22 Thursday. Was that --

23 MR. BYRNE: Yeah. Our depreciation expert

24 is in from out of town. He's here now. Hopefully  
25 we'll, one way or another, be able to get depreciation

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1 done tomorrow so he won't have to hang around too  
2 long.

3 JUDGE DIPPELL: We'll try to accommodate  
4 that witness tomorrow as well. Thank you.

5 We can go off the record.

6 (EXHIBIT NOS. 113, 114HC AND 115 WAS MARKED  
7 FOR IDENTIFICATION.)

8 WHEREUPON, the hearing of this case was  
9 recessed until September 2, 1999.

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