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STATE OF MISSOURI  
PUBLIC SERVICE COMMISSION

TRANSCRIPT OF PROCEEDINGS

Hearing  
June 15, 2000  
Jefferson City, Missouri  
Volume 15

In the Matter of Missouri-American )  
Water Company's Tariff Sheets )  
Designed to Implement General Rate ) Case No.  
Increases for Water and Sewer ) WR-2000-281  
Services Provided to Customers in )  
the Missouri Service Area of the )  
Company. )

KEVIN THOMPSON, Presiding,  
DEPUTY CHIEF REGULATORY LAW JUDGE.  
  
SHEILA LUMPE, Chair,  
M. DIANNE DRAINER, Vice-Chair  
COMMISSIONERS.

REPORTED BY:  
  
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1 P R O C E E D I N G S

2 (Witness sworn.)

3 JUDGE THOMPSON: Take your seat and spell  
4 your name for the reporter, please.

5 THE WITNESS: Ted L. Biddy, B-i-d-d-y.

6 JUDGE THOMPSON: Proceed, please.

7 MR. COFFMAN: Thank you.

8 TED L. BIDDY testified as follows:

9 DIRECT EXAMINATION BY MR. COFFMAN:

10 Q. You've spelled your name for the record.  
11 Would you please describe by whom you're employed,  
12 Mr. Biddy.

13 A. I'm employed by the Office of Public  
14 Counsel. You mean where am I employed? I am  
15 self-employed consulting engineer living in  
16 Tallahassee, Florida. My client in this case is the  
17 Office of the Public Counsel, the State of Missouri.

18 Q. And you've been retained to conduct a  
19 prudence review of the St. Joseph facilities in this  
20 case?

21 A. Yes, I have.

22 Q. Okay. Are you the same Mr. Biddy that's  
23 caused to be filed in this matter direct testimony and  
24 surrebuttal testimony in a prepared format and marked  
25 as Exhibits 19 and -- well, actually, I think your

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1 direct testimony has been marked -- I guess it is as  
2 19 and 20?

3 A. Yes, I am.

4 Q. Okay. And is your direct testimony bound  
5 in two volumes with the second volume being  
6 Schedule TLB-3?

7 A. That is correct.

8 Q. Okay. Do you have any corrections to make  
9 to those prepared testimonies?

10 A. No, I do not.

11 Q. If you were asked the same questions and  
12 answers contained therein today, would the answers be  
13 true and accurate to your best information, knowledge  
14 and belief?

15 A. Yes, they would.

16 MR. COFFMAN: I would now tender Mr. Bidy  
17 for cross-examination and offer into the record  
18 Exhibits 19 and 20.

19 JUDGE THOMPSON: Do I hear any objections to  
20 the receipt of Exhibit 19 or 20?

21 (No response.)

22 JUDGE THOMPSON: Hearing no objections,  
23 Exhibits 19 and 20 are received and made a part of the  
24 record of this proceeding.

25 (EXHIBIT NOS. 19 AND 20 WERE RECEIVED INTO

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1 EVIDENCE.)

2 JUDGE THOMPSON: Mr. Conrad?

3 MR. CONRAD: We have no questions for  
4 Mr. Biddy.

5 JUDGE THOMPSON: I do not see Mr. Deutsch.  
6 Do you know if he's coming today?

7 MR. CONRAD: I wasn't advised, your Honor,  
8 that he was not going to be here, but I don't have any  
9 direct knowledge.

10 JUDGE THOMPSON: Very well. Mr. Dority?

11 MR. DORITY: No questions, thank you.

12 JUDGE THOMPSON: Mr. Snodgrass?

13 MR. SNODGRASS: Yes, Judge, I have some  
14 questions.

15 CROSS-EXAMINATION BY MR. SNODGRASS:

16 Q. Good morning, Mr. Biddy.

17 A. Good morning.

18 Q. Sir, before I begin my cross, I'd ask you to  
19 bring to your podium up here your surrebuttal and your  
20 direct testimony and your schedule. Do you have it  
21 with you?

22 A. I have those.

23 Q. All right. The first thing I'd like to do  
24 is direct your attention to page 5 of your  
25 surrebuttal, sir.

1           A.     I have it.

2           Q.     All right.  Now, basically in about the  
3 middle of that page, sir, you indicate that you take  
4 issue with Mr. Merciel's discussion of the usability  
5 of the graded roadway and County Line Road that  
6 extends north and east from the old plant site in  
7 St. Joseph; is that right?

8           A.     Yes, I do.

9           Q.     Now, basically, you deal with this issue of  
10 County Line Road in both your direct and surrebuttal;  
11 is that right?

12          A.     That is true.

13          Q.     All right.  I'd like to direct you to page 5  
14 of your surrebuttal, lines 11 through 14.  Do you see  
15 that?

16          A.     Yes.

17          Q.     You say, It's obvious from the MAWC  
18 feasibility report of 1996 that MAWC used this roadway  
19 for access to the plant during the '93 flood although  
20 the roadway is described as barely passable because  
21 two creeks had to be forded.  Did you make that  
22 statement?

23          A.     Yes, I did.

24          Q.     All right.  Now, may I ask you what you  
25 meant by obvious?

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1           A.     The feasibility report that the utility  
2     prepared stated that there were two alternate access  
3     roads that were possible during flood, one being the  
4     connection to County Line Road by this graded access  
5     road, but that it was only barely passable by a  
6     four-wheel-drive truck because they had to ford two  
7     creeks on the way.

8                     That sounds like to me that they had  
9     traveled that road to know that, and I assume that was  
10    during the flood.   The second --

11           Q.     You assume that; is that correct?

12           A.     Yes, sir.   The second alternative was to  
13    build a new road up the hill to their tank on the  
14    bluff.   As you know, Mr. Merciel chose to estimate  
15    that route, whereas I chose to estimate improving the  
16    connection to County Line Road.

17           Q.     All right.   I'd ask you, sir, at this point  
18    in time to direct your attention to your  
19    Schedule TLB-3, Appendix A, page 26 of 34.   Am I going  
20    too fast, sir?

21           A.     What page?

22           Q.     That would be Appendix A of your  
23    Schedule TLB-3, sir, page 26 of 34 at Appendix A.

24           A.     26 of 34.   I have it.

25           Q.     All right.   Would you be kind enough to look



1 at the fourth paragraph down on that page?

2 A. Yes.

3 Q. Would you read that paragraph, please?

4 A. Yes. Access to the site is in need of  
5 improvement. The concept of relying on small boats to  
6 transport personnel and material to the plant is not  
7 acceptable for logistic and safety reasons. The road  
8 to the plant is protected only by an agricultural  
9 levee and may be flooded under a hundred-year flood.

10 Two alternative roads are possible. County  
11 Line Road allows access to the plant from the north  
12 but is barely passable using four-wheel-drive trucks.  
13 For example, vehicles must ford one or two creeks.  
14 Much of the road lies in Andrew County, but Andrew  
15 County is unwilling to grade or contribute to grading  
16 of the road.

17 A road could be constructed from the water  
18 company property on top of the bluff to the plant, but  
19 this alternative would be expensive to construct and  
20 maintain.

21 Q. Thank you, sir. Is that the paragraph that  
22 you use to base your conclusions on that the company  
23 used County Line Road during the flood of '93?

24 A. Yes. I assume by the description of it that  
25 they did so.

1           Q.     All right.  Now, where in the paragraph  
2                 specifically does it actually say that the company  
3                 used that road during the flood of '93?

4           A.     Well, it was an assumption on my part based  
5                 on their having to ford two creeks and the statement  
6                 that two alternative roads are possible.  They're  
7                 talking about during the flood, during flood events  
8                 that two alternative roads were possible.

9           Q.     But you would agree with me that that  
10                paragraph doesn't actually say the company used that  
11                road?

12          A.     No, it does not.

13          Q.     Now, I direct your attention to TLB-3, your  
14                schedule Appendix A, page 24 of 34.

15          A.     All right.

16          Q.     Last paragraph on that page, sir.

17          A.     Yes.

18          Q.     Would you please indulge me for a moment and  
19                just read that paragraph?

20          A.     All right.  Preparation for the flood and  
21                the subsequent repair effort was severely hampered by  
22                poor access to the treatment plant.  The only road to  
23                the plant is a two-mile-long road from the south.  
24                This road was gradually flooded through the first part  
25                of July, but by mid-month the only means of access to

1 the plant was by small boat.

2 All personnel and supplies had to be ferried  
3 in by boats running around the clock. Items such as  
4 sandbags, pumps and chemicals that would have been  
5 easily transported by truck were extremely difficult  
6 to move in sufficient quantity. Communications were  
7 hampered by the loss of telephone service.

8 Q. Now, you would admit, sir, would you not,  
9 that that paragraph says that the only access to the  
10 plant was by small boat?

11 A. Well, yes, I read that, and I assume that  
12 meant from the south since this said the other two  
13 alternative access roads were possible, and they did  
14 describe using four-wheel-drive trucks and fording  
15 creeks. So it was an assumption on my part.

16 Q. All right. You also made an assumption or  
17 an assertion in your direct testimony, Mr. Biddy, if I  
18 can go to that, please, page 14 of your direct, line 7  
19 through 9.

20 A. I'm on page 14.

21 Q. All right. If you would, look at line 7  
22 through 9. Do you see those?

23 A. Yes.

24 Q. You say on those lines that a graded roadway  
25 named County Line Road connects to the existing

1 treatment plant from the north, and you indicate, And  
2 can be used during the rare flood events; is that  
3 right?

4 A. That's correct.

5 Q. So you're making the assertion that the road  
6 can be used during a flood; is that right?

7 A. With improvements, yes.

8 Q. Now, you took a picture of County Line Road  
9 when you visited the old plant site; am I correct?

10 A. Yes, I did. It's photograph No. 8, I  
11 believe.

12 Q. That's included in your Schedule TLB No. 2;  
13 am I correct?

14 A. That's correct.

15 Q. Now, other than taking a picture of County  
16 Line Road for your testimony, did you actually drive  
17 on that road, sir?

18 A. No. We did not have time during my  
19 inspection of the plant to make a -- to drive the road  
20 completely out. We could see it. If you'll look at  
21 photograph No. 8, it's a high and dry graded road  
22 that's several feet higher than the railroad obviously  
23 above --

24 MR. SNODGRASS: Judge, I just ask that that  
25 be stricken. I'm only asking if he drove the road.

1 JUDGE THOMPSON: Please strike everything  
2 after the -- read back his answer. Did he start by  
3 saying no?

4 THE REPORTER: Yes, he did.

5 JUDGE THOMPSON: Strike everything after no.  
6 BY MR. SNODGRASS:

7 Q. All right. Mr. Biddy, you didn't actually  
8 walk that road at all, did you?

9 A. No, I did not.

10 Q. And you didn't determine if that road was,  
11 in fact, blocked off by gates further down its  
12 pathway, did you?

13 A. Did not.

14 Q. Now, again in the context of the usability  
15 of County Line Road during a flood of record, do you  
16 recall talking about culverts that could be installed  
17 to improve the passability of this road?

18 A. Yes.

19 Q. And you specifically say in your direct, do  
20 you not, sir -- I direct your attention to that,  
21 page 14, lines 18 through 20.

22 A. All right. I'm there.

23 Q. Okay. Thank you. You indicate, do you not,  
24 While the condition of this alternative access to the  
25 plant may well be as described by MAWC, it is obvious

1 one or two culverts constructed at the two creek  
2 crossings would make this roadway more than barely  
3 passable. Did you say that?

4 A. Yes, I did.

5 Q. Now, did you actually go and look at these  
6 creeks while you were at the old plant site?

7 A. No, I did not.

8 Q. Let me ask you, sir, in all due respect, if  
9 you didn't look at the creek sites, how is it possible  
10 for you to say that culverts would remedy the problems  
11 associated with them?

12 A. Well, the problem as stated by the utility  
13 was having to ford the creeks. Installing a culvert  
14 is the answer to fording small creeks.

15 Q. But you didn't actually look at the creeks,  
16 did you?

17 A. No, I do not.

18 Q. You don't know how big they were, do you?

19 A. Do not.

20 Q. For the record, you've indicated, the import  
21 from your testimony is that you visited the old and  
22 new plant site, is that right, in St. Joseph?

23 A. Yes, I do.

24 Q. How many times did you visit the old site,  
25 Mr. Biddy? Do you remember?

1           A.     One time, one afternoon.

2           Q.     Do you remember what date that was?

3           A.     I have to look back in my testimony. I

4 believe it was around -- I don't know right offhand.

5 I'll have to look.

6           Well, I don't have the dates listed in my

7 testimony. I believe it was early March of this year.

8           Q.     When you visited the old plant in

9 St. Joseph, how long did you stay, sir?

10          A.     Several hours.

11          Q.     More than three or four?

12          A.     No. No. Approximately three hours.

13          Q.     And you visited the new plant site in

14 St. Joseph, the new site, right?

15          A.     Yes, I did.

16          Q.     Was that on the same day?

17          A.     Same day.

18          Q.     And how long did you stay then?

19          A.     Most of the morning. Three hours perhaps.

20          Q.     All right. I'd like to kind of switch gears

21 here, Mr. Biddy, if you don't mind, and talk about the

22 pump building at the old plant site.

23          A.     Yes.

24          Q.     Did you see that when you visited?

25          A.     Yes, I did.

1           Q.     Now, it's true, is it not, that that  
2     building houses the high-service and low-service pumps  
3     for the old facility?

4           A.     It does.

5           Q.     And the low-service pumps take the water  
6     from the river and move it to the treatment  
7     facilities, correct?

8           A.     That is correct.

9           Q.     And the high-service take the treated water  
10    from the facility and move it to the distribution  
11    system; am I accurate?

12          A.     That's correct.

13          Q.     Now, it's also true, sir, that the floor of  
14    that pump building is below the record flood of '93;  
15    isn't that right?

16          A.     That's correct.

17          Q.     So if you put a levee there and that levee  
18    would fail that you propose, follow me through this,  
19    water would penetrate the plant. If there was a flood  
20    of record that floor of that building would still be  
21    below the flood of record level; is that correct?

22          A.     Well, you've got a lot of assumptions  
23    involved in it, but yes.

24          Q.     I apologize if I talked too fast there for  
25    you.



1           A.     But yeah.

2           Q.     All right.  So, in fact, to really  
3 flood-proof or flood-resist the pump house building  
4 you'd have to lift the elevation of that building  
5 above the flood of record, would you not?

6           A.     I don't agree with that at all.  There's  
7 been substantial improvements made to the utility  
8 already for flood improvements, protection  
9 improvements.  The levee I propose, I believe, would  
10 make the site virtually flood-proof.

11          Q.     You believe it would make it flood-proof,  
12 sir, is that your statement?

13          A.     Virtually flood-proof, yes.

14          Q.     What does virtually mean?

15          A.     Better than 95 percent.

16          Q.     But you would agree if the levee you propose  
17 or any levee failed and there was a flood of record,  
18 similar to the one in '93, the pump house building  
19 would be in jeopardy; is that right?

20          A.     If there's no levee there and the same  
21 conditions exist, no improvements are made inside,  
22 yes, the pump house would be in jeopardy.

23          Q.     Thank you, sir.

24                   Going along this idea of flood-proofing the  
25 plant, now, you say that in your surrebuttal

1 testimony, if I can direct your attention to that,  
2 page 3, lines 18 through 20, your statement is, and  
3 correct me if I'm reading it incorrectly, If the old  
4 site had been protected in '93 by a new east side  
5 levee that you propose, then it's almost certain that  
6 the existing plant would have continued operations  
7 through the '93 flood; is that right?

8 A. That's correct.

9 Q. Now, you didn't say that it was absolutely  
10 certain, did you?

11 A. Well, when you're dealing with  
12 probabilities, you deal with a virtual certainty when  
13 it's past 95 percent. That's the reason for the word  
14 almost.

15 Q. But you're not saying it's a hundred percent  
16 certain; am I correct?

17 A. Well, as good as man can design, it would be  
18 flood-proof. Let's put it that way.

19 Q. All right. Now, let's talk about the  
20 existing levee system around the old plant. Did you  
21 look at that while you were there?

22 A. Yes, I did.

23 Q. And do you know how long those levees had  
24 been there?

25 A. Many years, apparently.

1           Q.     All right. Did you make any investigation  
2 of the condition of those levees after the flood?

3           A.     Yes. I looked at them. I asked Mr. Amman  
4 the question whether or not the flood had overtopped  
5 them, had there been flooding of a plant by breaching  
6 of the levee. I saw no evidence of that. He  
7 explained to me the flooding occurred by the flood  
8 running through the railroad ballasts in mechanism  
9 with the levee.

10          Q.     Now, it's true, though, that levees can be  
11 penetrated underneath by floodwaters, can they not?

12          A.     Not unless you have a soil condition that  
13 would allow that.

14          Q.     But it can occur; am I correct?

15          A.     Well, if you design your levee properly, no.  
16 If a core, a clay core that extends below the ground  
17 level, which is standard levee design, also up to the  
18 top of the levee, clay is impenetratable.

19          Q.     You didn't study the soil conditions  
20 regarding penetration under the levee at the old  
21 plant, did you?

22          A.     You don't depend on the soil conditions, and  
23 no, I did not study the existing. You haul the clay  
24 in to the site and build the levee with a clay core.

25          Q.     But you don't know if the original levees

1       were built with that clay, do you?

2           A.     I do not, no.

3           Q.     You talk about in your testimony that levees  
4       have protected millions of acres of farm land for  
5       years; is that correct?

6           A.     Yes.   That's a historical fact.

7           Q.     You're not saying that no levees in '93  
8       didn't give way in Missouri in the flood of '93, are  
9       you?

10          A.     No.   I understand there was some that did  
11       give way.

12          Q.     I appreciate your candor.

13                 MR. SNODGRASS:   I don't think I have  
14       anything else, Mr. Bidby.   Thank you.

15                 JUDGE THOMPSON:   Thank you, Mr. Snodgrass.  
16       Mr. Ciottone?

17                 MR. CIOTTONE:    Thank you, your Honor.

18       CROSS-EXAMINATION BY MR. CIOTTONE:

19          Q.     Mr. Bidby, how did you get this job?

20          A.     I was called on the telephone by the Office  
21       of Public Counsel and asked to receive a Request for  
22       Proposal for providing these services.

23          Q.     And did you then receive an RFP from the  
24       Office of the Public Counsel?

25          A.     Yes, I did.

1           Q.     Do you recall the date that you received  
2     that?

3           A.     I think it was February.

4           Q.     May I hand you a document?

5                   MR. CIOTTONE:   Your Honor, may I approach?  
6     Just to refresh your recollection.

7                   JUDGE THOMPSON:   You may.

8     BY MR. CIOTTONE:

9           Q.     Does that look familiar to you?

10          A.     Yes.

11          Q.     And would you identify that, please?

12          A.     It's a January 18th, 2000 letter to me from  
13     the Office of the Public Counsel signed by Deputy  
14     Public Counsel John Coffman asking for a proposal to  
15     perform a study of the Missouri-American water plant  
16     particularly in regard to prudence, alternatives  
17     considered, used and useful analysis.

18          Q.     And the date on that document is?

19          A.     January 18th, 2000.

20          Q.     Thank you.   Your Honor, may I have this -- I  
21     guess we're up to 100.   This is -- purports to be  
22     Mr. Biddy's acceptance of the RFP.

23                   JUDGE THOMPSON:   This will be Exhibit 100.

24                   (EXHIBIT NO. 100 WAS MARKED FOR  
25     IDENTIFICATION.)

1 BY MR. CIOTTONE:

2 Q. Mr. Biddy, do you recall when you received  
3 the Request for Proposal that was dated January 18th?

4 A. I don't recall the exact date. It could  
5 have been by e-mail that same day or could have been  
6 on the 20th.

7 Q. So you don't recall whether you first saw it  
8 by receipt of United States Mail or some other  
9 vehicle?

10 A. It was the 18th or the 20th.

11 Q. Is this -- let me hand you what has been  
12 marked as Exhibit 100 and let me ask you, is that  
13 indeed your acceptance of the RFP?

14 A. Yes, it is.

15 Q. And does it not -- does it not at that time  
16 not only accept an agreement with the Office of the  
17 Public Counsel to provide testimony but states that  
18 you would do so for, correct me if I'm wrong here, for  
19 \$20,000?

20 A. That's correct.

21 Q. You were committing yourself at that time to  
22 file testimony stating that the company's selected  
23 alternative was imprudent?

24 A. No indeed. I wasn't committing myself to  
25 that at all. Just a study to determine what the truth

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1 of the matter was.

2 Q. So you were under the impression that  
3 Mr. Coffman would pay you \$20,000 for you to come back  
4 with a conclusion that the company's actions were  
5 indeed prudent?

6 A. Absolutely.

7 Q. You thought that was an option?

8 A. Yes, I knew it was an option.

9 Q. Did you make statements in here to assuage  
10 his concerns in that respect?

11 A. Well, I told him what my initial feeling was  
12 based on having reviewed some of the material that he  
13 sent me.

14 Q. Let me direct your attention to page 2, the  
15 first full paragraph following the calculation of your  
16 expenses, and let me ask you to read the last sentence  
17 in that paragraph.

18 A. My gut feeling is that these difficulties  
19 could have been overcome at the existing treatment  
20 plant along with state-of-the-art upgrades at a  
21 fraction of the cost of the new facilities.

22 Q. Let me ask you, sir, how did you manage to  
23 derive such a gut feeling in less than 24 hours?

24 A. What do you mean, less than 24 hours?

25 Q. Well, sir, you testified that the RFP was

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1       dated January 18th, you received it probably on the  
2       19th or at the earliest the 18th, and this letter you  
3       responded back on January 20th.

4           A.     Yeah. Mr. Coffman had sent me materials  
5       relevant to the case prior to this date. I think the  
6       day he called me he perhaps sent them by Federal  
7       Express, materials consisting of all the documents in  
8       the prior certification case, the direct testimony of  
9       Mr. Young in this case. He had also told me the  
10      estimate of the cost of the new plant.

11                 So I had some preliminary numbers and  
12      preliminary documents to look at that raised all kinds  
13      of red flags in my mind as to the cost of the new  
14      facility versus refurbishing the old facility.

15           Q.     When were you in receipt of those documents  
16      and information, do you recall?

17           A.     I don't recall, but it was probably days  
18      before that, only days.

19           Q.     So how long did it take you to arrive at a  
20      conclusion that you could testify under oath that the  
21      company's elections were imprudent?

22           A.     I didn't say that. I haven't testified that  
23      I thought that at that time. I just thought -- the  
24      only thing that this says is my feeling was that the  
25      cost of refurbishing the existing plant would have

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1       been much less than the new plant.

2           Q.     I understand that, sir, but my question to  
3       you is, when were you able to decide? How long did it  
4       take you to conclude that you could indeed file  
5       testimony under oath to the effect that the company's  
6       actions were imprudent?

7           A.     I think I spent over 300 hours on the job.  
8       Probably 200 hours into the job I realized that it was  
9       obvious that the company's actions were imprudent.

10          Q.     Is it fair to say that in-depth studies  
11       weren't possible?

12          A.     Well, of course, I wanted many more hours  
13       put into the job to get into great detail, but I had  
14       enough hours to make that determination by looking at  
15       the cost estimates produced by the company and  
16       evaluating them as to reasonableness.

17          Q.     My question to you, sir, was, is it true  
18       that it was not possible to do an in-depth study?

19          A.     Well, I think I did probably an in-depth  
20       study of the cost estimates and the costing of the old  
21       plant.

22                 What I was not able to do at all was to go  
23       into the designs, to come up with designs of  
24       facilities to compare those costs that I would come up  
25       with. I was able to look in-depth at the cost

1 estimates produced by the company and their  
2 consultant.

3 Q. Well, let's look at the next paragraph then  
4 of that Exhibit 100 that I gave to you. Correct me if  
5 I'm reading this incorrectly. It says, Unfortunately,  
6 such in-depth studies are not possible in the short  
7 time frame remaining for studies in preparation of  
8 direct testimony for this case. Should additional  
9 time and budget become available, I would propose to  
10 continue the in-depth studies and analyses based on my  
11 billing rates as discussed above. I would estimate  
12 that between 500 and 1,000 hours would be necessary to  
13 thoroughly address all the issues presented in that  
14 case.

15 Do you stand by that?

16 A. Yes, I do.

17 Q. So then we can assume -- well, Mr. Coffman  
18 did not pay you that additional money, did he?

19 A. No. We didn't have time.

20 Q. Your rate would have been another 50 to  
21 \$100,000?

22 A. To have completely independently designed  
23 the old plant refurbishment and the new plant itself  
24 and compared those costs developed from those designs  
25 to what Missouri-American computed, yes, it would have

1 taken that amount of time.

2 Q. So then you concede that you did not  
3 thoroughly address all the issues presented in this  
4 case by your own characterization?

5 A. Yes. In particular the new plant, it was  
6 just impossible from a timing standpoint to actually  
7 do a design and cost estimate.

8 Q. So what did we not get the benefit of,  
9 Mr. Biddy? What would you have done for us that we  
10 are now doing without with respect to a determination  
11 of whether your estimates are accurate?

12 A. You will notice in my testimony that my  
13 testimony compares only the upgrading of the old plant  
14 to the cost, the actual cost that has been experienced  
15 for the new plant.

16 Had I had time, I would have went through  
17 the new plant in minute detail from a design  
18 standpoint to see that the design was not overstated  
19 or overbuilt. I would have looked at cost statements  
20 for all of those facilities, including the wells and  
21 clarifiers, the filters, the pumps and the multitude  
22 of other facility there. I had time to do none of  
23 that for the new plant. So none of that is included  
24 in my testimony.

25 Q. Well, yes, sir, it is. Did you not, sir,

1       testify under oath in your prepared testimony that it  
2       appeared that the company's estimates for the new  
3       plant were reasonable?

4           A.     It appears, just on the surface looking at  
5       it, yes.

6           Q.     Well, I'm sorry. Explain to me what the  
7       difference between that characterization under oath  
8       that you made where you stated that the company's  
9       characterization -- your exact language I think is in  
10      your surrebuttal on page 16, The company may have made  
11      a reasonable cost estimate for the proposed new source  
12      and ground water treatment plant.

13          A.     Yes.

14          Q.     Pardon me. May have made a reasonable cost  
15      estimate for the proposed new ground water source and  
16      treatment plant. So you were able to testify under  
17      oath to that effect?

18          A.     Yes. Yes. I thought that the -- from a  
19      surface look at it, it was probably a reasonable  
20      estimate.

21          Q.     So your testimony with respect to your  
22      conclusions under oath is the result of a surface  
23      look, is that what you're suggesting?

24          A.     I've just testified that I had no  
25      opportunity to go into detail on the new plant. The

1 best I could do was take a surface look at it.

2 Q. So you're offering no testimony with respect  
3 to the issue of whether or not the new plant was  
4 constructed prudently; your testimony is directed  
5 entirely to what you think could have been done at the  
6 renovation site?

7 A. No, that's not quite accurate. Based on my  
8 observations at the new plant site, I do have two  
9 points that I make.

10 Q. About the capacity?

11 A. One about the wells and their susceptibility  
12 to floodwaters from the Missouri River, and the  
13 capacity is the second, yes.

14 Q. Let's get back to what we did not get that  
15 we would have gotten for the \$100,000 that you  
16 requested.

17 A. Well, the \$100,000 would have provided for a  
18 preliminary design of the new plant itself so that I  
19 could have made very accurate cost comparisons of  
20 various components based on the utility's estimate. I  
21 simply did not have time nor budget to do that.

22 Q. What else? Anything with respect to the  
23 renovation?

24 A. The exact configuration of the facilities, I  
25 would have liked to have made my own layout and see if

1 I could get a better arrangement. I did have to  
2 necessarily take the design that was performed by the  
3 utility's consultant at face value. It looked like a  
4 reasonable layout, a reasonable design, but I would  
5 have liked to have gone through an independent layout  
6 myself.

7 Q. What else in addition to an independent  
8 layout did you not do?

9 A. It's a matter of depth, of going into the  
10 details in a little more depth probably.

11 Q. So your depth is insufficient to, as you  
12 characterize it, thoroughly address the issues?

13 A. No. I think we thoroughly addressed the  
14 issue of cost in comparing cost estimates as to their  
15 reasonableness. As far as doing a design of the new  
16 plant or going into some of the details of the layout  
17 of the old plant, I would have liked to have had more  
18 time.

19 Q. I understand that, sir. I'm still asking  
20 you, and you're not answering me, what would you have  
21 done with respect to your determinations about the old  
22 plant? You've said you would like to redesign the  
23 layout. What else would you have done for \$100,000?

24 A. As much as I could in the time. You have to  
25 realize that when you're reviewing other people's work

1 and you're doing it in a short period of time, you  
2 always want more time to look into the details of it.  
3 Is a certain pump size adequate, for instance? Is  
4 that cost really that, which seems to be -- may seem  
5 to be okay, but you have time to call the vendors,  
6 talk to them about the current cost of pumps and so  
7 on. You'd like to go into more depth if you could.

8 Q. So you didn't call vendors or make any  
9 determination of what an appropriate cost for pump  
10 costs would be?

11 A. No, I did not.

12 Q. What else did you not do?

13 A. Right offhand, I don't know. Must be many  
14 in-depth things that could have been done.

15 Q. Would this be in that category that you  
16 accused Mr. Merciel of taking advantage of a  
17 situation?

18 A. No, it would not.

19 Q. So do you think your testimony is sufficient  
20 and adequate on which this Commission can rely even  
21 though you characterized it as being -- as saying  
22 in-depth studies are not possible and that you need an  
23 additional 1,000 hours to thoroughly address the  
24 issues presented in this case which Mr. Coffman was  
25 unable to pay?

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1           A.     Well, if I had the 1,000 hours, my testimony  
2     would be -- the exhibits to my testimony on design and  
3     cost estimates would be minutely detailed rather than  
4     depending on evaluating other people's cost estimates.  
5     This is -- this is the crux of the difference.

6           Q.     All right.  So you're telling me, then, that  
7     in your determination of costs that should be assessed  
8     to certain items in the renovation process, you simply  
9     relied on other people's cost estimates?

10          A.     As to the reliability -- as to the  
11     reasonableness of those estimates, I did look at those  
12     in detail, yes.

13          Q.     All right.  We're going to get to that  
14     later, but you did not make any independent  
15     determination of what the cost of the facilities would  
16     be by contacting vendors or doing other kinds of  
17     research because the time and resources were not  
18     available?

19          A.     Well, there were certain things I did do  
20     detailed as to include them -- included them as  
21     exhibits to my testimony.  One is the access road  
22     improvements.  Two is the rebuilding of the levee.

23                 I did contact a vendor to determine if the  
24     number -- the lump sum number quoted by  
25     Missouri-American for ozone facilities was in the



1       ballpark. That's essentially the extent of detailed  
2       cost estimates.

3           Q.     So ballpark was your standard?

4           A.     No. I wanted to be sure that the estimate  
5       by Missouri-American was at least in the ballpark.

6           Q.     Well, let me just conclude this area of  
7       questioning. As I understand what you're saying, that  
8       you have indeed testified that this plant could be  
9       renovated for a particular cost?

10          A.     That's correct.

11          Q.     You've characterized that cost, have you  
12       not?

13          A.     That's right.

14          Q.     And that number is not based on in-depth  
15       studies?

16          A.     Well, to the extent that I have shown it in  
17       my testimony, it is in-depth. I took the original  
18       cost by Missouri-American in 1991 and upgraded it to  
19       1998 prices based on cost indexes.

20                 I added to that my detailed calculations for  
21       flood-proofing the plant, also for access road  
22       improvements. And I took the costs from  
23       Missouri-American's prior estimates of the ozone  
24       facilities and the intake facilities and arrived at a  
25       total.

1           Q.     Keep that in mind.  We'll get back to cost  
2     shortly.  Let me move on to some questions about your  
3     credentials, sir, if that's all right.

4                     In your DR answers with respect to  
5     identifying your work experience, you list 21 items of  
6     projects and studies, and only one of those is surface  
7     water, involves surface water.  That's the Standard  
8     Oil refinery?

9           A.     Yes.  It was for the Jackson County Port  
10    Authority, the water system.

11          Q.     And that was back in 1966 to '69?

12          A.     That's correct.

13          Q.     Were you relatively recently out of school  
14    at that time?

15          A.     Yes.

16          Q.     What was the nature of your role in that  
17    undertaking?

18          A.     I was one of the design engineers.

19          Q.     One of the design engineers?

20          A.     Uh-huh.

21          Q.     How many were there, do you recall?

22          A.     We had a design team with, I think, six  
23    people, six engineers.

24          Q.     And your relative status among those people  
25    was?

1           A.     Just one of the design engineers. I was not  
2     the project manager. I was just one of the design  
3     engineers.

4           Q.     And you described that as being an  
5     industrial supply. Was that potable water?

6           A.     No. It could very easily be. It would use  
7     the same process of sedimentation and filtration that  
8     you did. All it needed was chlorination.

9           Q.     Do you have any experience in designing a  
10    surface water, potable water drinking water plant?

11          A.     No. In Florida we don't use surface water.

12          Q.     Did you say no? You said no?

13          A.     I said no.

14          Q.     And you nevertheless feel qualified to make  
15    these evaluations about how to treat the surface water  
16    on the Missouri River?

17          A.     Yes, I do.

18          Q.     Could you explain to me how you could make  
19    that statement not having ever had any experience  
20    treating surface water for potable drinking water  
21    experiences?

22          A.     It is a well-known old technology that you  
23    study in school. I did have the hundred million  
24    gallon per day plant that I participated as a design  
25    engineer in designing.

1 Q. Which was not potable water?

2 A. It was the same process. This was cooling  
3 water, but it had to be to the same level of treatment  
4 as, except for chlorination, as drinking water.

5 We always used wells or aquifers, the  
6 pristine water in Florida, and it's not hard to use --  
7 well water's of very high quality. Therefore, surface  
8 water is not necessary.

9 Q. So you're telling me the treatment of  
10 surface water, whether it's for potable purposes or  
11 nonpotable purposes, is the same?

12 A. That depends on what the nonpotable use is  
13 and what your client wants. In the case of Standard  
14 Oil, they required the Port Authority to furnish them  
15 a hundred million gallons water per day for cooling  
16 water. That's a huge amount of water.

17 We had to withdraw it from the river by  
18 pumping stations. We had to take it through  
19 sedimentation basins, coagulation and then filtering,  
20 final filtering and pumping it to Standard Oil daily.  
21 It was very high-quality water except we did not  
22 chlorinate it because they did not want chlorine in  
23 it.

24 Q. Are you familiar with the Enhanced Surface  
25 Water Treatment Rule?

1           A.     Yes.

2           Q.     Was that around in 1966 to '69?

3           A.     No, it was not.

4           Q.     Was the EPA even around in 1966 to '69?

5           A.     I don't believe it was called the EPA then,

6     no.

7           Q.     But this is the basis for your expertise in

8     treating surface water?

9           A.     Well, I have been in this business for 37

10    years, and this is not rocket science.  It's fairly

11    old technology that we're using here.  I don't -- I do

12    feel like I'm qualified to evaluate this.

13          Q.     Have you ever had any role in designing a

14    surface water treatment plant that would have

15    treatment components necessary to comply with the

16    Enhanced Surface Water Treatment Rule?

17          A.     No, but I can certainly evaluate a plant to

18    determine if it's meeting those requirements.

19          Q.     Do you have any experience with the design,

20    construction or operation of ozonation facilities?

21    And I got that out today.

22          A.     Ozonation facilities I have not put in.

23    There's very few people who have.

24          Q.     So you do not?

25          A.     No.

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1           Q.     Do you have any operating experience as to  
2     what it would take to operate a plant, a surface water  
3     treatment plan?

4           A.     I'm not a plant operator. I'm a  
5     professional engineer.

6           Q.     So you know nothing, you can give us no  
7     insight into the operating complications of a surface  
8     water treatment plant?

9           A.     Well, obviously I know how it's operated,  
10    but I don't know what you're referring to.

11          Q.     Well, would you be -- for example, would you  
12    be able to describe for us the difficulties of  
13    attempting to renovate a surface water treatment plant  
14    while continuing to operate it?

15          A.     Well, certainly I -- that would be a  
16    consideration that you would have to make.

17          Q.     Well, certainly it would be a consideration,  
18    sir, but I'm asking you, would you be able to tell us  
19    how to do it?

20          A.     I think I could, yes.

21          Q.     And where would you get the experience base  
22    to tell us that since you've testified you've never  
23    operated a surface water treatment plant at all?

24          A.     The only difference between a surface water  
25    treatment plant and a ground water treatment plant is

1 source of supply. All the other components are  
2 standard. This was very old technology that was used  
3 there. It's not a matter of something brand-new.

4 Q. That's your testimony, that the only  
5 difference between a surface water treatment plant and  
6 a ground water treatment plant is source of supply?

7 A. As far as treatment components, that's true.

8 Q. Did you ever work outside of the state of  
9 Florida before?

10 A. Yes.

11 Q. Tallahassee. Where else?

12 A. I am registered in several states, I  
13 believe, as a professional engineer. That would be  
14 Georgia, Mississippi, Louisiana. Have been registered  
15 in Missouri. Had a project in St. Louis several years  
16 ago. South Dakota, Nebraska, and I think Iowa if I'm  
17 not mistaken.

18 Q. How were you discovered down in Florida for  
19 this case? How did Mr. Coffman find you, do you know?

20 A. Well, I do extensive work for the Florida  
21 Public Service, Office of Public Counsel before the  
22 Public Service Commission. I think that perhaps he  
23 called to find out who would be a good expert witness  
24 to look into this matter.

25 Q. A large portion of your practice is

1       testifying on behalf of public advocates and public  
2       service in Florida, is it not?

3           A.     I have testified approximately 100 times in  
4       37 years.  So that -- that's not a very large part of  
5       my practice.

6           Q.     Well, what percentage would you say that is  
7       testifying on behalf of Office of Public Counsel in  
8       Florida?

9           A.     Within the last two years, it probably makes  
10      up 30 to 40 percent of my business, but this is post  
11      60 years old with 37 years experience.  Whereas, I'm  
12      not doing as much design as I used to because once you  
13      get to my age you don't usually.

14          Q.     Have you ever testified in a case before  
15      where -- a water case where prudence was the issue?

16          A.     Yes.

17          Q.     Were you involved in the issue of prudence?

18          A.     Yes.

19          Q.     And what position did you take in -- were  
20      there many cases?

21          A.     Quite a number.

22          Q.     Have you ever taken the position that the  
23      company's actions were prudent?

24          A.     Yes.

25          Q.     And on whose behalf?



1           A.     On behalf of the Office of Public Counsel of  
2     the State of Florida. I did give the staff of the  
3     Public Service Commission a listing of those that  
4     probably were a hundred systems I listed where I had  
5     investigated and found out that there were a hundred  
6     percent used and useful components of various water  
7     systems.

8           Q.     Let me switch you, sir, if you will  
9     cooperate with me here, to another area. You  
10    testified on page 2 of your surrebuttal, I'm reading  
11    your quote here, it says, I included additional and  
12    very costly additions to the facilities proposed by  
13    MAWC in their 1991 report in order to bring the old  
14    plant up to and equal in every way to the new plant so  
15    that cost comparisons would not only be fair but also  
16    accurate.

17                   Do you stand by that testimony?

18           A.     Yes, I do.

19           Q.     Equal in every way?

20           A.     Yes.

21           Q.     Mr. Bidby, let me ask you, then, I mean,  
22    you've stated that you feel you have the credentials  
23    and the experience to make these determinations.

24                   Describe for me as if I were your client  
25    what shortcomings would be present at the renovated

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1 site that I on behalf of the company should consider  
2 in determining whether to build there or to move to  
3 another site. Tell me what's wrong with staying at  
4 that present site.

5 A. Well, certainly I would tell you that I  
6 would have to do a study to tell you that very thing  
7 you're asking for, what's wrong or right. You just  
8 don't right off the top of your head tell a client  
9 whether it's advantageous to rebuild the existing  
10 facility or is it better to abandon the old facility  
11 and move out. You need to do a study.

12 Q Well, I'm not asking you to make the  
13 comparison. I'm directing your attention simply to  
14 renovation of the old site, and I'm asking you to tell  
15 me what are the shortcomings of staying there that I  
16 on behalf of the company should be cognizant of and  
17 give consideration to? What are the shortcomings  
18 here? Can you tell me those?

19 A. Well, you want to make sure, of course, that  
20 you can continue to operate the facilities while  
21 you're building, and obviously that will be something  
22 that has to be worked around. I would say that would  
23 be the No. 1 handicap if there is a handicap.

24 Q. That's operating while under construction?

25 A. Yes.

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1 Q. And others?

2 A. Certainly talk about the -- after I looked  
3 into it a little bit, talk about the flooding  
4 conditions and the fact that you needed to flood-proof  
5 the site with a levee. I'd also talk about the  
6 alternative access road. I don't know any other  
7 specifics that I would talk to them about.

8 Q. Well, let me see if I can -- would you agree  
9 that -- are there any treatment disadvantages  
10 associated with the surface water treatment plant,  
11 inconsistencies in source due to high water, low  
12 water, mud, turbidity, contaminants?

13 A. Well, as compared to well water as ground  
14 water source, is that what you're asking?

15 Q. I'm asking you, is that a shortcoming that I  
16 should consider in attempting to make this  
17 determination whether or not to move?

18 A. Well, certainly you should -- he should  
19 evaluate whether or not he has capability with the  
20 existing plant or with the existing plant with  
21 improvements to properly treat a varying condition in  
22 surface water as you most of the time get, and the  
23 history of this one was that they did. What else?

24 Q. Well, is that a shortcoming that I should  
25 consider, inconsistency in supply and --

1           A.     I don't know if it's a shortcoming or not.

2           Q.     -- treatment disadvantages?

3           A.     They've been at this site since 1800 and  
4 something. They certainly knew that already. The  
5 issues that they had to address with the surface water  
6 treatment, that would kind of be obvious to them.

7                     You know, I don't know that I would belabor  
8 those obviously. Primary things is prudent from a  
9 cost standpoint and can you -- can you have a reliable  
10 facility that will treat in accordance with accepted  
11 standards. Those would be things I would tell the  
12 client.

13          Q.     But that's not the question that I'm asking  
14 you. I'm not asking you to compare it. I'm asking  
15 you whether this is a shortcoming that I have to  
16 consider in a ground water supply? Are there  
17 treatment -- are there inconsistencies in supply?  
18 Does the supply vary in quality and quantity of the  
19 ground water supply?

20          A.     Somewhat, yes.

21          Q.     And isn't that something that should be  
22 considered?

23          A.     Well, it certainly has to be considered,  
24 whether or not you can treat it with those varying  
25 conditions.

1           Q.     And can you tell me something about the  
2     difficulties and how that supply could change, or do  
3     you not have sufficient experience to elaborate on  
4     those for me?

5           A.     I do know that the quality of the surface  
6     water can vary from month to month and season to  
7     season in terms of turbidity, in terms of content of  
8     insecticides or herbicides, the height of the water at  
9     times. You certainly have to be sure that you can  
10    handle both high water and low water with still a  
11    reliable source of supply.

12                 These are all things that this utility I'm  
13    certain already knew, had already looked at, but they  
14    would be things you would look at and wonder, make a  
15    comparison with another alternative source.

16          Q.     Now, how would these things you've just  
17    described demonstrate themselves in treatment  
18    responsibilities and requirements that the company  
19    would have to consider? Turbidity, low water, high  
20    water, herbicides, the things you just described, how  
21    would that demonstrate itself in treatment  
22    complications?

23          A.     Well, they would -- of course, they know  
24    under the enhanced surface water treatment that you  
25    have to have turbidity treated down to .5 NTUs based

1 on their experience with the treating turbidity of the  
2 water, what kind of problems have they had, have they  
3 been able to beat that. That's a consideration which  
4 would have been necessary.

5 The same thing would be true on herbicides  
6 and the insecticides which they treat with powdered  
7 activated carbon, and it worked. How expensive is the  
8 process? Are they producing good quality water for  
9 the public? These are considerations that --  
10 treatment considerations that would have to be made.

11 Q. How about taste and odor ramifications of  
12 these high and low water situations and winter runoffs  
13 and things like that, is that a problem with surface  
14 water?

15 A. Yes, and the -- when you say problem, it's  
16 an issue that has to be addressed from the standpoint  
17 of treatment, and the powdered activated carbon is the  
18 standard treatment for this and this is what they've  
19 been using for years. Apparently worked well.

20 Q. Are you still sticking to your  
21 characterization that the facilities would be equal in  
22 every way, the ground water versus a surface water  
23 plant?

24 A. As far as the end result, and that's what  
25 the customer is looking at is what's coming out of the

1 spigot, yes.

2 Q. All right. Let's continue, then. How about  
3 are you familiar with what Cryptosporidium and Giardia  
4 are?

5 A. Yes.

6 Q. And tell me how they play a role in surface  
7 water.

8 A. In surface water, it's possible for these  
9 cysts and parasites to be present. They have to be  
10 tested for and disinfected for, treated, if they're  
11 present. Primarily the removal of turbidity, if you  
12 get the turbidity down to the level of EPA standards,  
13 you usually don't have to worry about them.

14 But, of course, you do treat with chlorine  
15 to kill any parasite that's still there, and there's  
16 an extensive testing program that has to be run as  
17 part of the operating costs.

18 Q. So these operating costs as you've  
19 characterized them, including treatment and testing,  
20 are those, quote, equal in every way, quote, to the  
21 things you would experience with a ground water plant?

22 A. When I say equal in every way, I'm talking  
23 about the end result, the quality of the water that's  
24 produced that's pumped to the public.

25 Q. All right. Let's go to some other potential

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1 shortcomings. Let me explore them with you. How  
2 about operating costs, are you aware of the fact  
3 that -- well, what is your determination with respect  
4 to the manpower requirements of operating a surface  
5 water plant versus a ground water plant?

6 A. Well, I did not make a present world  
7 analysis of operating costs. I saw that the present  
8 plant was operating with two men while I was there,  
9 two individuals working at the plant.

10 The existing plant, I understand -- or the  
11 new plant, I understand they were trying to alternate,  
12 trying to get the Department of Natural Resources to  
13 agree to an automated facility so that they didn't  
14 staff it 24 hours a day. I don't think that was  
15 agreed to, but it was certainly a possibility and  
16 certainly a possibility of reducing operating costs.

17 Q. To move to the ground water plant?

18 A. To have less employees, yes.

19 Q. So that would be a shortcoming, would it  
20 not, that you as my engineer would tell me to consider  
21 if I were evaluating staying at the surface water  
22 plant that I would need more -- I have more operating  
23 costs due to more employees?

24 A. Well, I would tell him the operating costs  
25 in combination with the original capital cost of

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1 building facilities would certainly be something you  
2 would want to consider.

3 Q. All right. So we've got something else we  
4 should consider. We've got treatment disadvantages.  
5 We've got taste and odor. We've got contamination.  
6 We've got operating expenses. How about employee  
7 safety, is that a consideration?

8 A. Safety's always a consideration. There's  
9 nothing particularly hazardous about the operation of  
10 a surface water plant.

11 Q. There isn't? Is there something  
12 particularly -- are there OSHA requirements and other  
13 concerns about working on intakes out in the river?

14 A. Well, obviously you need life preservers if  
15 you're out in the water.

16 Q. And how about hauling chemicals down this  
17 access road you've described, are those concerns from  
18 an employee safety point of view?

19 A. Well, obviously you take very good safety  
20 measures when you do handle any chemicals. It's just  
21 a given at any treatment plant.

22 Q. How about on a surface water plant the water  
23 supply being so low as to be unavailable, is that a  
24 concern that you would recommend that I consider as my  
25 engineer?

1           A.     If it were of concern, yes, I would.

2           Q.     How about the water being so high?

3           A.     The same answer.

4           Q.     How about ice?

5           A.     Well, what about ice?

6           Q.     Let me ask you that, what about ice?  What  
7     would ice -- what impact would ice have on a surface  
8     water treatment plant, heavy freezing block ice coming  
9     down at the intake?  You're my engineer.

10          A.     I have read your ice problems of the past at  
11     this plant, how they've handled them.  Certainly icing  
12     inside the plant with the necessity of breaking it up  
13     is a consideration.

14                 The ice in the river itself might be a  
15     problem with intake structures.  I understand that  
16     they have built an emergency intake structure just for  
17     that reason, that and low water problems associated  
18     with it.

19          Q.     So these are shortcomings that should be  
20     considered?

21          A.     Well, we haven't talked about the existing  
22     plant and compared those.  It has also other things  
23     that don't have to do with a surface water plant.  But  
24     yes, those are all considerations the design engineer  
25     would talk to the owner about.

1 Q. All right. What about water temperature?  
2 A. Certainly that's a consideration.  
3 Q. Tell me how.  
4 A. Well, No. 1, treatment processes need to be  
5 at certain temperatures. It's easier to treat at a  
6 higher temperature than it is a lower temperature just  
7 for the fact that chemical reactions don't react as  
8 fast in cold weather, in extreme cold weather.  
9 Q. Are you aware of the temperature swings  
10 capable of the surface water on the Missouri River?  
11 A. Yes.  
12 Q. What are they?  
13 A. Well, from spring freezing, like zero to  
14 five degrees, up to, you know, high summer  
15 temperatures.  
16 Q. Which are, for the water?  
17 A. I would say in the 80 degree range.  
18 Q. Now, as an engineer, can you tell me, do  
19 these changing water temperatures have any impact on  
20 the distribution system?  
21 A. On the distribution system?  
22 Q. Pipe breaks?  
23 A. Pipe breaks in the distribution system.  
24 Yes, it's certainly possible, cold weather breaks.  
25 Q. Is that a shortcoming that should be

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1 considered?

2 A. It's one of the many design considerations  
3 that you would have to look at.

4 Q. How about the space limitations down there,  
5 is that a -- are the space limitations down there a  
6 shortcoming?

7 A. I didn't find them to be, no.

8 Q. Did you have -- did it trouble you at all  
9 about how you would provide flood protection, and  
10 we'll go into that more in a moment, but did it  
11 trouble you finding an acceptable way to provide flood  
12 protection between the building and the railroad right  
13 of way?

14 A. It was tight.

15 Q. Is that a shortcoming?

16 A. It's a design consideration, one of the many  
17 that you look at in terms of determining the most  
18 cost-effective facility.

19 Q. All right. Now let's -- let's go to flood  
20 protection. All right?

21 A. Okay.

22 Q. Where did you come up with the 95 percent  
23 protection? Where did that number come from?

24 A. When you're doing probability, a virtual  
25 certainty is anything over 95 percent, and I'm saying

1       that the probability of a levee being breached or  
2       overtopped or eroded away to cause damage the way that  
3       I have proposed to design it is almost nonexistent.

4           Q.     Where did you come up with the 95?  What  
5       kind of a calculation did you make or is that just a  
6       comfortable number?

7           A.     No.  I told you that was a rule of  
8       probability.  If you -- if you're virtually certain  
9       that something will occur, it's 95 percent or better.

10          Q.     Do you know what it takes to maintain a  
11       levee?

12          A.     Yes, I do.

13          Q.     What?

14          A.     Well, it has to mowed, it has to -- the  
15       grass has to be nurtured so that you have a good stand  
16       of grass on it after it's built and in place.  Of  
17       course, the top of it is going to be gravel so that  
18       you can travel on it.  That has to be graded  
19       occasionally.  It's not a great deal, but there are  
20       some maintenance items that need to be looked at.

21          Q.     Are there concerns over wildlife digging  
22       through them, things like that?

23          A.     No.

24          Q.     No?

25          A.     No.

1           Q.     Are you familiar with any of the experiences  
2     in Missouri that they had with levees, particularly in  
3     the St. Louis area?

4           A.     Well, we're talking about a large levee in  
5     this instance and we're talking about a ten-foot top,  
6     three to one side slope. So by the time you got the  
7     levee in, the base of it would be 50 feet.

8           Q.     And relief wells, are you familiar with  
9     those?

10          A.     Yes.

11          Q.     All these are maintenance items?

12          A.     Certainly.

13          Q.     Is that a shortcoming that needs to be  
14     considered?

15          A.     You keep saying shortcoming. I call them  
16     design considerations.

17          Q.     Okay. So these are design considerations  
18     that we need to evaluate in determining whether or not  
19     to stay?

20          A.     Absolutely.

21          Q.     That's what I'm asking you to do for me.

22          A.     Absolutely.

23          Q.     Now, are you familiar with the composition  
24     of the soil beneath the levees out there now?

25          A.     No, I'm not.

1           Q.     So you wouldn't have -- you would have no  
2     opinion on the concern, if any, that would be existing  
3     about ground water penetration coming through that,  
4     whether or not that soil was dangerously or  
5     sufficiently permeable as to pose a danger?

6           A.     No.  As I explained before, my design has a  
7     clay core.  A clay core not only extends in the upper  
8     part of the levee, ground surface up, but it extends  
9     underneath the surface as well.

10          Q.     So you're going to dig out all those  
11     existing levees and rebuild them?

12          A.     Yes.

13          Q.     And how did you price that?

14          A.     Want to put a clay core into the -- all the  
15     levees.  I had a total of a half a million dollars to  
16     do this on four sides of the facility, making it  
17     around something like 35,000 cubic yards of material  
18     will have to be moved.

19          Q.     How did you miss the number so badly the  
20     first time?  How did you come up with 128,000?

21          A.     That's interesting.  I'm glad you asked  
22     that.  All jurisdictions I've worked in require you to  
23     protect the facility from a hundred-year flood.  From  
24     the literature I've read and the correspondence, the  
25     DNR in Missouri requires four feet above the record

1 flood elevation. Well, the record flood elevation was  
2 much higher than the hundred-year elevation.

3 Therefore, after this was pointed out to me,  
4 and I believe Mr. Merciel's testimony criticized me  
5 for leaving it so low, I went back and said, Okay,  
6 we'll add the addition and see what it comes to. Came  
7 to a half a million dollars.

8 Q. So you missed it?

9 A. The first time, yeah.

10 Q. What did you -- how did you characterize  
11 Mr. Young's testimony? I think words of so ir-- do  
12 you recall the words? You were highly critical of  
13 him, irresponsible or unprofessional or something like  
14 that.

15 A. I discussed Mr. Young's cost estimates at  
16 length in terms of the fact that they were very  
17 incomplete, only stated lump sum items, no detail at  
18 all.

19 Q. Excuse me, sir. I'm asking you your  
20 particular words.

21 A. I think I said they were the most  
22 incompetent I'd seen in 37 years of engineering  
23 practice.

24 Q. I see. And missing this 128,000 and having  
25 to jump it to 500,000, how would you characterize

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1       that? That's just a mistake?

2           A.     Well, it was corrected, though.

3           Q.     Oh, that's the one you caught. Are there  
4 others you haven't caught?

5           A.     Well, I don't know.

6           Q.     How could you explain the fact that your  
7 flood-proofing estimates are so disparate compared to  
8 those of Dr. Morris and Mr. Young? Everyone else is  
9 wrong. Why is that?

10          A.     Well, I heard Mr. Young's testimony. He  
11 testified two to three million. That's completely  
12 wrong. I have had experience in designing levees. I  
13 know what earth work costs. I know what components go  
14 into a levee.

15                 I simply made a straightforward preliminary  
16 estimate, obtained the quantities for that, and  
17 applied a unit cost to it and I got the half million  
18 dollars. Anything over that would be superfluous in  
19 my opinion.

20          Q.     So Dr. Morris is wrong?

21          A.     I haven't seen Dr. Morris' flood-proofing  
22 estimates.

23          Q.     You haven't read his testimony?

24          A.     I believe I did, but I don't remember the  
25 flood-proofing estimate.

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1           Q.     Well, if I were to tell you that it's over  
2     \$2 million, you would say he's wrong?

3           A.     I would say it was too much.

4           Q.     Too much.  Correct me if I'm wrong.  Did you  
5     not state that your levee proposal was on four sides?

6           A.     That's correct.

7           Q.     How do you put a levee between the building  
8     and the railroad right of way?

9           A.     Well, one of two ways, and this is -- I  
10    envision that you would certainly need to get with the  
11    railroad and obtain permission to create embankment on  
12    their embankment, which is something that railroad  
13    companies usually will allow, where they won't allow  
14    you to do anything to their embankment if you want to  
15    cut into it.  But if you're adding embankment to their  
16    embankment to strengthen their embankment, usually you  
17    can get that approval.  Either do that or put in a  
18    short cutoff wall at the property line between the  
19    building and the railroad.

20          Q.     Let's talk about the levee first.  How high  
21    would the levee have to be?

22          A.     Four feet above the -- I'll have to get to  
23    my numbers in my testimony to tell you exactly.

24                 All right.  The record flood level is 826.39  
25    elevation in feet.  The top of all the levees would be

1 at 830.39 feet.

2 Q. Well, sir, there's no levee back there now.

3 A. Well, the existing ground at that back level  
4 is about somewhere in the range of 820.

5 Q. That's where it flooded, isn't it?

6 A. Yes. It came through the ballast on the  
7 east side, yes.

8 Q. So that area is below the flood of record by  
9 definition since it flooded through there?

10 A. Well, it came through the -- yes.

11 Q. So how high would the levee have to be back  
12 there?

13 A. Eight to ten feet.

14 Q. Eight to ten feet. And what is the ratio of  
15 base to height that's required for a levee to be  
16 considered substantive?

17 A. Well, there's not a ratio of height to base.

18 Q. The Corps of Engineers has one, does it not?

19 A. There's a side slope requirement, and that  
20 is for three to one is an accepted side slope  
21 requirement for levees. Ten foot top width is the  
22 minimum that is recommended and a three to one side  
23 slope.

24 Q. So how wide would the base have to be?

25 A. The one side would have to -- at three to

1       one, if it's ten feet, would have to be 30 feet plus  
2       the top width of ten feet going down on the other  
3       side, perhaps 15 feet. Perhaps you've got 30, 10 and  
4       15.

5           Q.     On the railroad side, did you walk back  
6       there?

7           A.     Yes.

8           Q.     Do you know what that ground is used for,  
9       what that railroad right of way is used for?

10          A.     Receiving of materials. In the past at  
11       least the plant had received materials there.

12          Q.     So that would all go away?

13          A.     No. They'd have to receive it on the other  
14       side of the levee.

15          Q.     And the railroad also uses that as a  
16       roadway, does it not, that right of way? They drive  
17       vehicles up and down that all the time. They did  
18       while I was there.

19          A.     I suppose the utility does, too.

20          Q.     So part of your assumption is that the  
21       railroad is going to gratuitously allow the company to  
22       build a 30-foot-wide levee in their road?

23          A.     Well, it's been my experience, I said, with  
24       dealing with railroads that improvements to their  
25       embankment by building embankment against embankment

1 are usually approved.

2 Q. What experiences are those?

3 A. Well, one I can think of right offhand is an  
4 embankment on a roadway that I did within the last two  
5 years with the CSX Railroad by adding embankment to  
6 their embankment.

7 They are normally very hard to deal with,  
8 the railroads are, and it's impossible if you want to  
9 try to dig into their embankment or excavate material  
10 from their existing embankment. If you're adding  
11 embankment, as we were in this case, on Mission Road  
12 in Tallahassee, Florida, it was sort of a routine  
13 approval.

14 Q. So this is another one of your assumptions  
15 that the railroad would allow this?

16 A. Well, I'm saying either they'll allow it or  
17 you're going to have to put in a cutoff wall, one.

18 Q. Tell me about the cutoff wall. What would  
19 that do?

20 A. Well, there's two ways to do that. The  
21 north end of the plant, that was the area where the  
22 water ran around the end of the levee and through the  
23 ballast on the east side of the plant. A concrete  
24 flood wall could be constructed at right angles to the  
25 railroad and dead-end into the high hills to the east

1 side. That would probably be the most cost effective  
2 way of doing it.

3 Short of that, you have to have a -- if you  
4 couldn't get that accomplished for some reason through  
5 no agreement with the railroad, you'd have to come  
6 down to your property line inside the railroad,  
7 between the railroad and the building, and install a  
8 cutoff wall.

9 Q. This cutoff wall would have to be eight feet  
10 high, the same height as the levee?

11 A. About.

12 Q. And about how many feet long?

13 A. Just a minute.

14 Q. Approximately.

15 A. 200 feet.

16 Q. 200 feet. And it's your testimony that you  
17 could do all of that, you could put these levees all  
18 the way around the plant, build a concrete wall eight  
19 feet high, 200 feet long. How wide would that wall  
20 have to be?

21 A. How wide would the wall be?

22 Q. Yeah.

23 A. Eight inches.

24 Q. Eight inches. And how deep would it have to  
25 go in footings?

1           A.     Two feet.

2           Q.     And you could do all that for \$500,000?

3           A.     My estimate included only the embankment  
4 material there.  If you take out the embankment  
5 material and add concrete, may be a little more  
6 expensive.

7           Q.     How do you get through all these facilities  
8 to go to work?

9           A.     You go over a simple ramp.

10          Q.     Over the levees, you have ramps over the  
11 levees and down?

12          A.     Yes.

13          Q.     And how high are these levees?

14          A.     Ten feet.

15          Q.     Ten feet.

16          A.     Eight, ten feet.

17          Q.     So how much of a slope do you have to have  
18 to get a semi truck full of chlorine up to a  
19 ten-foot-high levee and back over the other side?

20          A.     Well, that's not quite how you do it.  The  
21 standard ramp in a levee just goes parallel to the  
22 levee and gradually goes up the slope simply by  
23 widening the embankment for the length of whatever the  
24 road is with a 10 percent grade or whatever.  That's  
25 standard Corps of Engineers type of a ramp.

1 Q. Is that in your \$500,000?

2 A. Yes.

3 Q. And how about getting through the flood  
4 wall?

5 A. There's no reason to get through a flood  
6 wall, the one I described about cutting off the north  
7 end.

8 Q. That's where all the loading docks are on  
9 the back of the building. That would all change?

10 A. If you were doing it with an embankment and  
11 you had a ramp going to the -- just off of an access  
12 road to the north, you could still get in and out easy  
13 enough.

14 Q. This 95 percent confidence level that you  
15 expressed permits you to say that the plant is  
16 flood-proof?

17 A. Yes. I say virtually, essentially  
18 flood-proof with a levee of this nature.

19 Q. So the fact that these facilities have to be  
20 reliable, have to be maintained, have to not be  
21 overtopped and have to not fail, that's not a  
22 shortcoming?

23 A. It's a design consideration that you have to  
24 look at, of course.

25 Q. What about the piping that goes through this



1 levee?

2 A. Yes.

3 Q. How much of it is there?

4 A. Well, there's quite a number of pipes that  
5 go through it to the intake structure and also out,  
6 presently, with the levee that's there now, going out  
7 to the presedimentation basins. You want to know how  
8 you handle the pipes that go through?

9 Q. Yes, sir.

10 A. My testimony and my estimate included  
11 seepage collars constructed around all pipes that go  
12 through the levee. That's simply a concrete collar  
13 that's poured around the pipe and extends out four  
14 feet into the levee which is called a seepage collar.  
15 That's in the clay core.

16 Q. And you can take care of that for the  
17 500,000?

18 A. Yes.

19 Q. Did you not testify just a few moments ago  
20 that you think your 500,000 is low?

21 A. No. I said if you had to build a wall on  
22 the back side, the wall would probably be extra over  
23 and above the 500,000.

24 Q. Let's move on to -- is there a concern about  
25 regulatory risks at the ground water plant that should

1 be considered in determining whether or not it's a  
2 feasible alternative?

3 A. Obviously regulatory requirements are design  
4 considerations just as anything else is in designing.

5 Q. Would you consider that to be a serious  
6 concern?

7 A. Absolutely.

8 Q. Tell me what it is. What is the regulatory  
9 risk at the ground water plant?

10 A. Well, you're couching it in terms of  
11 regulatory risk. I'm couching it in terms of  
12 regulatory requirements. There's surface water  
13 treatment rules. There's the disinfectant byproduct  
14 rules. There's the standard contaminant removal  
15 rules. All of these are considerations in a water  
16 treatment plant that have to be met.

17 There are evolving in years from now other  
18 requirements that maybe EPA, which is a changing  
19 agency and has more rules all the time, there's things  
20 that you might have to do in the future.

21 Q. Are you aware of the fact that your client,  
22 the Office of the Public Counsel, is already on record  
23 with respect to concern about these future regulatory  
24 risks?

25 A. Future regulatory risks. Are you speaking

1 of more stringent disinfectant byproduct requirements?

2 Q. That and other things that are of record in  
3 this case in the testimony of Gary Lee who testified  
4 in the certificate case and his testimony was a  
5 schedule to John Young's testimony.

6 A. Yes, I saw that.

7 Q. Let me ask you about some of the things he  
8 said and ask you if you agree with them. All right.  
9 Would you like to get his testimony in front of you?  
10 It's JSY-1 to the rebuttal testimony of John Young.

11 A. I need a copy of that because the packet I  
12 got started with JSY-2.

13 MR. COFFMAN: Permission?

14 JUDGE THOMPSON: You may approach.

15 THE WITNESS: Okay. What page?

16 BY MR. CIOTTONE:

17 Q. Page 5.

18 A. Of the rebuttal?

19 Q. Yes, sir. All right. Sir, do you have it?

20 A. Is this the chart (indicating)?

21 Q. No. It's a Schedule JSY-1 to Young's  
22 testimony. It's a big -- it's three inches thick.

23 Q. All right. I've got it.

24 Q. Mr. Lee testifies there, and I'll ask you if  
25 you agree or disagree with what he says, There are

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1 certain rule changes which significantly impact the  
2 existing treatment facilities, Enhanced Surface Water  
3 Treatment Rule and Disinfection Byproduct Rules. The  
4 existing plant may be subject to the following  
5 modifications: A, Enhanced coagulation; B, Conversion  
6 of disinfection processes to a chlorine, dioxide  
7 chlorine or ozone system; C, enhanced use of powdered  
8 activated carbon.

9 All of the above process changes are  
10 significant and affect both capital expenditures and  
11 increased operation and maintenance costs. The  
12 existing facility is not easily modified to  
13 incorporate the above changes. All such modifications  
14 are likely to be costly.

15 Do you agree with that?

16 A. I agree that the three that he mentions are  
17 possible for the future. I included ozone facilities  
18 in my estimate.

19 Q. Well, as my engineer, and if you recall my  
20 charge to you is to help me evaluate the shortcomings  
21 of staying at the existing site. Would you  
22 characterize that as a shortcoming?

23 A. No. I would simply call it design  
24 considerations. I would simply tell my client what  
25 the likelihood of him having to convert to ozone water

1 and when he would have to do it and what the cost of  
2 that would be, and I would relate that along with all  
3 the other costs to the cost of the new facility.

4 Q. All right. Let me direct your attention to  
5 page 6 and 7 of that same exhibit. Mr. Lee says, and  
6 I quote -- and I will ask you if you agree or disagree  
7 with what he says. The residual disposal issue is  
8 likely to evolve into a major capital expense for this  
9 existing facility once the State and US EPA finally  
10 settle on permit terms. The use of enhanced coagulant  
11 and powdered activated carbon to meet STWA rules will  
12 only serve to activate this situation.

13 Do you agree?

14 A. No, I don't. I conducted an in-depth  
15 interview with the Department of Natural Resources  
16 personnel which I included in -- I discussed in my  
17 testimony and I included in my data response to  
18 Missouri-American.

19 I asked the Department of Natural Resources  
20 specifically whether or not the existing facility for  
21 the foreseeable future could continue to return  
22 residuals to the Missouri River. They did say yes,  
23 that they could, that as far as they were concerned  
24 the residuals could have been returned to the Missouri  
25 River. Treatment of residuals at best is way out in

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1 the future. I don't agree that the cost of it would  
2 be a consideration in this case.

3 Q. Do you understand that Mr. Lee is your  
4 client's witness, that this is your client's  
5 testimony?

6 A. This was Mr. Lee's opinion at the time.  
7 Perhaps he hadn't talked to DNR.

8 Q. So you're challenging Mr. Lee's credibility?  
9 He's wrong?

10 A. Well, perhaps he hasn't talked to them. The  
11 facility's operating under an old permit. They tried  
12 to get a new permit in 1990. There was a disagreement  
13 between the State and the EPA, and the State allowed  
14 the utility to continue to use the same discharge  
15 mechanism that they've been doing.

16 Q. So you think the residuals problem is no big  
17 deal?

18 A. I think it's something that is not of great  
19 concern.

20 Q. All right. Let me direct your attention to  
21 your Schedule TLB-17 in your surrebuttal testimony,  
22 which is a question and answer recitation of your own  
23 notes from conversations with DNR.

24 A. All right. I have it.

25 Q. No. 16, correct me if I'm wrong. Let me

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1 read this out loud and have you tell me if I'm reading  
2 this incorrectly.

3 Your question: Could MAWC have continued to  
4 return treatment plant residuals to the Missouri  
5 River?

6 Answer: Yes. MAWC applied for renewal of  
7 their discharge permit on September 4, 1999, but the  
8 renewal was not completely processed due to an  
9 objection from EPA district office.

10 A. That's correct.

11 Q. That causes you no concern?

12 A. But read the rest of it. MAWC has been  
13 operating under this -- their former discharge permit  
14 for all the years since and could have continued to do  
15 so. That was their answer to me.

16 Q. But the fact that EPA is challenging this  
17 causes you no concern whatsoever? You're confident  
18 that this is not a serious long-term risk?

19 A. The Clean Water Act specifically allows the  
20 sediments from raw water to be returned to the river.  
21 So that's 90 percent right there of all the residuals  
22 of the plant.

23 Q. Well, let's go back to what Mr. Lee says,  
24 who is again your client's witness, on page 8 of that  
25 same testimony.

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1           MR. COFFMAN: Your Honor, I'm going to  
2     object to the characterization. Mr. Lee is not a  
3     witness in this case and even in the certificate case  
4     was not conducting a prudence review and conceded on  
5     cross-examination that he was not qualified to do so.

6           MR. CIOTTONE: Mr. Lee testified -- not only  
7     is his testimony in evidence without objection, so it  
8     is, in fact, in the record, but Mr. Lee did testify  
9     with respect to certain issues related to prudence  
10    and, in fact, drew the conclusion that it was the most  
11    responsible alternative to move this plant based on  
12    technical engineering considerations. I haven't used  
13    the word prudence.

14          JUDGE THOMPSON: Mr. Lee's testimony is in  
15    evidence in the previous case?

16          MR. COFFMAN: That's correct.

17          MR. CIOTTONE: It's in this case.

18          MR. COFFMAN: As an exhibit to Mr. Young's  
19    testimony.

20          MR. CIOTTONE: Which was accepted without --

21          MR. COFFMAN: I disagree with Mr. Ciottone's  
22    characterization of that.

23          JUDGE THOMPSON: Who sponsored Mr. Lee? Was  
24    he your witness?

25          MR. COFFMAN: He was a witness who addressed

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1 certain aspects of the feasibility study.

2 JUDGE THOMPSON: But whose witness was he?

3 MR. COFFMAN: He was retained by the Office  
4 of the Public Counsel in that case.

5 JUDGE THOMPSON: Well, then your objection  
6 is overruled.

7 BY MR. CIOTTONE:

8 Q. Mr. Biddy, on page 8 of Mr. Lee's testimony,  
9 this is his characterization of what you just said.  
10 He says, These uncertainties, the NPDES ruling  
11 regarding residual disposal, are raised because they  
12 ultimately and significantly impact decisions  
13 regarding improvements to the existing facilities.

14 You disagree with that? You think they're  
15 not even a design consideration?

16 A. The regulatory officials of this state who  
17 govern residuals told me point blank that  
18 Missouri-American could have continued to return  
19 residuals to the Missouri River for the foreseeable  
20 future. That was their statement to me. Given that  
21 criteria, I let them and the EPA work their  
22 differences out.

23 Q. Well, but is that a design consideration?  
24 I'm asking you.

25 A. Not --

1           Q.     You haven't been responsive. The question  
2     to you was, Mr. Lee says this ultimately and  
3     significantly impacts decisions regarding improvements  
4     to the existing facilities, and your answer is that  
5     since it's okay for the foreseeable future, not to  
6     worry?

7           A.     Well, as long as it's not eminent, as long  
8     as it's not a requirement that's going to have to be  
9     met with a big capital outlay, I would tell my clients  
10    the regulatory agencies have blessed the returning of  
11    these residuals to the Missouri River and you do not  
12    have to include the cost of that in your comparison  
13    versus the new plant.

14          Q.     All right. Let's beat this residuals thing  
15    just a little more before we get on to something more  
16    interesting. Did you not also testify that even if  
17    the residuals can no longer be returned to the river,  
18    that you didn't think even that was a major  
19    consideration because you, in fact, priced it?

20          A.     Yes.

21          Q.     And your pricing, as I recall, is \$12,000 a  
22    year plus maybe a maximum of a million for real  
23    estate?

24          A.     That's correct. I base that totally on the  
25    fact that the Clean Water Act allows residuals of

1 settled solids from the Missouri River to be returned  
2 to the river, and only the 10 percent, and I use the  
3 figure of five million pounds per year, need -- might  
4 need some type of treatment later on and way out in  
5 the future.

6 Q. What's involved?

7 A. What's involved?

8 Q. If it can't go back to the river?

9 A. Has to be pumped to a site, a lagoon. In  
10 this case, I thought an acre was sufficient. Has to  
11 be put in drying beds.

12 Q. If I may interrupt you, just -- and I  
13 apologize, but just in the interest of flow, where  
14 would -- in this situation, where would that lagoon be  
15 on this property?

16 A. You would have to buy an acre lagoon  
17 somewhere nearby.

18 Q. All right.

19 A. And pump it through a pipeline to there.

20 Q. You would have to put a pipeline in to do  
21 that?

22 A. Yes.

23 Q. Then what?

24 A. Would go into drying -- the residuals that  
25 were in the lagoon would be put into drying beds.

1 Q. How does that happen?

2 A. Spread with earth-moving equipment.

3 Q. So you have to acquire the equipment?

4 A. Have to lay it down with -- like front-end  
5 loaders.

6 Q. Have to pay the people to do that?

7 A. Sure.

8 Q. The front-end loader does what?

9 A. Well, we're talking about 2,500 tons per  
10 year, total per year. That's five million pounds.  
11 That's not much in terms of per day. So it's a small  
12 task to spread this and dry it and then have trucks  
13 come and haul it to a landfill.

14 Q. Where do you get the trucks?

15 A. There's people in the trucking business.

16 Q. So you would hire a contractor for that?

17 A. Yeah. You'd probably have to analyze  
18 whether it was more cost effective to own your own  
19 truck, but my analysis was that it would be seldom  
20 that you'd need to use it anyway.

21 Q. Isn't the settling and the drying process  
22 typically done in two separate areas?

23 A. Adjacent areas usually, but yes, separate  
24 areas.

25 Q. So you'd need another piece of real

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1 estate --

2 A. Yes.

3 Q. -- for the drying beds?

4 A. I said an acre and a half.

5 Q. So that would be immediately adjacent to the

6 other acre that you bought?

7 A. That's right.

8 Q. And you would put it there to dry?

9 A. That's right.

10 Q. And then backhoe it out of there or

11 front-load it out of there?

12 A. Front-end loader typically.

13 Q. Into a truck?

14 A. Into a truck.

15 Q. Which you would have to acquire or lease or

16 retain?

17 A. Haul it to the landfill.

18 Q. The truck would go where?

19 A. The landfill.

20 Q. Are there requirements with respect to the

21 types of landfills that will take this?

22 A. Well, most landfills -- I don't know that

23 there's any reason that a landfill would reject this

24 type of material.

25 Q. Is there some concern that this type of

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1 material might be considered waste that's not  
2 acceptable?

3 A. I don't believe so, no.

4 Q. You don't believe so or you don't know?

5 A. I know of nothing that's hazardous, would be  
6 classified as a hazardous waste that would not go in  
7 an ordinary landfill.

8 Q. And you assume that there is a landfill that  
9 will accept this or would the company have to acquire  
10 a place to put this?

11 A. Well, obviously you'd look for the public  
12 landfill if it's available.

13 Q. Have you made any analysis of whether one's  
14 available?

15 A. No.

16 Q. If it were not available, what would it be  
17 necessary for the company to do?

18 A. Well, they'd have to purchase some property  
19 for a landfill themselves.

20 Q. And when it was full?

21 A. Same thing, purchase more.

22 Q. They would have to do what to the site after  
23 they were through with it?

24 A. Restore the site. 2,500 tons a year is a  
25 small amount of material. It would not fill up a

1 landfill very much.

2 Q. But your testimony is that this could be  
3 done for \$12,000 a year?

4 A. That was the hauling. \$12,000 a year was  
5 the hauling.

6 Q. Well, that was all the operating cost, was  
7 it not? You only allocated a million dollars for land  
8 and \$12,000 a year to do this.

9 A. No. The million dollars was for land and  
10 setting up the pipelines, the lagoons, the drying  
11 beds. The \$12,000 was for the hauling.

12 Q. How did you come up with that number for the  
13 pricing out the piping, pricing out what the likely  
14 cost of the land would be, pricing out how large the  
15 land would have to be, pricing out what it would cost  
16 to retain vehicles, pricing out what it would take to  
17 deposit this? How did you go about reducing all of  
18 that to \$12,000 a year and a million dollars capital?

19 A. Let me look.

20 JUDGE THOMPSON: We're about at the point  
21 for a recess here. We'll take ten minutes.

22 (A recess was taken.)

23 JUDGE THOMPSON: Please proceed.

24 MR. CIOTTONE: May I begin, your Honor?

25 JUDGE THOMPSON: Yes.

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1 BY MR. CIOTTONE:

2 Q. Mr. Biddy, the folks you spoke to at DNR, do  
3 you know which group they were with? Were they with  
4 the drinking water group or the water pollution group?

5 A. Yes. I have those people listed on page 2  
6 of TLB-17. Mr. Jerry Lane, he's head of this section.  
7 Mr. Breck Summerford, he is, I believe, head of  
8 permitting. Mr. Rolando Bernabe, he's a permitting  
9 engineer. And Mr. Bill Hills from their Kansas City  
10 office, and I believe he's an area engineer. All  
11 these people were drinking water permitting engineers.

12 Q. Let's talk about DNR just a moment. Your  
13 characterization -- and I'm reading your direct  
14 testimony on page 7. Your characterization of the DNR  
15 rule is as follows. You say, A close reading of both  
16 letters and the rule reveals that relocation of an  
17 existing treatment plant is to be done only if the  
18 relocation outside of the flood plain is practical and  
19 economical.

20 MR. COFFMAN: Your Honor, I'm sorry. I'm  
21 having trouble finding it.

22 JUDGE THOMPSON: Me, too.

23 MR. CIOTTONE: It's Biddy direct, page 7,  
24 and I'm sorry, I don't know the exhibit number.

25 MR. COFFMAN: That language doesn't seem to



1 appear on my page 7.

2 MR. CONRAD: Is that Exhibit 19?

3 JUDGE THOMPSON: Exhibit 19 is Mr. Biddy's  
4 direct.

5 MR. COFFMAN: Wrong page number, then.

6 MR. CIOTTONE: Try 11. I apologize.

7 JUDGE THOMPSON: That's quite all right. Do  
8 you have a line reference?

9 MR. CIOTTONE: It would be lines 12 through  
10 14.

11 JUDGE THOMPSON: Thank you.

12 BY MR. CIOTTONE:

13 Q. Do you see that reference?

14 A. Yes, I see that. That's what I said, yes.

15 Q. Now, what the rule actually says, and this  
16 is an Exhibit in TLB-3, that's Attachment 1, about ten  
17 pages into TLB-3. Do you have that?

18 A. Yes, I see it.

19 Q. Nine pages in. That's the actual rule that  
20 you're paraphrasing, is it not?

21 A. Yes.

22 Q. Your characterization is, you say that the  
23 relocation is to be done only if the relocation  
24 outside of the plain is practical and economical.  
25 You're implying that relocation is not permitted

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1       unless it's practical and economical. Is that what  
2       you mean to say?

3           A.     Well, from the standpoint of making a  
4       cost-effective judgment on prudence, yes. But as far  
5       as the DNR's concerned, I'm sure they don't have the  
6       same considerations. But they do in their  
7       correspondence, it's found in some of these documents  
8       in my testimony, I believe, use the word practical and  
9       economical.

10          Q.     I don't trouble with your addition of the  
11       word economical. What I trouble with is your  
12       characterization that it's -- that relocation is not  
13       permitted unless it's practical and economical. The  
14       rule works the other way, doesn't it, you're not  
15       permitted to stay unless it's practical and  
16       economical?

17          A.     Well, we're saying the same thing, I think.  
18       You're saying it positively.

19          Q.     Well, if it is practical and economical to  
20       move, is it permitted or is it mandatory under the  
21       rule?

22                 If you don't understand my question, I'll  
23       say it again. If it is practical and economic to move  
24       to a different site out of the flood plain, does DNR  
25       simply permit it or do they make it mandatory?

1           A.     I think it's mandatory if it's more  
2 economical to move.

3           Q.     Thank you. That's the only point I was  
4 trying to make.

5                     Let's go on to the really difficult one,  
6 cost. Back to Exhibit TLB-3, I want to direct your  
7 attention to -- well, first of all, for purposes of  
8 clarification, because I'm sure everyone is as lost in  
9 this as I have been, TLB-3, which is the Feasibility  
10 Study, consists of many different documents, does it  
11 not?

12          A.     Yes, it does.

13          Q.     All right. Appendix -- it starts off with a  
14 summary report?

15          A.     Yes.

16          Q.     Then Appendix A is the '94 comprehensive  
17 planning study, right?

18          A.     Yes.

19          Q.     Then Appendix B is the cash flow analysis,  
20 correct?

21          A.     Yes.

22          Q.     And Appendix C is the discussion of the  
23 ozone benefit, correct?

24          A.     That's true.

25          Q.     And Appendix D are the MDNR regulations?

1           A.     That's correct.

2           Q.     Just so we're all talking about the same  
3     thing. Now, in the summary report, I want to direct  
4     your attention to page 3 of 8. It's about 15 or 20  
5     pages in to the document.

6           A.     3 of 8?

7           Q.     Yes, sir.

8           A.     In the summary report?

9           Q.     Yes. That's the first analysis which is, in  
10    effect, the summary of the feasibility study.

11           MR. COFFMAN: I assume, your Honor,  
12    Mr. Ciottone's not referring to the summary report  
13    that's in -- beginning the first few pages but  
14    actually what's behind Attachment 2?

15           MR. CIOTTONE: It's Attachment 1, letters  
16    from DNR. It's Attachment 2, you're right.

17           MR. COFFMAN: Thank you.

18           JUDGE THOMPSON: Okay. Attachment 2, what  
19    page?

20           MR. CIOTTONE: In the summary report, page 3  
21    of 8.

22           JUDGE THOMPSON: Calculation of revenue  
23    requirements?

24           MR. CIOTTONE: The document is entitled  
25    Missouri-American Water Company St. Joseph Water

1 Company Treatment Plant Economic Evaluation of  
2 Improvement Alternatives.

3 JUDGE THOMPSON: I've got it.

4 MR. CIOTTONE: Page 3 of 8.

5 THE WITNESS: I have it.

6 BY MR. CIOTTONE:

7 Q. In almost the perfect center of that page is  
8 a sentence that begins, The total. Do you see that?

9 A. Yes.

10 Q. Would you read that for me, please?

11 A. The total estimated cost for this  
12 alternative, excluding residual handling and including  
13 ozone facilities, is \$63,300,000.

14 Q. All right. Were you aware that that number  
15 was in there and that that is the number that's used  
16 in the cash flow analysis?

17 A. Yes.

18 Q. Can you tell me why, then, you concentrate  
19 so much effort on the seventy-eight-five that's in the  
20 1994 comprehensive planning study? Why do you jump  
21 over that number?

22 A. The \$78 million estimate rather than a  
23 thousand was prepared December 1994 and is one of the  
24 four cost estimates that I looked at from the  
25 standpoint of comparing -- trying to compare apples to

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1 apples, to see what had happened to the original  
2 estimate now they've gone up so high.

3 I realize that he also took a \$63 million  
4 estimate of some sort and made a cash flow analysis of  
5 that.

6 Q. Well, sir, do you understand that later on  
7 in the feasibility study the documents which you  
8 yourself, I think we're going to discover shortly,  
9 used to pick off certain project costs, the annual  
10 cash flow documents, do you understand that those  
11 documents all conclude with numbers that match the  
12 sixty-three-three; they don't conclude with numbers  
13 that match the 78 million?

14 A. I see that the first one concludes with the  
15 63, 63,300,000.

16 Q. And you understand that the feasibility  
17 study analysis that the company based its decision on  
18 compared that, as Mr. Young testified,  
19 sixty-three-three was the projected cost for the  
20 surface water treatment plant and sixty-three-seven  
21 was the projected cost for the ground water plant?  
22 That's the purpose of the study. Do you dispute that?

23 A. No, I do not dispute it.

24 Q. Well, then I ask you, sir, why are you  
25 focusing on this \$78 million number which was never a

1 project that was used in the evaluation of these  
2 respective alternatives?

3 A. The reason I do that is to look at how and  
4 in what manner Missouri-American prepared cost  
5 estimates and whether those cost estimates were  
6 reasonable or not. I looked in vain for a cost  
7 estimate of \$63,300,000. It's not in any documents  
8 presented anywhere in this case.

9 Neither is the 67 million, \$63,700,000  
10 figure that's shown on the annual cash flow. There's  
11 no estimate presented to that effect. The 64 of the  
12 1994 so-called cost estimate by Missouri-American is  
13 the closest thing to a cost estimate of the same time  
14 frame I could find.

15 Q. Did you go through the work papers from the  
16 certificate case in 1996 when the sixty-three-three  
17 was the subject of evaluation and contest and  
18 determination by the Commission?

19 A. I sent a Data Request to Missouri-American  
20 and asked for all work papers, detailed drawings,  
21 calculations, all cost estimates for these 60 -- for  
22 the \$78 million.

23 Q. And you were directed to the 1996  
24 certification case?

25 A. No, I was not. I was sent the Gannett

1 Fleming estimate of 1993. I was sent a copy of the  
2 so-called estimate of 1994. I was sent the  
3 Missouri-American 1993 update of the Gannett Fleming  
4 estimate, and I already had a copy, as they well knew,  
5 of the 1991 estimate, the original Missouri-American  
6 estimate.

7 Q. Well, let me ask you this, and then we'll  
8 get to it depending on what your answer is. Are you  
9 aware now, at this point, after having heard the  
10 testimony of John Young and other testimony in this  
11 case, that the numbers which you point to as being  
12 both the company's costs for facilities and for  
13 facilities that are added or purported to be added  
14 into the project weighed as an alternative are all  
15 wrong?

16 A. Repeat the question. I didn't follow.

17 Q. Are you aware of the fact now that, after  
18 having heard John Young's testimony, that the numbers  
19 which you allege are the company's costs of  
20 facilities -- all right? With me?

21 A. Yeah, I'm with you.

22 Q. -- company's costs of facilities in its  
23 analysis in the feasibility study and the feasibility  
24 them-- the facilities themselves that were included  
25 are wrong? Are you aware of that? If you're not,



1 just say no.

2 A. I'm not aware to what extent they are, no.

3 Q. All right.

4 JUDGE THOMPSON: Did you have an objection,  
5 Mr. Coffman?

6 MR. COFFMAN: Yes. I think he was prefacing  
7 his question on something that is not in the record.  
8 I think -- I think the evidence is clear that the 63.3  
9 dollar (sic) figure is not composed of cost estimates,  
10 and Mr. Biddy was comparing apples to apples and not  
11 the number Mr. Ciottone was referring to in his  
12 comparison of the cost of rehabbing the treatment  
13 plant.

14 JUDGE THOMPSON: Kellene, could you read me  
15 the question, please.

16 (THE REQUESTED TESTIMONY WAS READ BY THE  
17 REPORTER.)

18 JUDGE THOMPSON: Objection is overruled.  
19 Please proceed.

20 BY MR. CIOTTONE:

21 Q. Let's start at the very beginning, then.  
22 Are you aware of -- are you aware of the fact that the  
23 \$78 million number was not the price that the company  
24 used to determine what it might cost to build -- to  
25 renovate the ground water plant or the surface water

1 plant?

2 A. Yes, I am.

3 Q. They did not use that number; you're aware  
4 of that?

5 A. That's correct.

6 Q. All right. Are you aware of the fact that  
7 there are numbers in that \$78 million estimate --  
8 there are facilities in that \$78 million estimate that  
9 are not in the ultimate comparative analysis?

10 A. Yes.

11 Q. Are you aware of the fact that one of those  
12 facilities is residual handling?

13 A. Yes.

14 Q. Well, then I ask you, sir, what's all the  
15 to-do about the cost of residual handling if that was  
16 not considered by the company in its feasibility  
17 analysis and comparison of alternatives?

18 A. I did not include residual handling in my  
19 cost estimates. I simply pointed out what it might  
20 be. I was using that as an example to show the, what  
21 I call ridiculous nature in which Missouri-American  
22 put together cost estimates.

23 Missouri-American threw out a lump sum  
24 number of \$8 million without any details whatsoever,  
25 no explanation, not one quantity, and says this will

1 be the cost for residual handling facilities.

2 Q. So your point is?

3 A. My point is, all estimates by  
4 Missouri-American except for the 1993 Gannett Fleming  
5 estimate are not engineering cost estimates and are  
6 incompetent.

7 Q. All right. So you pick an \$8 million number  
8 which you question and you concede that the number  
9 played no role in the comparative analysis, and so  
10 your point is that since this number is unsupported it  
11 reflects poorly on the company's other numbers; is  
12 that your point?

13 A. No. Number by number I made that analysis  
14 because most numbers by Missouri-American, most  
15 numbers in the \$63,300,000 are simple lump sum numbers  
16 that were just presented as if that was a real  
17 estimate.

18 Q. Then, sir, why did you use them in the  
19 compilation of your costs?

20 A. I only used a portion of them that I could  
21 verify, and that was the ozone facilities.

22 Q. And where did you get that number?

23 A. The \$4 million ozone facilities?

24 Q. Uh-huh.

25 A. I called a vendor and talked to a national

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1 vendor as to what the cost of ozone facilities for a  
2 30 MGD plant would be --

3 Q. Who?

4 A. -- about. Who was that?

5 Q. Yes.

6 A. One minute and I'll -- it was the Ozomax  
7 Company, and I talked to Mr. -- a Mr. Amir Salama. He  
8 told me that the range of costs for a 30 million  
9 gallon per day plant for ozone facilities was 2 to \$5  
10 million. So I used a \$4 million high end.

11 Q. So are those construction costs?

12 A. Yes. That's what I asked for.

13 Q. Explain to us -- now, this is a very  
14 important question. What is the difference between a  
15 construction cost and the total project cost? Because  
16 my point to you is going to be that we are mixing that  
17 dreaded metaphor of apples and oranges. So explain to  
18 us the difference between the construction cost and  
19 the total project cost.

20 Q. Well, construction cost, of course, is just  
21 that, cost of construction. Total project cost  
22 includes engineering, changes during construction that  
23 contingencies are set aside for, interest during  
24 construction, whatever other soft costs in terms of  
25 fees and permit costs and so on that are involved in

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1 usual projects.

2           So typically it's another 10 percent,  
3 12 percent. Depends on the character of the project  
4 as to what the additional cost would be.

5       Q.    Is it -- it includes both -- the difference  
6 between it includes engineering both with respect to  
7 design and engineering supervision?

8       A.    Yes, it does.

9       Q.    It includes site work?

10      A.    No.

11      Q.    No?

12      A.    Soft costs, no.

13      Q.    I didn't say soft costs. I asked you the  
14 difference between a construction cost and a total  
15 project cost. Your word is soft cost. I'm not using  
16 that.

17      A.    Well, the amounts that you would add to  
18 construction costs to get total project costs, I'm  
19 calling those soft costs. That would not include site  
20 work, no.

21      Q.    So what else would be then included in total  
22 project cost, interest?

23      A.    Interest during construction. We mentioned  
24 engineering. We mentioned inspection, cost of  
25 permits. Not a whole lot.

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1           Q.     Let me direct your attention to page 21 of  
2     your direct testimony where you talk about costs that  
3     you added to the '91 estimate.

4           A.     All right.

5           Q.     Now, are you under the impression that the  
6     '91 estimate is a construction cost or a total project  
7     cost?

8           A.     Total project cost.

9           Q.     What's the construction cost?

10          A.     Sixteen million seven-hundred-some thousand  
11     the way I add it.

12          Q.     Well, could I refresh your recollection with  
13     Mr. Young's testimony who put it in at fifteen-three.  
14     Would you like to see that?

15          A.     Well, I don't agree with that. I heard him  
16     testify to that fact. I found it to be \$16,450,000.

17          Q.     What's your difference between that and  
18     Mr. Young's?

19          A.     \$1.15 million.

20          Q.     Which is attributable to what?

21          A.     It's additional construction costs that he  
22     has not added in. He came up with 15.3. The true  
23     number is 16.45 million.

24          Q.     All right. Where in -- in your costs that  
25     you then add, those are -- you're saying the '91 costs

1       that you started with you think are the total  
2       construction cost, 22 million?

3           A.     Yes, because the estimate says that the  
4       above estimates include engineering design, omissions  
5       and contingencies, interest during construction,  
6       engineering supervision during construction and  
7       community relations.

8           MR. CONRAD: I'm sorry, your Honor. This is  
9       truly fascinating, but we just changed terminology  
10      there. I thought the witness said it was a project  
11      cost and counsel said it was total construction cost.

12           MR. CIOTTONE: I misspoke.

13           MR. CONRAD: Which --

14           MR. CIOTTONE: Counsel's objection is  
15      appropriate. I misspoke.

16      BY MR. CIOTTONE:

17           Q.     The 1991 number we agree is a total project  
18      cost?

19           A.     Yes.

20           Q.     22 million.

21           MR. CIOTTONE: Thank you, Mr. Conrad.

22      BY MR. CIOTTONE:

23           Q.     You state that the \$4 million for ozone  
24      facilities you obtained from whom?

25           A.     I just told you.

1 Q. From an independent contractor?

2 A. Yes.

3 Q. All right. Let me direct you to your  
4 exhibit again, TLB-3, and I want you to pick out the  
5 cash flow analysis document for the surface water  
6 plant. Do you have it in front of you?

7 A. Yes.

8 Q. In the cat--

9 MR. COFFMAN: Your Honor, just to make sure  
10 we're all on the same page, I would like to know  
11 exactly what page we're looking at.

12 MR. CIOTTONE: It's a two-sided document  
13 unfortunately unnumbered. One side says, Alternative  
14 1-A, Surface Water at Existing Site Non-Phased. The  
15 other side says, Surface Water Phase Construction at  
16 Existing Site.

17 JUDGE THOMPSON: Is this part of TLB-3?

18 MR. CIOTTONE: Yes, sir.

19 MR. COFFMAN: Your Honor, I was at that  
20 page. I just was wanting to know which page, which  
21 side.

22 MR. CIOTTONE: And it's Appendix B.

23 MR. COFFMAN: I assume we're looking at the  
24 first page of that?

25 MR. CIOTTONE: It's a two-sided page. I'm

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1 going to look at both sides of it.

2 JUDGE THOMPSON: How far is it in from the  
3 front?

4 MR. CIOTTONE: Half inch.

5 JUDGE THOMPSON: Half an inch. And it's  
6 headed Source of Supply and Treatment Alternatives  
7 Annual Cash Flow, Alternative 1-A?

8 MR. CIOTTONE: Right. And the other side is  
9 1-C, that's correct.

10 JUDGE THOMPSON: Thank you.

11 BY MR. CIOTTONE:

12 Q. Mr. Biddy, when did you obtain this estimate  
13 from this contractor with respect to ozone?

14 A. I simply --

15 Q. When?

16 A. When? In the last couple of weeks.

17 Q. Within the last week?

18 A. Just to confirm what I had already put in  
19 the estimate.

20 Q. Within the last week?

21 A. Yeah, a week.

22 Q. Following Mr. Young's testimony?

23 A. Might have been.

24 Q. Yes. You're under oath, sir. It was  
25 following Mr. Young's testimony?

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1           A.     Yes, I think so.

2           Q.     Because in Mr. Young's testimony you  
3     discovered, did you not, that this cash flow analysis  
4     is not, in fact, a recitation of facility costs,  
5     didn't you?

6           A.     It is so poorly put together, you really  
7     don't know what it is.

8           Q.     Well, you know what it is not, don't you?

9           A.     I know what he said it wasn't.

10          Q.     All right. So is it coincidence, then, that  
11     that \$4 million for ozone shows up under the capital  
12     expenditures column on Alternative 1-C for ozone  
13     facilities? Is that where you found that number?

14          A.     I saw the \$4 million number, and I picked it  
15     out of the cash flow of twenty-two-six.

16          Q.     And that's what you seized on?

17          A.     Well, I did verify the \$4 million was --

18          Q.     And then --

19          A.     -- within the range of reasonableness for a  
20     30 million gallon a day plant.

21          Q.     And then you had to deal with the problem  
22     that you learned from Mr. Young that this wasn't  
23     really the company's number and you had to go outside  
24     to try to rehabilitate your number. Isn't that what  
25     happened?

1           A.     I don't remember what he said about it not  
2     being the company number. I wanted to confirm that  
3     the \$4 million was a reasonable cost for ozone  
4     facilities, and I did so.

5           Q.     Let's look at the next one on your page 21,  
6     new raw water intake and low-service pumping,  
7     \$4,600,000.

8           A.     Yes.

9           Q.     Let's look at that same page,  
10    Alternative 1-C, raw water intake, low surface pumps,  
11    access road, \$4,600,000. Is that where you got that  
12    number?

13          A.     Yes.

14          Q.     Now, are you under the impression that that  
15    is, in fact, the company's cost of building those  
16    facilities, or have you instead been informed that  
17    that is simply the capital expenditure for that year  
18    unrelated to anything other than projects that had  
19    been under way prior to that expenditure?

20          A.     You say unrelated to any of the --

21          Q.     Other than -- you can't tie them to  
22    column 3. Column 3 are -- Mr. Young testified to  
23    this, and you were in the room, sir. Column 3 is the  
24    date the facilities were placed in service, and  
25    column 2 are the dollars spent in that year, and they

1 do not tie.

2 A. Yeah. Another example of mass confusion of  
3 how this feasibility study was put together. I did  
4 assume that the \$4.6 million was the cost for what he  
5 was proposing as a lump sum number for raw water  
6 intake, low service pumps and access road.

7 Q. So you took that number?

8 A. Yes.

9 Q. And that number is wrong?

10 A. Well, four -- I think I went through a  
11 discussion in my testimony of raw water intake, how  
12 the \$7.2 million shown in the December '94 estimate by  
13 Missouri-American was greatly overstated and inflated.  
14 4.6 would be in the range of right for what I  
15 considered a well-built intake structure and pumping.

16 Q. Well, Mr. Biddy, what I'm asking you is, on  
17 the bottom of page 21 you have total revised estimate,  
18 36,307,591 down to the dollar. That number is  
19 critically dependent on numbers that you took from the  
20 company which were not what you thought they were,  
21 correct?

22 A. Well, I'm testifying that Item 7, \$4,600,000  
23 for the raw water intake and low service pumping was a  
24 reasonable number.

25 Now, if I had known that Mr. Young was

1 talking about the combination of 9.2 million plus 4.6,  
2 if that's what indeed he's talking about, I would have  
3 never put that in my estimate.

4 Q. But your number 36,307,591 is based on data  
5 which we now know is what you -- is not what you  
6 thought it was?

7 A. Well, I did not accept these numbers without  
8 looking at them. They had to be reasonable or I would  
9 not have accepted them.

10 Q. So it's coincidence that the cash flow  
11 number matches what you think is reasonable  
12 expenditure for what coincidentally was in the column  
13 of facilities completed that year?

14 A. No, it's not. It's not coincidence. I did  
15 look at \$4,600,000 and thought it a reasonable number  
16 for intake structures and pumping.

17 Q. \$36,307,591 is wrong; can we agree with  
18 that? Bottom of page 21. That's not a number of any  
19 use to us?

20 A. I have since added to that of --

21 Q. Is that the answer yes, that's not a number  
22 that is of any use to us?

23 A. It's close, pretty close to the number that  
24 I --

25 MR. COFFMAN: Your Honor?

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1 JUDGE THOMPSON: Mr. Coffman.

2 MR. COFFMAN: The witness has answered this  
3 question. He believes that these numbers are  
4 reasonable and is being asked again. Asked and  
5 answered.

6 JUDGE THOMPSON: The objection is sustained.

7 BY MR. CIOTTONE:

8 Q. Let's move on. Well, we talked about cost  
9 here. In your direct testimony you seized on -- you  
10 correct me if I'm wrong. I'm trying to do this  
11 fairly. You seized on the '91 estimate, made changes  
12 to it and attempted to bring that forward, correct?

13 A. Yes.

14 Q. All right. Now, in your surrebuttal  
15 testimony you now changed horses, if you will accept  
16 my characterization, and now you say that the Gannett  
17 Fleming number is a good number?

18 A. The Gannett Fleming number adjusted by time  
19 is essentially equal to the \$22 million presented in  
20 the '91 estimate.

21 Q. Well, the Gannett Fleming number is a  
22 construction cost number, isn't it?

23 A. No. The Gannett Fleming number also  
24 includes 15 percent contingencies on top of  
25 construction.

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1           Q.     The Gannett Fleming -- well, you heard  
2     Mr. Young's testimony, didn't you?

3           A.     I also read what Gannett Fleming people said  
4     and also what Missouri-American said in terms of the  
5     fact that there's a 15 percent contingency factor in  
6     those numbers.

7           Q.     Well, as I recall Mr. Young's testimony --  
8     were you in the room when he testified?

9           A.     Yes, I was.

10          Q.     That that was not -- that was a -- the  
11     letter describes it as being a conservative  
12     calculation, and you're equating that to a 15 percent  
13     contingency?

14          A.     No. Missouri-American equated it to a  
15     15 percent contingency. In their 1993, June 4th, 1993  
16     estimate, they have a footnote that says, These  
17     construction costs from Gannett Fleming estimates are  
18     assumed costs to include a 15 percent contingency. He  
19     testified, as I remember it, that he had to call them  
20     to find out how much contingency they had in it.

21          Q.     Well, do we agree that there is no  
22     engineering design, there are no engineering  
23     supervision costs, there are none of the other costs  
24     which you have characterized as being soft costs in  
25     there, and that is essentially notwithstanding your

1       contention that if there's an omissions and  
2       contingency number in there, that's a construction  
3       cost?

4           A.     No, not necessarily.  Contingency and  
5       omissions, this is a result of -- the Gannett Fleming  
6       estimate is a result of a design, not pulling numbers  
7       out of the air so you have to add 15, 20 percent cost  
8       as Missouri-American did.

9                    These are real numbers, and adding  
10       15 percent is -- can cover a wide variety of soft  
11       costs.  They did not detail out interest during  
12       construction, engineering.

13          Q.     Well, are you saying that the Gannett  
14       Fleming number's a total project cost?

15          A.     No.  I'm saying it's construction cost plus  
16       15 percent.

17          Q.     All right.  So the -- but the 22 million  
18       from the 1991 was a total project cost?

19          A.     Yes, it was.

20          Q.     The Gannett Fleming is not a total project  
21       cost?

22          A.     To the extent we've talked about.

23          Q.     And you're making the point that they are  
24       similar and that is supposed to mean what?

25          A.     What I said was, if you make the time



1 adjustment in dollars from '91 to '93, they're  
2 essentially equal in value.

3 Q. The total project cost versus a not total  
4 project cost?

5 A. One's close to -- some part of a total  
6 project cost. It's more than construction, one that  
7 has the 15 percent in it.

8 Q. You made a big to-do in your testimony about  
9 the company's, I don't know if this is the proper  
10 characterization, but concealment of the cover letter  
11 that went with the Gannett Fleming estimate. You were  
12 attributing some motive to the company of attempting  
13 to conceal that?

14 A. Well, I couldn't help but notice that it was  
15 not furnished to me, and when I got it from another  
16 source, it -- I had the cover letter.

17 Q. Let me direct your attention to the  
18 attachments to John Young's testimony and in  
19 particular JSY-5, which is the Gannett Fleming  
20 analysis that was offered into evidence and provided  
21 to all of the parties at the appropriate time. Do you  
22 have that?

23 A. Yes. This is later, of course.

24 Q. This is evidence.

25 A. Yeah. This is just later rebuttal

1 testimony. I realize it was there.

2 Q. The letter's there, isn't it?

3 A. Yeah, but this is subsequent to my testimony  
4 that it wasn't there.

5 Q. So the company provided this to the  
6 Commission --

7 A. After the fact, yes.

8 Q. -- in evidence?

9 A. After I called their hand on it, yes, they  
10 did.

11 Q. All right. If we start with the Gannett  
12 Fleming twenty-six-six, where are the costs of the  
13 ozone? Not in there?

14 A. Where are they?

15 Q. Yeah.

16 A. You said start with the Gannett Fleming  
17 estimate. You mean looking at Gannett Fleming and  
18 tell you if there's ozone?

19 Q. You were making to-do that the '91 costs  
20 were similar to the '93 Gannett Fleming costs. We  
21 quibbled among ourselves as to whether they were  
22 construction costs versus total project costs. You  
23 stated that the Gannett Fleming was construction costs  
24 with an O&C addition to it but not quite total project  
25 cost.

1           You also stated in your testimony that  
2   you're willing to start at the Gannett Fleming  
3   numbers, correct?

4           A.     Yes.

5           Q.     In fact, you state, This -- and I'm reading  
6   from page 8 and 9 of your surrebuttal. This estimate  
7   is very detailed and includes all construction  
8   necessary to upgrade the existing plant to 30 MGD  
9   capacity in state-of-the-art condition, correct?

10          A.     Yes.

11          Q.     So the '91 stuff now is old news?

12          A.     Doesn't have to be, but it's -- you say the  
13   '91 is the precursor in a preliminary basis by  
14   Missouri-American to the '93 Gannett estimate.

15          Q.     But you're saying the '93 Gannett estimate  
16   we can start with?

17          A.     Yes.

18          Q.     All right. Now, what would have to be added  
19   to the '93 Gannett Fleming estimate?

20          A.     Well, if you'll look at my estimate that I  
21   included as Schedule TLB-8, I started with the '91  
22   estimate of twenty-two-six, 22,600,000, and simply  
23   added the time difference of \$4,854,000 to it as the  
24   first addition to that. That gave me about  
25   \$27 million to start with that includes all --

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1 everything that was in the Gannett Fleming estimate  
2 and the '91 estimate. I then added ozone facilities.

3 Q. At what cost?

4 A. \$4 million.

5 Q. All right. We've got twenty-six-six. Then  
6 you went to --

7 A. No. Start with twenty-two-six.

8 Q. No, sir. You said we can start with --

9 A. Oh, okay.

10 Q. -- the Gannett Fleming.

11 A. All right. If I start with Gannett  
12 Fleming's twenty-six-six, then I don't add the time  
13 difference in cost.

14 Q. All right.

15 A. Okay. So I'll just add the ozone  
16 facilities, \$4 million.

17 Q. Why don't you add time cost from '93 to '96,  
18 or to '98?

19 A. Well, I want to start -- it's a matter of  
20 where you start from. If you want to start with '91,  
21 you use one factor to upgrade to compare it to the '98  
22 construction of the new plant. If you want to start  
23 '93, you use another factor.

24 That's the reason I'm saying you don't  
25 have -- I don't want to add this cost increase from

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1 '91 to '98 to it, if you understand what I mean.

2 Q. No, I don't. We're starting with 1993  
3 numbers. Don't we have to put an inflation factor in  
4 there?

5 A. Yes, but not the same inflation factor.

6 Q. Tell me what I should.

7 A. Well, if you start with just the  
8 twenty-two-six instead of the twenty-six-six, you're  
9 going to add -- you can add \$4,854,000 to it.

10 Q. Pardon me, sir. We're not starting with  
11 that. You testified, sir --

12 A. I haven't computed it.

13 Q. -- that the 1993 number is a starting point.  
14 You said it is a very detailed -- the estimate is very  
15 detailed and includes all construction necessary to  
16 upgrade the existing plant to 30 MGD capacity in  
17 state-of-the-art condition. So we're starting there.  
18 Now I'm asking you to tell me what to add to that.

19 A. If you'll let me get my calculator, we'll go  
20 through that. Okay?

21 The factor that I used was the engineering  
22 used record cost index average annual increase in  
23 cost, construction cost of 3.07 percent. I had added  
24 from that -- as you notice on my estimate, I had added  
25 from '91 to '98, a period of seven years, but let's

1 take -- since you want to take the Gannett estimate  
2 from '93, let's go from '93 to '98 and just take five  
3 years. Okay?

4 Q. Yes, sir.

5 A. So 5 times 3.07 is 15.35 percent. So I want  
6 to take 15 -- I want to upgrade the Gannett at  
7 \$26,630,000 estimate by 15.35 percent. Okay.

8 Q. Which is?

9 A. \$4,087,700.

10 Q. All right. Now ozone. How much for ozone?

11 A. \$4 million.

12 Q. I thought we discovered that the number you  
13 chose for ozone was not the right number?

14 MR. COFFMAN: Your Honor, that was not the  
15 testimony previously.

16 JUDGE THOMPSON: Mr. Ciottone, I believe the  
17 testimony was that that was a reasonable figure for  
18 the ozone.

19 MR. CIOTTONE: All right. We'll accept  
20 that, your Honor, for purposes of this rudimentary  
21 calculation.

22 BY MR. CIOTTONE:

23 Q. How about the intake and low service  
24 pumping?

25 A. 4.6 million.

1           Q.     And where did that number come from? I  
2     thought you testified that you took that number off  
3     the cash flow analysis as well.

4           A.     I did, thinking it was the value that  
5     Missouri-American was showing for that item and  
6     believing that that was a reasonable number for that  
7     item.

8           Q.     But you have no business basis other than  
9     the fact that it coincidentally was on the cash flow  
10    analysis?

11          A.     It appeared after I examined another  
12    estimate of Missouri-American, the '94 estimate where  
13    they had shown a \$7.2 million estimate for such a  
14    facility, I did look at this and decided that this 4.6  
15    was a reasonable number and that the 7.2 was a totally  
16    unreasonable number.

17          Q.     Would you explain what you just said? You  
18    looked at -- you looked at a cost that was spent and  
19    you decided that what was spent was too high?

20          A.     Well, you have to understand I'm looking at  
21    all the cost estimates spread across from '91 to '94.  
22    I'm making my own in the middle. I'm starting from  
23    '91. Right now you and I are looking at starting from  
24    '93. I'm adding certain items that I'm picking out of  
25    costs that supposedly are costs that Missouri-American

1 has indicated that certain lump sum items were caused.

2 Some I agree with that are reasonable. Some  
3 I have verified by vendors, by calling vendors.  
4 Others I think are totally unreasonable. That's what  
5 I said about the \$7.2 million, it's totally  
6 unreasonable.

7 Q. But you did no independent investigation  
8 other than to take the numbers off the company's cash  
9 flow, with the exception of having made the phone call  
10 after Mr. Young's testimony to substantiate the  
11 4 million?

12 MR. CONRAD: Asked and answered.

13 JUDGE THOMPSON: Objection sustained.

14 BY MR. CIOTTONE:

15 Q. What about -- so just because I missed it,  
16 not to be redundant, what are you pricing the intake  
17 at?

18 A. \$4,600,000.

19 Q. Now, these are construction costs, are they  
20 not, as opposed to total project costs?

21 A. Yes.

22 Q. What about the third presedimentation  
23 clarifier?

24 A. Not needed.

25 Q. And you base that conclusion on?

1721



1           A.     Again, the Fleming report had modifications  
2     to the existing sedimentation, presedimentation basins  
3     already. The design of whatever necessary  
4     presedimentation facilities had already been  
5     accomplished.

6           Q.     Do you understand that the presedimentation  
7     determination falls out from the ozone determination?

8           A.     No, I do not.

9           Q.     You don't understand that?

10          A.     I do not understand that.

11          Q.     So you use nothing for that. And your  
12     access road?

13          A.     Access road was \$125,000. That's two  
14     culverts plus a ramp.

15          Q.     And your flood protection?

16          A.     Initially I had \$128,111 in the cost  
17     estimate. I then added another \$372,184 to it.

18          Q.     Which is?

19          A.     You mean a total?

20          Q.     Yeah. 36 million --

21          Q.     No. I'm sorry. The total for the flood  
22     protection?

23          A.     500,000 and change.

24          Q.     All right. So we come up with about  
25     thirty-six-seven?

1           A.     Yes, \$36,679.

2           Q.     Now, what does it take to bring that to --  
3     would you agree that these elements have to be added  
4     to construction costs to get the total project costs,  
5     and the elements I would cite to you are such things  
6     as AFUDC?

7           A.     Yes.

8           Q.     Engineering design?

9           A.     Yes.

10          Q.     Engineering supervision?

11          A.     Yes.

12          Q.     Community relations?

13          A.     No. My thought when I saw that, that any  
14     amount for that should be in their existing budget and  
15     some simple announcement that they're going to upgrade  
16     their existing plant would have been sufficient. And  
17     I couldn't see how you could spend a million and a  
18     half dollars on public relations.

19          Q.     Where did you find testimony that a million  
20     and a half dollars was spent on public relations?

21          A.     I saw it in your estimates.

22          Q.     Are you not referring to the million and a  
23     half dollars that includes both that and water company  
24     charges in the same category, which is engineering?

25          A.     That was only explained verbally by

1723

1 Mr. Young. The actual estimate, '94 estimate says  
2 community relations 1.5 million.

3 Q. And you reject his explanation? You think  
4 he --

5 A. Well, surely he -- surely he can't spend a  
6 million and a half dollars on community relations. I  
7 wasn't clear to this day what the other part was going  
8 to be.

9 Q. All right. Now, how about permits?

10 A. Permits, yes.

11 Q. Attorneys' fees?

12 A. Some small attorney fees, yes.

13 Q. And O&C?

14 A. At this point in time, with a fully designed  
15 project, a small O&C, yes.

16 Q. The only thing that's been fully designed is  
17 the Gannett Fleming part, in your opinion?

18 A. True.

19 Q. And that's just based on sketches; that's  
20 not complete engineering drawings, is it?

21 A. Well, it's -- they were hired at the  
22 beginning of 1993. This is five months into the  
23 project. So whatever preliminary designs they had  
24 completed they took those to compare these cost  
25 estimates.

1           Q.     Well, sir, you put in the estimate in your  
2     surrebuttal testimony, and it's just sketches, isn't  
3     it?

4           A.     Yes, essentially.

5           Q.     So isn't there a difference between the  
6     level of estimation that goes on with sketches versus  
7     the level of estimation that goes on when you have  
8     completed design drawings?

9           A.     Well, certainly.

10          Q.     So how much do we add to your \$40,000 plus  
11     or minus to get a construction cost up to a total  
12     project cost?

13          A.     You have to individually price each item.  
14     Engineering cost is 7 to 8 percent.

15          Q.     And? Do you want the list again that we  
16     just went through?

17          A.     Well, if you'll tell me one by one, I will  
18     tell you what the industry standard for those is.

19          Q.     All right. Engineering design?

20          A.     Engineering design for a project this size,  
21     7 percent.

22          Q.     Engineering supervision?

23          A.     2 percent.

24          Q.     Community relations, you dispute that  
25     entirely?

1           A.     I would say none, essentially.

2           Q.     Permits?

3           A.     Permits, perhaps \$50,000.

4           Q.     Attorneys' fees?

5           A.     I'm looking at all these attorneys.

6                   JUDGE THOMPSON:  Don't let that intimidate  
7     you, sir.

8                   (Laughter.)

9                   THE WITNESS:  \$2,500 would be an ample  
10    plenty to have an attorney review construction  
11    documents, construction contract documents, which is  
12    the only item I can think of that you would need an  
13    attorney for on a project like this.

14   BY MR. CIOTTONE:

15           Q.     And land acquisition?

16           A.     If you had land acquisition, yes.

17           Q.     So you're coming up to, what, another --  
18    you're saying the difference -- your testimony is that  
19    the difference between a construction cost and a total  
20    construction cost is 10 percent?

21           A.     10 to 15, yes.

22           Q.     What about additional O&C for those items  
23    not contained in the Gannett Fleming, if you dispute  
24    Mr. Young's requirement of putting in additional O&C  
25    on top of the conservative estimates of Gannett

1 Fleming?

2 A. Let's recoup this 15 percent out of the  
3 26 million first and apply that.

4 Q. 15 to everything, then?

5 A. Well, if you take the 15 percent out of the  
6 twenty-six-six, I think after construction cost  
7 estimate gets to this stage, that 10 percent is the  
8 industry standard, that you would tell your client you  
9 should add 10 percent for contingencies to this  
10 project.

11 Q. So to everything other than the Gannett  
12 Fleming number you would add that?

13 A. Yes, I would.

14 Q. And that's another -- 10 percent of  
15 10 million is another million bucks?

16 A. About, yes.

17 Q. And we've got 10 percent for these other  
18 things. That's another million bucks. So you're over  
19 40 million now?

20 A. Yeah, perhaps.

21 Q. So then do we agree that the numbers that  
22 you have given us so far in your testimony are no  
23 longer useful?

24 A. No, we don't agree with that at all. They  
25 are what they are and they are what they state they

1 are. They're numbers that do include engineering  
2 design, omissions and contingencies and so on, at  
3 least up through a certain point. Then we have to add  
4 some more for the things you and I just discussed.

5 You haven't talked about subtracting from  
6 these numbers. You do need to subtract from them the  
7 extent to which they're not used and useful.

8 Q. Well, how do you explain the fact that you  
9 provided all these numbers under oath making a  
10 recommendation that this Commission disallow rate base  
11 and now all these numbers are changing?

12 A. Well, the numbers that I have presented are  
13 a combination of, No. 1, one good cost estimate by one  
14 consultant in 1993, a series of lump sum items listed  
15 by the water company that most of which I could not  
16 agree with.

17 My estimate is an amalgamation, let's say,  
18 of several of these to reach the \$36,679,000, and  
19 admittedly there is a little bit of soft cost that  
20 needs to be added to that for things I added to the  
21 cost estimate.

22 Q. Okay. Mr. Bidby, let's move on to capacity.

23 A. All right.

24 Q. Can you state quickly your position on  
25 capacity?

1           A.     My position on capacity is this: The  
2     utility is required to design the plant for maximum  
3     day flow at the design year. Then it becomes a matter  
4     of determining, well, what is the design year? How  
5     much growth should you allow a utility to design that  
6     plant for and for the existing ratepayers to pay?

7                     The jurisdictions I'm familiar with allow  
8     two years in the rate base. That's not to say that  
9     people don't build them larger than that. But if they  
10    allow two years, two years would be the year 2002 from  
11    the time it went on stream.

12                    I computed the flow with the year 2002 based  
13    on the numbers of water -- actual water usage that I  
14    could discern from Missouri-American, and I came up  
15    with a 24.135 MGD maximum day usage in the year 2002.  
16    That divided by the capacity of the system gives you  
17    an 80.45 percent used and useful system, the rest of  
18    it being capacity for future customers beyond the year  
19    2002.

20                    Does that answer your question?

21           Q.     Yes, sir. Thank you.

22                    Are you aware of the fact that the  
23    information that is already in evidence, and I will  
24    show it to you if you'd like to see it, JSY-16 showing  
25    the actual usage characteristics, historical usage



1 characteristics in numbers of customers, indicate that  
2 in both 1988 and 1991 the company exceeded your  
3 maximum of 24.135?

4 A. Yes. Mr. Young -- I heard him testify to  
5 this. Mr. Young picked an anomaly out of the table  
6 from 1991 of 25.62 MGD which all numbers after that  
7 have been lower than. He stated that this was before  
8 they had solved their unaccounted for water problem,  
9 which to my mind means a translation is they fixed the  
10 leaks after that.

11 The 1999 water usage maximum day was only  
12 21.888 MGD, which was a lot lower than they had  
13 projected.

14 Q. Are you through?

15 A. Yes.

16 Q. You say solving an unaccounted for water  
17 problem. Did you think there was an unaccounted for  
18 water problem in the company? I didn't say that.  
19 That's what he testified to.

20 Q. No, he didn't. Let me hand you --

21 MR. COFFMAN: Your Honor --

22 JUDGE THOMPSON: Mr. Ciottone.

23 MR. CIOTTONE: I apologize. I apologize.  
24 I'm fumbling for exhibits here and I'm just getting  
25 frustrated.

1730

1 JUDGE THOMPSON: Why don't I give you five  
2 minutes and we can proceed after that?

3 MR. CIOTTONE: Thank you.

4 (A recess was taken.)

5 JUDGE THOMPSON: Let's go on the record now.

6 MR. CIOTTONE: Forgive me, your Honor. Just  
7 be patient for a moment.

8 JUDGE THOMPSON: That's quite all right.

9 BY MR. CIOTTONE:

10 Q. Mr. Biddy, let me hand you what has been  
11 marked as JSY-16, which is the unaccounted for water  
12 calculations. What do you think a reasonable amount  
13 would be for unaccounted water in a normal water  
14 system?

15 A. Well, the goal usually is less than  
16 10 percent.

17 Q. All right. Do you have a calculator there?

18 A. Yes.

19 Q. Can you calculate the unaccounted for water  
20 percentage in 1991? It would be against average,  
21 would it not?

22 A. Yes.

23 MR. CONRAD: I'm sorry, your Honor. Could I  
24 get the reference again, please?

25 MR. CIOTTONE: It's JSY-16 to rebuttal

1731

1 testimony of John Young.

2 THE WITNESS: Looks like 8.24 percent.

3 BY MR. CIOTTONE:

4 Q. Would you characterize that as an  
5 unaccounted for water problem?

6 A. I didn't testify to that. That's what I  
7 heard Mr. Young testify to.

8 Q. All right. Now let me hand you what has  
9 been marked as Exhibit -- JSY Exhibit 21, which is the  
10 attachment to the surrebuttal of John Young, and I'll  
11 ask you to make a similar calculation for 1999.

12 A. 8.91 percent.

13 Q. So does that sound like solving an  
14 unaccounted for water problem?

15 A. I've seen nothing bad wrong about a percent  
16 that's less than 10 percent for unaccounted water.

17 Q. So unaccounted for water is not the issue?

18 A. I didn't testify that it was.

19 Q. Well, my question to you that started this,  
20 to which you responded about unaccounted for water,  
21 was that in 1988 and 1991 the company exceeded the  
22 amount of pumpage that you say is reasonable and  
23 necessary?

24 A. Yes. And I stated that Mr. Young stated in  
25 the crux of the same breath, as I remember it, that

1       that was before they solved their -- perhaps he meant  
2       a break just that day. I don't know. I don't know  
3       what he meant.

4           Q.     Are you talking about something in direct  
5       testimony or something on cross as you recall?

6           A.     It was on cross-examination.

7           Q.     All right. Now, you testified also that you  
8       thought that, I think -- and I'm reading from  
9       surrebuttal pages 23 and 24. When you're arguing that  
10      24.135 is the appropriate max day capacity, and then  
11      you say, And that, quote, Mr. Young refuses to  
12      acknowledge that flows have not come up to his  
13      company's projections due to loss of industrial  
14      customers in recent years.

15          A.     What page are you on?

16          Q.     I'm reading from page 23 and 24 of your  
17      surrebuttal.

18          A.     Yes.

19          Q.     Is that a correct characterization?

20          A.     Yes, it is.

21          Q.     Let me hand you again what has been marked  
22      as JSY Exhibit 21, a schedule to the surrebuttal  
23      testimony of John Young, and let me ask you, how do  
24      the commercial and industrial actual experiences  
25      compare to the projections?

1           A.     The projections for commercial were slightly  
2     .033 MGD different and actually lower than actual.  
3     The industrial usage actual was .802 MGD more than  
4     projected.

5           Q.     So your characterization that Mr. Young  
6     refuses to admit, acknowledge that flows have not come  
7     up to his company's projection, the answer to that  
8     would be because they have?

9           A.     Well, in looking at the other flows and  
10    seeing if it comes up with a projection company-wide,  
11    which they don't, I see that the industrial --

12          Q.     Excuse me, Mr. Biddy. The question was to  
13    you, your statement was Mr. Young refuses to  
14    acknowledge that flows have not come up to his  
15    company's -- customers' projections due to loss of  
16    industrial customers in recent years. I'm asking you  
17    to compare the industrial usages, and they're, in  
18    fact, higher, aren't they?

19          A.     In 1991 it was, yes.

20          Q.     In 1999?

21          A.     '9. Isn't that what I said?

22          Q.     So it's true, correct me if I'm wrong, that  
23    the company has exceeded your maximum day projection  
24    in the past with -- and with fewer customers then than  
25    they have now?

1           A.     In 1991, yes, was the last time. That's  
2     been a lot of years ago. It's come nowhere close to  
3     that since then.

4           Q.     And it's true that the industrial use has  
5     exceeded expectations?

6           A.     In the one paper you just showed me that had  
7     the 1999 industrial usage, yes.

8           Q.     Well, in the questions with Mr. Merciel, I  
9     don't know if you were here, but we discussed this  
10    issue, and he concluded that the reasons for that were  
11    most likely attributable to weather. Would you  
12    disagree with that?

13          A.     No, I would not disagree.

14          Q.     Then is it reasonable to assume that similar  
15    weather conditions that occurred in 1988 and 1991 can  
16    recur?

17          A.     Well, certainly they can recur. The  
18    historical trend has been, if you'll look at the  
19    charts that were furnished me, particularly at  
20    Table 3.3 of their demand summary, which is part of my  
21    Exhibit TLB-11, you'll see that the demands go down,  
22    even maximum day and average day.

23                 And so it was purely an anomaly this 25.62  
24    MGD max day that occurred. I have no idea why it  
25    occurred other than that it's an anomaly to the whole

1 chart of water usages over the years.

2 Q. It was a hot year, hot dry year, wasn't it?

3 A. This was max day we're talking about, one  
4 particular day out of the year 1991. I have no idea  
5 what happened that day. Don't know.

6 Q. You don't know whether 1991 was an unusually  
7 hot, dry summer?

8 A. Could have been. Could have been.

9 Q. Your two-year horizon, you state with  
10 respect to planning for plant, you state that some  
11 jurisdictions do that?

12 A. Yes.

13 Q. Who other than Florida?

14 A. I don't know offhand. A lot of the counties  
15 in Florida are independently regulated by county water  
16 and sewer authority. A lot of the companies use the  
17 two-year horizons.

18 Q. Are you aware of the horizons that are  
19 utilized elsewhere in the country or do you just not  
20 know about them at all?

21 A. Well, as regulatory agencies, I have not  
22 testified before another regulatory agency, public  
23 service commission regulatory agency. So I don't  
24 know.

25 Q. How do you deal with a two-year horizon with

1 a facility like a clarifier that has a larger capacity  
2 than you could possibly downsize? How do you do that?

3 A. Well, I think I explained that in some of my  
4 Data Responses to Missouri-American. The state of  
5 Florida has what we call contribution in aid of  
6 construction and an allowance for funds prudently  
7 invested that is granted to utilities so that each  
8 future customer that signs on to the system has to pay  
9 a connection fee that includes a proportional amount  
10 of those excess capacity charges.

11 Failing that, you simply have to be prepared  
12 as a growing utility to keep adding to your system.  
13 In this case, perhaps instead of having the three  
14 ten-million-gallon-per-day clarifiers which they have  
15 at the new plant, you could have had three  
16 eight-million-gallons and be closer to the two-year  
17 horizon capacity that I testified to.

18 Q. Well, are you concluding from that that the  
19 utilization requirements in the St. Joe area are  
20 likely to increase eight million gallons a day in two  
21 years?

22 A. No, I don't believe so.

23 Q. So then inherently if you were to build a  
24 clarifier, at some point in time you're going to have  
25 by your definition overcapacity, unavoidable?



1           A.     I'm not following you. Repeat the question.

2           Q.     Well, if you're saying it's a two-year  
3 horizon and beyond that you build at your own risk,  
4 and if you're telling me that a capacitor -- or a  
5 clarifier can be built at eight million MGD, you're  
6 telling me that -- and that eight million MGD is  
7 unlikely to be a jump in utilization in the St. Joe  
8 area in two years.

9           A.     You're confusing the issue greatly. My  
10 statement about the three eight-million-gallons-per-day  
11 clarifiers, 3 times 8's 24, and 24.1 is what I came up  
12 with, I think, for the two-year rise in flow, just  
13 using that as an example.

14          Q.     All right. Now, you're out of clarifier  
15 capacity.

16          A.     At the end of two years. What could  
17 happen -- and let me explain what they did do in this  
18 instance.

19          Q.     Well, that's not my question to you. If  
20 you're out of capacity and you need to build a  
21 clarifier?

22          A.     You prepare for it. You prepare a pad for  
23 it. You do all the plumbing for it. You're ready to  
24 put the little geodesic dome building in and have  
25 another clarifier, just exactly what they did for

1 future use which surprised me. The --

2 Q. Clarify --

3 A. Can I finish?

4 Q. Yes. I'm sorry.

5 A. At the existing plant now, they have three  
6 ten-million-gallon-per-day clarifiers, 30 million  
7 gallon capacity. They have a separate pad area  
8 already prepared with all the piping, all the  
9 plumbing. All they have to do is install another one.

10 Why they needed that, thought they needed  
11 it, I don't know because they won't reach 30 for some  
12 years, but they do have that.

13 Q. Now let me ask you the question again.

14 A. All right.

15 Q. The company hypothetically is out of  
16 clarifier capacity and needs a clarifier. Okay,  
17 hypothetically?

18 A. Okay.

19 Q. The two-year horizon in expected utilization  
20 is -- what's a reasonable number for St. Joe, two  
21 million gallons a day?

22 A. Maybe.

23 Q. The capacity of a clarifier, the smallest  
24 one that can feasibly be built is eight million  
25 gallons. All right?

1           A.     Okay.

2           Q.     Isn't that by definition, by your  
3 definition, overcapacity and unavoidable?

4           A.     Yes.  And what I've said about that is that  
5 the utility should be paid by future customers in  
6 terms of some tap-on fee should pay for those  
7 facilities that are built over rather than the  
8 existing customers.

9                     There is a fair and equitable way to  
10 structure it so that the existing customers only pay  
11 for capacity to serve them, future customers bear the  
12 cost of the excess capacity which was built to serve  
13 them.

14          Q.     So your position is that that would indeed  
15 be excess capacity for which the company's ratemaking  
16 should be adjusted?

17          A.     I'm not saying the current rates, no.  I'm  
18 saying the rates to future customers as they tap on,  
19 yes.

20          Q.     Excess capacity?

21          A.     That the excess capacity should be paid for  
22 by future customers in the forms of contributions in  
23 aid of construction and allowance for funds prudently  
24 invested.

25          Q.     Now, you state on page 24 of your direct,

1       this is your quote, The amount of overbuild or sizing  
2       the plant for future capacity is a business decision  
3       which a utility must make at the time of design and  
4       construction. The savings and lower costs of larger  
5       facilities constructed now and the savings gained by  
6       the economy of scale in constructing larger capacity  
7       facilities must be weighed by the utility in relation  
8       to the fact that some portion of these costs, the  
9       overbuild will not be included in rates. Is that  
10      correct?

11           A.     That's correct. And that's -- you know,  
12      they're big boys. They're in the business of selling  
13      water.

14           Q.     Now, do you understand or do you have an  
15      opinion with respect to the principle of economies of  
16      scale?

17           A.     Of course.

18           Q.     But you're cautioning that at any time the  
19      company takes advantage of economies of scale and the  
20      result is overcapacity, you're suggesting that some  
21      portion of these costs will not be included in rates;  
22      isn't that what you're telling us?

23           A.     In the current rate base for current  
24      customers, yes. There should always -- if it's a  
25      prudent investment for future customers, that has to

1 be weighed, of course, too, to see.

2 But, you know, the tap-on fees for future  
3 customers ought to be accrued in such a manner that  
4 that excess capacity is paid for on a pro rata basis  
5 by each new tap-on. And that's the way it's done at  
6 least in the jurisdictions I'm familiar with.

7 Q. And what jurisdictions would those be?

8 A. All of Florida.

9 Q. Just Florida?

10 A. Uh-huh.

11 Q. All right. Now, let's move on to your  
12 theory of the capacity reduction calculation. If I  
13 were to ask you, Mr. Bidby, to price for me the cost  
14 of building a \$30 million -- or \$30 million --  
15 30-million-gallon-a-day treatment plan, do you think  
16 you have the experience, ability and education to do  
17 that for me?

18 A. Yes.

19 Q. And let us assume that that number came out  
20 to be X. If I were to pay you for those services and  
21 then come back a month later and say, Mr. Bidby, we've  
22 changed our mind. We now want a 15-million-gallon-a-day  
23 treatment plant, can I take that X and just simply  
24 divide it in half?

25 A. No.

1 Q. Why not?

2 A. Well, there are items, a lot of items that  
3 if you build larger facilities or larger capacity you  
4 get lower price. So that is what we call economy of  
5 scale. In other words, a 30-million-gallon-per-day  
6 plant will not cost twice as much as a  
7 15-million-gallon-per-day plant.

8 Q. So there is not a straight line relationship  
9 in cost and capacity?

10 A. Not exactly.

11 Q. With respect to your challenge to the  
12 vulnerability of the discharge piping on the new  
13 wells --

14 A. Yes.

15 Q. -- were you at all persuaded by the  
16 testimony you heard from Mr. Young and Mr. Merciel  
17 about how these wells are constructed to form  
18 defensive postures against river water?

19 A. No.

20 Q. Do you understand that if these wells -- if  
21 a well or wells were to be taken out of service, that  
22 the company could continue to provide water service?

23 A. Depends on how many are taken out during a  
24 flood.

25 Q. Well, how many would have to be taken out

1 for the company to not be able to meet its average day  
2 capacity?

3 A. Not meet its average day capacity?

4 Q. Well, it's not likely to have max day  
5 capacity --

6 A. No.

7 Q. -- in a flood, is it?

8 A. No. Quite a few, but, you know, they're  
9 three million gallons per day now, right, and there's  
10 seven of them. That's 21 million. There's, what,  
11 16 million gallons for the horizontal. Are those  
12 correct numbers?

13 Q. I think they're close.

14 A. Now the average day flow is only 16 or so  
15 now, as I remember. So, you know, it's quite a bit of  
16 overbuild there in the wells already.

17 But the point is that the -- a flashy stream  
18 such as the Missouri River which is going to come up  
19 and have swift water very well could be laden with  
20 logs and trees and any other kinds of debris.

21 The fact that the wells are located somewhat  
22 parallel to the shoreline doesn't prevent a log or a  
23 tree from ramming these vertical discharge pipes and  
24 virtually destroying a well or several wells even in  
25 small flood events. So I was very surprised that they

1       were installed on the unprotected side of the levee.

2           Q.     Do you -- what would happen if the plant had  
3       been rehabilitated and the levees failed?

4           A.     The levees did not fail in the '93 flood,  
5       would not have failed --

6           Q.     Mr. Biddy, that's not my question to you.  
7       What we're talking about is reliability of the water  
8       supply, and I'm asking you what would happen to the  
9       water supply if the levees fail?

10          A.     Well, obviously if the levees fail you're  
11       out of water.  You're out of business until you get  
12       low water again.  I happen to not believe that the  
13       levees will fail as we've discussed.

14          Q.     You made great point in your -- I'm changing  
15       subjects on you.

16                 You made great point in your testimony in  
17       several places about timing.

18          A.     Yes.

19          Q.     You made the point that Missouri-American  
20       Water Company chose to begin -- I'm reading from  
21       page 10 of your surrebuttal.  Missouri-American Water  
22       Company chose to begin the design of a new ground  
23       water source and treatment plant in December 1995,  
24       almost a year before the feasibility study was  
25       completed.



1           This action by MAWC clearly shows that MAWC  
2   was not interested in making a meaningful comparison  
3   between the alternatives but had already made the  
4   decision to go forward with the new ground water  
5   source and treatment plant almost a full year before  
6   the feasibility study was then completed.

7           A.    Yes, that's absolutely correct, and that's  
8   my opinion today and I believe it to be true.

9           Q.    Were you here for the testimony of  
10   Mr. Young?

11          A.    Yes.

12          Q.    Did you see or hear the part where he  
13   identified to you by reference to your own exhibit in  
14   the feasibility study the date of February of 1995  
15   when all of the cost comparisons that form a part of  
16   the feasibility study had been completed?

17          A.    Well, I did not agree with him then, nor do  
18   I agree with him now that he made cost comparisons in  
19   a meaningful way. I don't believe that they made a  
20   cost estimate worthy of the name except for the  
21   Gannett Fleming estimate of 1993.

22                You can't simply write down a lump sum  
23   number and say this is the cost for this \$8 million  
24   facility and add it to your total. It becomes just  
25   meaningless and ridiculous to do that.

1           Q.     Mr. Biddy, your point is that you think the  
2 feasibility study is not up to snuff?

3           A.     It's not only not up to snuff, it's --

4           Q.     There's no --

5                   JUDGE THOMPSON: Mr. Ciottone, please allow  
6 him to answer the question.

7                   MR. CIOTTONE: I'm sorry.

8 BY MR. CIOTTONE:

9           Q.     But your allegation with respect to timing  
10 is that the plant was begun before the feasibility  
11 study was completed, and that's what we're addressing?

12          A.     That's absolutely true.

13          Q.     Now, let me direct your attention to TLB-3,  
14 Appendix B, the annual cash flow cover sheet.

15          A.     Yes. What's the date in the upper  
16 right-hand corner?

17          A.     2/7/95.

18          Q.     Right. So the company knew all the  
19 comparative costs in the annual cash flow statement, a  
20 document from which you gleaned certain numbers for  
21 your own analyses at that time?

22          A.     Well, as I have stated, I believe those  
23 numbers to be artificially inflated and overstated.  
24 And while they may have done that, the very essence of  
25 a feasibility study are the cost estimates and proof

1 of costs that are contained therein. And from that  
2 standpoint, I consider the document essentially  
3 worthless.

4 Q. Then why would you attribute sinister motive  
5 to their beginning the work a year before the  
6 feasibility study was completed if it's your position  
7 that the feasibility study is valueless anyway?

8 A. I believe that the -- they were stampeded  
9 into the construction, the going forward with a new  
10 facility perhaps by the flood. Perhaps they were  
11 frightened by the flood. Perhaps they knew they could  
12 get \$75 million added to their rate base and the  
13 ratepayers would have to pay that. I don't know what  
14 their motives were.

15 I know they did move forward in a hasty  
16 manner without adequate study and without adequate  
17 addressing of the most cost-effective alternative.

18 Q. Your other characterization with respect to  
19 motive, I believe, was that -- was that the  
20 \$44 million adjustment to the Gannett Fleming 1993  
21 number, that that was purposefully inflated after the  
22 flood to begin the process of discouraging any support  
23 for renovation?

24 A. I think that's essentially true. That's my  
25 belief.

1 Q. Well, have you learned now from the  
2 testimony that that \$44 million number was distributed  
3 to the public prior to the flood?

4 A. No, I haven't heard about the \$44 million  
5 being distributed to someone.

6 Q. If I tell you that the direct testimony  
7 filed in this case actually states that, would that  
8 change your opinion?

9 A. If the direct -- if it was distributed to  
10 the public before the flood, yes, that would change my  
11 opinion, on that issue only of course.

12 MR. CIOTTONE: If I may have a minute, your  
13 Honor, I'm very close.

14 JUDGE THOMPSON: You may.

15 BY MR. CIOTTONE:

16 Q. Mr. Biddy, in your cost estimates again -- I  
17 apologize for digressing back -- we were over some  
18 \$40 million, but there was another aspect. What price  
19 did you allow for the filters, super-pulsators and  
20 presed-- pardon me -- the chemical and operations  
21 building, distributor and transfer pump stations and  
22 clear well?

23 A. The same price that MAWC had in their 1991  
24 estimate updated to 1998 prices.

25 Q. Which was?

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1           A.     Super-pulsators, the building and chemical  
2     building was \$11,300,000.

3           Q.     And the chemical and operations building and  
4     distributed transfer pumping stations?

5           A.     \$7,600,000.

6           MR. CIOTTONE:   May I have a moment to confer  
7     with my co-counsel?

8           JUDGE THOMPSON:   You may.

9           BY MR. CIOTTONE:

10          Q.     Mr. Biddy, before we took the last break we  
11     were debating or discussing how you arrived at the  
12     \$12,000 assessment or appraisal for residuals handling  
13     costs?

14          A.     Yes.

15          Q.     You were -- after an objection had been  
16     overruled, you were to explain to me where you came up  
17     with those numbers.

18          A.     Yes.   I found it.   Let me get back in my  
19     testimony.

20          Okay.   On pages 22 and 23 of my direct  
21     testimony -- rebuttal testimony, I explain that the  
22     five million pounds per year of residual facilities  
23     that might need to be treated at some future date  
24     amounts to 2,500 tons per year; that a 20-ton truck  
25     would haul that from the landfill, and that each 20

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1 tons to a landfill within ten miles, I'm assuming ten  
2 miles, would cost about \$100 per trip, and this would  
3 amount to \$12,500 per year to haul the full 2,500 tons  
4 to the landfill.

5 Q. Where did you come up with the \$100 per  
6 trip?

7 A. This is on a ton mile basis. If you think  
8 in terms of 20 tons and you've got ten miles, you've  
9 got roughly 200 ton miles. 50 cents per ton mile is a  
10 reasonable number for hauling.

11 Q. Where did you get 50 cents per ton mile is a  
12 reasonable number?

13 A. Well, I've known of hauling costs for a  
14 long, long time. 50 cents per ton mile is a  
15 reasonable number.

16 Q. How do you know that?

17 A. Thirty-seven years of experience of seeing  
18 people haul for -- that's their business to do it.

19 Q. So you can't point to any support for that  
20 other than your general experience?

21 A. I have a good friend that's in the hauling  
22 business. It depends on the price of gasoline at any  
23 one time because those numbers vary, but I can  
24 remember just a few years ago they talked in terms of  
25 a quarter a ton mile.

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1           Q.     How about the million dollars for the land  
2     acquisition, the piping, the equipment purchase, the  
3     employee utilization at the premises?

4           A.     All right.  That's two and a half acres  
5     total property.  Okay.  That's an acre and a half of  
6     drying beds, one acre of lagoon, a pipeline to some  
7     unknown distance, but I'm thinking in terms of 1,000  
8     to 2,000 feet.  Surely you can find a property that  
9     someone wants to sell.  The \$1 million is just an  
10    outside high estimate.

11          Q.     That's your basis for --

12          A.     For the land --

13          Q.     -- it is it just conveniently comes out to  
14    be a round number of a million dollars based on --

15          A.     Actually, my statement was in my testimony  
16    you could not spend over a million dollars, even if  
17    you had to purchase the land.

18          Q.     Would this have to be leveed?

19          A.     Leveed?  Either that or on some higher  
20    ground, yes.

21          Q.     Where is the higher ground at there?

22          A.     If you'll look at the pictures, there's a  
23    mountain of high ground right to the east.

24          Q.     So you'd have to pump it up the mountain?

25          A.     You could do that.  You could do that.

1     Around where those present tanks are I assume is  
2     property that's owned by the utility. I'm not talking  
3     about the tanks at the top now. I'm talking about the  
4     back wash filter tanks that are just in the bank  
5     perhaps 1,500 feet or something up the road. You can  
6     see those in the pictures if you look at -- on No. 8  
7     and some of the others.

8           Q.     Now, let me go back right before -- just two  
9     short more areas -- back to Mr. Lee, who was Public  
10    Counsel's witness in the preceding case. You  
11    dismissed him in your testimony by saying words to the  
12    effect that, Since he wasn't testifying on prudence,  
13    everything he said should be disregarded?

14          A.     Well, I don't believe I said it that way,  
15    but I said that he testified that he was not  
16    qualified, was not testifying about prudence, and was  
17    not qualified to do so. Therefore, if you compare  
18    anything to do with prudence with what he said, it's  
19    obvious that he's not qualified and he did not testify  
20    to it.

21          Q.     So what do you think prudence is?

22          A.     We all, I think, in this room understand  
23    what prudence is. It's the comparing of the costs  
24    primarily, plus perhaps other factors we're talking  
25    about in terms of flooding, in the most cost-effective



1 manner of performing something, whether it's a prudent  
2 action to spend \$75 million by the utility on a new  
3 facility or to refurbish a plant at whatever the  
4 reasonable cost would have been to refurbish it, which  
5 I came up with 36 million, and then we added a little  
6 bit here to it.

7 Q. Does it involve -- I'm sorry. Are you  
8 through?

9 A. Well, I'm saying the measure of the prudence  
10 is essentially cost in my mind so long as all other  
11 things can be solved, and we've talked about solutions  
12 to access problems under the flooding protection. So  
13 it really gets down to be a case of what is the most  
14 cost-effective way of doing the job.

15 Q. And your testimony was, if I recall  
16 correctly, is that the alternatives are otherwise  
17 equal? Isn't that the words you used?

18 A. Yeah. I think you'd have good water  
19 eventually from the new plant.

20 Q. In making a prudence determination, is it  
21 appropriate to make a technical engineering review of  
22 the alternatives?

23 A. Yes.

24 Q. Would you consider such a review made by  
25 your own client to be persuasive?

1           A.     I know nothing of Mr. Lee's testimony. I  
2     read it. I don't know any -- what he did in terms of  
3     studies. I know he did not do a prudence review.

4           MR. CIOTTONE: Well, your Honor, let me at  
5     this time ask the Commission to take official notice  
6     of the transcript in Case No. WA-97-46, questions by  
7     Mr. Coffman to his witness Mr. Lee on page 300.

8           JUDGE THOMPSON: Hang on a minute. What is  
9     the case reference?

10          MR. CIOTTONE: It is the transcript from  
11     WA-97-46. Actually, it's a joint case, also  
12     WF-97-241. It is page 300 of the transcript,  
13     questions by Mr. Coffman to his own witness Mr. Lee.  
14     And I'm going to ask this witness if he agrees or  
15     disagrees with what his client has -- the position his  
16     client has taken previously.

17          JUDGE THOMPSON: Any objections to the  
18     request for official notice?

19          MR. COFFMAN: No objection to the official  
20     notice.

21          JUDGE THOMPSON: Hearing no objections, the  
22     Commission will take official notice of page 300 of  
23     the transcript.

24          MR. COFFMAN: Your Honor, I would ask, I  
25     guess, that if the Commission is going to be taking

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1 official notice of certain pages, that it would be  
2 better to take the entire transcript so that it can be  
3 read in context instead of mere selections.

4 MR. CIOTTONE: I have no problem with that.

5 JUDGE THOMPSON: Okay. Hearing no  
6 objections, the Commission will take official notice  
7 of the entire hearing transcript in Case WA-97-46.  
8 Are you going to supply a copy of that?

9 MR. CIOTTONE: The Commission has it on  
10 disc. It's voluminous. I can supply it electrically  
11 or I guess I can photocopy 300 pages, whatever you  
12 prefer.

13 JUDGE THOMPSON: Electrically would be fine.

14 MR. CIOTTONE: I do not intend to make this  
15 an exhibit, your Honor. I'm simply --

16 JUDGE THOMPSON: I understand.

17 BY MR. CIOTTONE:

18 Q. Mr. Biddy, this is the question and answer I  
19 would ask you to listen to and ask you if you agree or  
20 disagree with this. This is question by Mr. Coffman:  
21 Mr. Lee, in response to Ms. Pape's questions, you  
22 stated that alternative Roman numeral III appeared to  
23 be the most reasonable alternative of the alternatives  
24 analyzed by the company. And that's the ground water  
25 plan.

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1                   Answer: Yes, sir.

2                   Question: And that opinion is based on your  
3 engineering review; is that correct?

4                   Answer: Yes, that's correct.

5                   Question: Is that opinion based upon a  
6 review of managerial or cost-effective review of the  
7 alternatives?

8                   Answer: It's based solely on technical  
9 engineering review of the alternatives.

10                  A.     Sure.

11                  Q.     Do you agree with that?

12                  A.     Of course.

13                  Q.     So based solely on a technical engineering  
14 review of the alternatives, the most appropriate  
15 alternative is to move?

16                  A.     Is that what it said? I thought it said a  
17 reasonable alternative.

18                  Q.     The most reasonable.

19                  A.     No, I would not agree with that.

20                  Q.     So you disagree with your own client's  
21 position in that case?

22                  MR. COFFMAN: Your Honor, that is not a fair  
23 characterization. That's not -- that was not the  
24 position taken by Public Counsel in the certificate  
25 case and certainly not the position taken in this

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1 case, that moving out of -- moving the river treatment  
2 plant has never been the Office of the Public  
3 Counsel's position that that was the most reasonable  
4 approach to take by the company.

5 JUDGE THOMPSON: Mr. Ciottone?

6 MR. CIOTTONE: That's the testimony, your  
7 Honor. If I could refer to even further sections, if  
8 that's appropriate at this time, he goes on at great  
9 length.

10 MR. COFFMAN: I believe Mr. -- Mr. Lee made  
11 certain statements about what was more reasonable than  
12 other alternatives given certain alternatives in front  
13 of him, but that was not the position taken by our  
14 office in Position Statements, Hearing Memorandum,  
15 Briefs. And I don't believe that Mr. Young made a --  
16 made any statements of this sort with regard to the  
17 prudence of the actions the company was taking and was  
18 very clear on that.

19 JUDGE THOMPSON: Could I see the testimony  
20 that you read?

21 MR. COFFMAN: Your Honor, I was simply  
22 objecting to the form of the question.

23 MR. CIOTTONE: I read everything in yellow.

24 JUDGE THOMPSON: Everything in yellow.

25 Okay. You can have it back, Mr. Ciottone.

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1                   MR. COFFMAN: Your Honor, my objection is  
2 simply to the --

3                   JUDGE THOMPSON: I understand.

4                   MR. COFFMAN: -- characterization that that  
5 was the position of the Office of the Public Counsel.

6                   JUDGE THOMPSON: I believe that if you would  
7 rephrase the question, Mr. Ciottone, so that it does  
8 not suggest that he's disagreeing with the position  
9 taken by the Office of Public Counsel but rather that  
10 he's disagreeing with the testimony that you read that  
11 had been given by Mr. Lee on that occasion.

12                  MR. CIOTTONE: I can do that, your Honor,  
13 but may I make a response to your suggestion?

14                  JUDGE THOMPSON: You may.

15                  MR. CIOTTONE: The Public Counsel is a  
16 corporate party, and this is an admission of a party.  
17 When he's -- when Public Counsel sponsors a witness  
18 and the witnesses takes that position, even more  
19 interestingly in response to questions by the Office  
20 of the Public Counsel itself, it does become the  
21 Public Counsel's position and they can't repudiate it,  
22 especially after a case that's been submitted on the  
23 record and say, Well, we didn't mean that and we don't  
24 adopt that.

25                  He is stuck with what his witness says when

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1 he pays for a witness, sponsors the witness and the  
2 witness so testifies. It is indeed the position of  
3 the Public Counsel once this testimony is on the  
4 record that way. It goes -- well, that would be my  
5 response to that.

6 JUDGE THOMPSON: Thank you, Mr. Ciottone.  
7 Mr. Coffman?

8 MR. COFFMAN: The position of the Office of  
9 the Public Counsel in the certificate case is very  
10 clearly laid out in the record of that case. I'd have  
11 no objection to this Commission taking official notice  
12 of the entire record of that case.

13 JUDGE THOMPSON: Well, we can take notice, I  
14 suppose, of everything you can think of, but  
15 Mr. Ciottone's question had to do with that as an  
16 admission against interest essentially of the Office  
17 of the Public Counsel, and I'd like you to respond to  
18 that suggestion.

19 MR. COFFMAN: What Mr. Lee did was, he did  
20 state certain opinions based on certain approaches  
21 given certain opinions. I believe he took the  
22 position that it would be more -- assuming that you  
23 were going to build a ground water facility, it would  
24 be more reasonable to phase it than to do it all at  
25 once.

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1           He made certain opinions based purely on  
2       engineering criteria. He did not do a cost  
3       comparison, and his testimony was not relevant to the  
4       question presented in that case which the Commission  
5       asked for about regarding whether prudence should be  
6       addressed in that case, whether -- and whether a  
7       certificate should be granted.

8           And the fact that Mr. -- that transcript  
9       will reveal that Mr. Lee acknowledged that he was not  
10      qualified to conduct a prudence review I think makes  
11      this irrelevant to the issue that this witness is on  
12      the stand for.

13           MR. CIOTTONE: Your Honor, Public Counsel  
14      even went further in this case. Now, I'm not alleging  
15      that this is prudence. I'm alleging that it is  
16      exactly what it purports to be, a determination that  
17      based on a -- solely on technical engineering review  
18      of the alternatives, that moving to the ground water  
19      facility is most appropriate.

20           There is additional testimony, which I will  
21      question the witness about if you think it's  
22      appropriate or worth pursuing, asking whether Mr. Lee  
23      feels that staying at the existing site is  
24      appropriate, and his response to that is certainly not  
25      for a long period of time, quote, unquote.

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1           It's all in this record. Now, for Public  
2 Counsel to attempt to abandon that is somewhat  
3 difficult, especially since your Honor has already put  
4 the -- accepted the transcript by official notice.

5           MR. COFFMAN: It's been acknowledged that  
6 the witness that was hired, that accepted the RFP in  
7 the last case took positions that the witness that  
8 we've retained in this case disagrees with, but  
9 there's nothing -- there's nothing that Mr. Lee said  
10 that contradicts the position that our office took as  
11 to the legal issues presented in that case.

12           And, you know, Mr. Ciottone is free to ask  
13 Mr. Biddy here if he agrees with things that Mr. Lee  
14 said, but I think they're two different witnesses  
15 testifying for two different purposes.

16           JUDGE THOMPSON: Thank you.

17           MR. DEUTSCH: Your Honor?

18           JUDGE THOMPSON: Mr. Deutsch?

19           MR. DEUTSCH: I would like to support the  
20 objection but really just based upon what was last  
21 said by Mr. Coffman. The fact is that the transcript  
22 says what it says. This witness has testified as a  
23 consultant. He is working for but he's not employed  
24 by Public Counsel. Witnesses can disagree.

25           If, in fact, this is admission against

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1 interest, then I assume that maybe it's useful in  
2 striking all of Mr. Biddy's testimony because the  
3 argument is that Mr. Coffman has agreed for all  
4 purposes that the plant was prudent.

5 I don't think that's what he's saying, and I  
6 think the use of it to drag out this proceeding to  
7 continue to try to make the point that Mr. Lee said  
8 things that might be inconsistent is going to tie us  
9 up here for an awful long time unnecessarily because  
10 my feeling is Mr. Biddy's going to agree with what he  
11 agrees with, he's going to disagree with what he  
12 disagrees with.

13 And Mr. Lee's testimony is a matter of  
14 record, and they can cite it in their Brief, they can  
15 raise it as an admission, they can attack the Public  
16 Counsel, it isn't going to get us anywhere with this  
17 witness.

18 So I think that you ought to limit this line  
19 of questioning simply because it's going to lead us in  
20 a big circle.

21 JUDGE THOMPSON: Thank you, Mr. Deutsch. I  
22 do not believe that the testimony of an expert witness  
23 sponsored by a party equates to testimony by the  
24 party. Consequently, I do not believe that the  
25 testimony you've referred to by Mr. Lee in a previous

1 case is an admission against interests by the Public  
2 Counsel.

3 Consequently, I will return to my original  
4 instruction, please reformulate your question so as to  
5 not characterize the position of the Public Counsel.  
6 Could we please move on?

7 MR. CIOTTONE: Yes, sir.

8 BY MR. CIOTTONE:

9 Q. Mr. Biddy, do you recall the quote?

10 A. Yes, I do.

11 Q. My question to you, sir, is, do you think  
12 that Mr. Lee was wrong?

13 A. Yes, I do.

14 Q. You disagree with him?

15 A. Yes, I do disagree.

16 Q. Well, then, let me ask you another question.  
17 Let me present to you another statement of Mr. Lee's  
18 and I'll ask you whether you agree or disagree with  
19 that.

20 Question -- this is on page 287 of the same  
21 transcript. This will be the end of this. I won't  
22 pursue this.

23 Question: Am I correct, then, that even  
24 though you talked about phasing and perhaps making  
25 modifications at the existing plant, it would not be

1 your goal or your recommendation that, if there is an  
2 alternative, that the company should remain at the  
3 existing plant and upgrade that facility?

4 Answer: That's correct. I'm not  
5 recommending that that be a permanent goal of any  
6 alternative. The alternative, the idea of phasing the  
7 alternative, which is the company's suggested plan, is  
8 basically focused on removing the uncertainties.

9 Question: So that staying at the existing  
10 plant might be all right for two or three years but  
11 certainly not for a long period of time?

12 Answer: That's correct.

13 Do you disagree with that, too?

14 A. Yes, I do.

15 Q. Are you familiar with who Mr. Lee is?

16 A. No.

17 Q. You know nothing about him or his  
18 credentials?

19 A. No, I do not.

20 Q. So it's your opinion, then, that Mr. Lee is  
21 wrong?

22 A. My opinion based on my study of the two  
23 sites was that the existing plant, refurbishing and  
24 upgrading an existing plant was as good or better than  
25 building a new plant from a technical standpoint, and

1       that's what he was testifying to, and it certainly was  
2       much more cost effective to rebuild the existing  
3       plant.

4           Q.     And Mr. Merciel is wrong?

5           A.     Yes.

6           Q.     And Dr. Morris is wrong at least with  
7       respect to his calculation of flood improvement costs?

8           A.     I haven't seen those, but I have one  
9       opinion.

10          Q.     And Mr. Young is wrong?

11          A.     Mr. Young is very much wrong.

12          Q.     Is there anybody in this case that agrees  
13       with you?

14          A.     You'll have to form your own opinion about  
15       that.

16          Q.     What do you think the Commission meant when  
17       it held in its Order, Based on the extensive evidence  
18       presented, the Commission finds that the proposed  
19       project consisting of the facilities for a new ground  
20       water source of supply and treatment for the remote  
21       site is a reasonable alternative?

22          A.     Certainly it's a reasonable alternative.  
23       Nobody denied that it's not a reasonable alternative.  
24       But from a prudence standpoint, connecting to Kansas  
25       City would be a reasonable alternative to consider as

1 well. Refurbishing the existing plant is a reasonable  
2 alternative to consider.

3           Once you've overcome all the obstacles from  
4 a technical standpoint, it's then a matter of what is  
5 most cost effective, and I think we've demonstrated  
6 that in no uncertain terms. You'll have to accept  
7 that as my opinion.

8           Q.     And lastly, did I correctly characterize  
9 your testimony that you -- that you found no fault  
10 whatsoever with respect to the company's cost  
11 estimates and actual building of the new treatment  
12 facility, with the exception of your capacity  
13 concerns?

14          A.     I think that is correct, yes.

15               MR. CIOTTONE: That's all I have of  
16 Mr. Biddy.

17               JUDGE THOMPSON: Thank you, Mr. Ciottone.  
18 Mr. Deutsch, you arrived late. Do you have any  
19 cross-examination of this witness?

20               MR. DEUTSCH: Yeah. I just have one area  
21 that I wanted to ask the witness about. It was  
22 touched upon by Mr. Ciottone and piqued my curiosity.

23 CROSS-EXAMINATION BY MR. DEUTSCH:

24          Q.     Hello, Mr. Biddy.

25          A.     Hello.

1 Q. I'm Jim Deutsch. I represent Joplin.

2 You described under your questioning by  
3 Mr. Ciottone the way that the cost estimates for the  
4 new plant and the old plant were derived and prepared,  
5 in your opinion, they were incompetent?

6 A. For the old -- for the upgrades to the old  
7 plant, yes.

8 Q. And I guess just to straighten me out so I  
9 understand what particular kind of emphasis to put on  
10 it, Mr. Ciottone mentioned repeatedly that there were  
11 things that you made a to-do about, and you testified  
12 that these things that you were making a to-do about  
13 were competent. To-do isn't an engineering term, is  
14 it?

15 A. No, sir, it's not.

16 Q. But when you talk about incompetent, you're  
17 talking about incompetent engineering practice, aren't  
18 you?

19 A. Yes, sir. Yes, sir, we are.

20 Q. You are a professional engineer, aren't you?

21 A. Yes, sir, I am.

22 Q. I believe Mr. Young was a professional  
23 engineer, isn't he?

24 A. He says that he is, yes.

25 Q. He's not a licensed professional engineer in

1 Missouri that you know of, though, is he?

2 A. No, I don't think he is.

3 Q. Now, when you were making this to-do, I take  
4 it that pointing out something like incompetent  
5 engineering, you intend something a little more  
6 serious than a to-do, don't you?

7 A. Yes, indeed. It's a very serious matter,  
8 one that I was very disappointed in.

9 Q. And as I understand it, what you're  
10 specifically directing your allegation against is  
11 that, in preparing as an engineer an engineering  
12 report that is a cost estimate, lumping together or  
13 generalizing under categories that don't mean anything  
14 large amounts of money don't really tell you anything  
15 as an engineer about whether those costs for that  
16 particular item are prudent or not?

17 A. Tells you nothing whatsoever.

18 Q. And so what I assume you're saying when you  
19 indicate that these cost estimates aren't telling you  
20 anything is that -- are you recommending to this  
21 Commission that they be disregarded?

22 A. Yes, sir.

23 Q. The one point that you didn't really get to,  
24 it was questioned, your allegation in this regard  
25 seemed to bleed over into a point Mr. Ciottone raised



1     that I guess I hadn't really seen before because your  
2     report and your testimony seemed to be much more  
3     polite than what I detected from Mr. Ciottone, but he  
4     seemed to take offense that you might be suggesting  
5     bad motive on the part of the company.

6             And I wanted to ask you, isn't what you're  
7     really saying by talking about these incompetent cost  
8     estimates that were prepared to support a decision on  
9     whether to renovate or whether to build a new plant,  
10    that, in your opinion, do those seem to be calculated  
11    by the company in order to raise the price of the  
12    renovation and lower the price of the new plant?

13            A.     Well, I'm not a mind reader, Mr. Deutsch.  
14     It did look contrived to me, yes, it did. Cost  
15     estimates that are that incompetently prepared with no  
16     detail whatsoever on a very important matter like this  
17     affecting millions and millions of dollars for  
18     ratepayers and citizens of the state, I did think it  
19     was contrived, yes, and I still do.

20            Q.     Do you think that that might have been the  
21     motivation that was driving the change in decision  
22     from a renovated plant to a new plant?

23            A.     Yes, sir.

24            Q.     You base that again on the fact that the  
25     cost estimates that have been presented seem to be

1 below the standard that one might expect from a  
2 professional engineer like Mr. Young?

3 A. Yes. You could not characterize them as  
4 being cost estimates, engineering cost estimates.  
5 They're at best a statement of lump sum items that he  
6 characterizes as being cost estimates.

7 Q. It kind of bears the appearance that they're  
8 trying to hide the ball?

9 A. Yes, sir, it does.

10 MR. DEUTSCH: I don't have any other  
11 questions for this witness, your Honor.

12 JUDGE THOMPSON: Thank you, Mr. Deutsch.  
13 Questions from the Bench, Chair Lumpe?

14 CHAIR LUMPE: I have no questions.

15 QUESTIONS BY JUDGE THOMPSON:

16 Q. I have a question for you from Commissioner  
17 Schemenauer who's unable to be here.

18 In your opinion, sir, were any of the  
19 expenses charged to the new plant at St. Joseph  
20 imprudent, extravagant or unnecessary? And I am  
21 referring only to actual expenses, not to estimates.

22 A. Well, as I've explained in the used and  
23 useful context, I only computed at 80 percent used and  
24 useful for the new plant and, therefore, 20 percent of  
25 the cost would be non-used and useful and would be

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1 excessive.

2           As I explained earlier also, I did not have  
3 time to delve into details of the new plant, but had I  
4 had that time, I would have looked into this fourth  
5 clarifier that had been prepared, all the piping and  
6 so on had been prepared for, to see what costs were  
7 involved there, because that's clearly over and above  
8 capacity they're going to use any time in the next 10,  
9 15 years, and all of that would have been excessive.  
10 I don't know how much it would have been.

11           That's not to say when I answered counsel's  
12 question about I didn't have any problem with their  
13 cost estimates, I think probably they're well prepared  
14 as far as what things actually cost.

15           Q.     Okay.   Thank you.

16           JUDGE THOMPSON:   Now, Mr. England,  
17 Commissioner Schemenauer would like to know, and I  
18 don't know whether you're going to have a witness on  
19 this topic or whether you'll need to do a late-filed  
20 exhibit, but Commissioner Schemenauer would like to  
21 know whether there were any insurance proceeds  
22 received by the company with respect to the 1993 flood  
23 of the old plant; if so, what was the amount and what  
24 that money was used for.

25           Do you anticipate having a witness who can

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1 address that?

2 MR. ENGLAND: I'll check. I doubt it.

3 We'll probably have to submit some sort of late-filed  
4 exhibit.

5 JUDGE THOMPSON: Okay. Thank you.

6 And Mr. Coffman, I have something to bring  
7 to your attention. This is Mr. Biddy's direct  
8 testimony, and one of the pages as you can see was  
9 partially obscured at the time it was copied.

10 MR. COFFMAN: This is the first volume of  
11 the direct testimony?

12 JUDGE THOMPSON: This is the first volume,  
13 and this is page 3-12 of whatever it is.

14 MR. COFFMAN: I see. Apparently a dogear  
15 occurred in copying.

16 JUDGE THOMPSON: That's right. So if you  
17 could find me that page in an unobscured form, I would  
18 appreciate it.

19 MR. COFFMAN: I'm sure that could be done.

20 JUDGE THOMPSON: Thank you.

21 BY JUDGE THOMPSON:

22 Q. Now, Mr. Biddy --

23 A. Yes, sir.

24 Q. -- there was a lot of discussion of maximum  
25 day quantities --

1           A.     Yes, sir.

2           Q.     -- I assume of water needed?

3           A.     Water used, yes, sir.

4           Q.     Water used?

5           A.     Yes, sir.

6           Q.     And forgive me for my use of imprecise and

7     naive terminology.

8                     And am I correct in understanding that there

9     was a maximum point that was reached in 1989, 1990,

10    1991?

11          A.     '91, yes, sir, one day.

12          Q.     Okay. And what was that amount?

13          A.     25.62 MGD.

14          Q.     Okay. And am I correct in understanding

15    that that point has never been reached since?

16          A.     That's correct, yes, sir.

17          Q.     And so am I correct in understanding your

18    testimony that to design the new plant's capacity

19    based on that figure is, in your opinion, a mistake?

20          A.     Yes, sir. It's an anomaly.

21          Q.     I see. And that the correct capacity design

22    would have been smaller?

23          A.     Yes, sir, considerably smaller.

24          Q.     Based on more recent data?

25          A.     Yes, sir. On actual data, yes, sir.

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1           Q.     And can you tell me what the maximum day  
2     figure is that you would have used?

3           A.     All right. 24 point something. I'll have  
4     to get it for you.

5           MR. SNODGRASS: Judge, if I can be of any  
6     assistance, Mr. Trippensee's testimony mentions that  
7     figure on page 15.

8           JUDGE THOMPSON: What is that figure?

9           MR. SNODGRASS: That figure appears to be  
10    24.135 million gallons a day.

11          THE WITNESS: That is correct as I remember  
12    it. And remember that is a two-year projection from  
13    the time the plant began operation.

14    BY JUDGE THOMPSON:

15          Q.     Okay. And you further testified that in  
16    other jurisdictions at least that additional capacity  
17    can be included in rate base based on a two-year  
18    growth projection?

19          A.     Yes, sir.

20          Q.     And do you have a figure for what that would  
21    be in this case?

22          A.     No, sir. I'm sorry if you misunderstood me.  
23    The two years -- the 24.135 number was based on a  
24    two-year --

25          Q.     I see.

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1           A.     -- projection.

2           Q.     So that is the figure?

3           A.     Yeah, 2002.

4           Q.     Very good.

5                   JUDGE THOMPSON:  I think that's all I have.

6    Thank you.  Any additional questions from the Bench?

7                   Recross based on questions from the Bench,

8    Mr. Conrad?

9                   MR. CONRAD:  No questions, your Honor.

10   Thank you.

11                  JUDGE THOMPSON:  Mr. Deutsch?

12                  MR. DEUTSCH:  No questions, your Honor.

13                  JUDGE THOMPSON:  Mr. Dority?

14                  MR. DORITY:  No questions, thank you.

15                  JUDGE THOMPSON:  Mr. Snodgrass?

16                  MR. SNODGRASS:  No questions, Judge, from

17   the Staff.

18                  JUDGE THOMPSON:  Mr. Ciottone?

19                  MR. CIOTTONE:  Yes, sir.  Yes, your Honor.

20   RE CROSS-EXAMINATION BY MR. CIOTTONE:

21           Q.     Mr. Bidy, let me direct your attention back

22   to JSY-1, which is Mr. Young's -- exhibit to

23   Mr. Young's rebuttal testimony.  It's the testimony of

24   Gary Lee.  Do you have that before you?

25           A.     What page?

1 Q. Page 3. This is with respect to capacity.

2 A. Yes.

3 Q. The last paragraph, let me read you that  
4 paragraph and I'll ask you if you agree with what it  
5 says. The maximum to average day demand rate has  
6 ranged from 1.26 to 1.6 over the last 20 years. Based  
7 upon this information, the use of a 1.6 maximum to  
8 average day demand ratio when applied to future  
9 projections again appears reasonable and prudent. It  
10 should also be noted that this factor was well within  
11 the range experienced by other similar communities as  
12 evidenced in Exhibit D.

13 Do you agree or disagree with that?

14 A. Yes, and I did use the 1.6, if you notice in  
15 my calculation, to average with the actual number of  
16 what it actually appeared.

17 Q. Well, if we take the 1999, and I'm referring  
18 to JSY-21 actual use, average day, 16.047. Will you  
19 accept that number?

20 A. Yes.

21 Q. What is 16.047 times 1.6?

22 A. It's 25.68 MGD, and that's the very number  
23 that I used to average. And again, as I said in many  
24 places in my testimony, giving the utility every  
25 benefit of the doubt, I used that 1.6 but I averaged

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1 it with the actual numbers.

2 In other words, if the '99 usage was only  
3 80-something percent of the projected, I took that  
4 number for the year 2002, what they projected for  
5 2002, took 80-some percent of it, but I averaged it  
6 with this just to be fair to the utility.

7 Q. If we were designing the plant today using  
8 Mr. Lee's recommendation with which you agreed, the  
9 1.6, and if we had the foresight of knowing exactly  
10 what the average day use was going to be in 1999, what  
11 would we -- what capacity would we have to design the  
12 plant for for the year 1999, not two years ahead, not  
13 2009, but 1999?

14 A. 25.68 MGD.

15 MR. CIOTTONE: Thank you. I have nothing  
16 further.

17 FURTHER QUESTIONS BY JUDGE THOMPSON:

18 Q. Mr. Biddy, can you tell me, 25.68 is what  
19 percentage of 30.00?

20 A. It's 85.6 percent, your Honor.

21 JUDGE THOMPSON: Thank you.

22 MR. CIOTTONE: Your Honor, may I?

23 FURTHER RECROSS-EXAMINATION BY MR. CIOTTONE:

24 Q. Mr. Biddy, 30 million gallons a day is not  
25 available for pumping to the public, is it, it's 28.5,

1 because the remaining 1.5 is reserved for in-service  
2 use?

3 A. Yes.

4 Q. So if the Bench was -- if His Honor was  
5 attempting to make that calculation, it would be the  
6 actual pumpage to the public versus the actual  
7 capability of pumping to the public, would it not?

8 A. I think His Honor was trying to compare the  
9 25.68 to the capacity of the plant, which is what I  
10 gave him.

11 MR. CIOTTONE: That's all I have.

12 JUDGE THOMPSON: Thank you, Mr. Ciottone.  
13 Anyone else?

14 I believe we are now ready for redirect,  
15 Mr. Coffman. We are also just about at noon. Now, I  
16 anticipate you will need a certain amount of time for  
17 redirect; is that correct?

18 MR. COFFMAN: I would guess 20 minutes.  
19 That's an estimate.

20 JUDGE THOMPSON: Then perhaps we should take  
21 you up after the lunch recess. So we will return at  
22 1:30, and at that time you may begin your redirect of  
23 Mr. Biddy.

24 We are in recess until 1:30. Thank you.

25 (The noon recess was taken.)

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1 JUDGE THOMPSON: Let's go on the record.

2 MR. CONRAD: Your Honor, if I could just  
3 briefly summarize what we stated off the record. I've  
4 talked to the parties who are here today, including  
5 company, Public Counsel, Staff, Andrew County Water  
6 District's counsel, and I'll ask the friends from  
7 Joplin, if they had questions for Mr. Harwig. Those  
8 parties that I've talked to have indicated they do  
9 not.

10 I understand that the Commissioners may have  
11 questions. We were planning to ask him to come down  
12 Friday for that, but it would be helpful if we knew if  
13 the Commissioners did not have questions or did not  
14 anticipate any, then we could release him from that  
15 obligation.

16 JUDGE THOMPSON: You're talking tomorrow,  
17 right?

18 MR. CONRAD: That was, I think, the plan.

19 JUDGE THOMPSON: I will do what I can to get  
20 you an answer before we're done today.

21 MR. CONRAD: Thank you.

22 MS. COOK: Your Honor, if I might, I have  
23 one short matter. You'd asked for Public Counsel to  
24 late file a pristine copy of page 3-12 to  
25 Schedule TLB-11 of Mr. Biddy's direct testimony, and I

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1 have the dog-ear-free copy of that for everyone here.

2 JUDGE THOMPSON: Let's mark that as  
3 Exhibit 101.

4 MR. COFFMAN: If you wanted to, we have the  
5 witness sponsoring that exhibit. We could have him  
6 sponsor that as a correction.

7 JUDGE THOMPSON: I don't know. I think the  
8 non-dog-eared version has already come in. Does  
9 anybody have an objection to receiving a copy of the  
10 page that can actually all be read? And please take a  
11 moment to look it over.

12 (EXHIBIT NO. 101 WAS MARKED FOR  
13 IDENTIFICATION.)

14 JUDGE THOMPSON: Thank you.

15 MR. COFFMAN: While we're dealing with  
16 exhibits, I --

17 JUDGE THOMPSON: Let's finish with 101  
18 before we go on to a different one. Are you offering?

19 MS. COOK: I'd offer this into evidence,  
20 your Honor.

21 JUDGE THOMPSON: Okay. Has everybody had a  
22 chance to review Exhibit 101, a corrected version of  
23 page 3-12 from Schedule TLB -- 11? Do I hear any  
24 objections to the receipt of this exhibit?

25 (No response.)

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1                   Hearing no objections, Exhibit 101 is  
2       received and made a part of the record of this  
3       proceeding.

4                   (EXHIBIT NO. 101 WAS RECEIVED INTO  
5       EVIDENCE.)

6                   JUDGE THOMPSON: Mr. Coffman, you had  
7       another exhibit you wanted to deal with?

8                   MR. COFFMAN: Yes. This is what's been  
9       marked as Exhibit 86. It's been used extensively  
10      during the cross-examination of several witnesses now.  
11      That is the sheet which I handed out mostly an  
12      oversize format, cost estimates --

13                  JUDGE THOMPSON: Okay. I remember that.

14                  MR. COFFMAN: -- as shown in Public  
15      Counsel's case.

16                  JUDGE THOMPSON: Are you offering that at  
17      this time?

18                  MR. COFFMAN: Yes.

19                  JUDGE THOMPSON: Do I hear any objections to  
20      receipt of Public Counsel's Exhibit 86?

21                  MR. CIOTTONE: Your Honor, that's the same  
22      document as the oversize?

23                  MR. COFFMAN: Yes.

24                  MR. CIOTTONE: No objection.

25                  JUDGE THOMPSON: Hearing no objections,

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1 Exhibit 86 is received and made a part of the record  
2 of this proceeding.

3 (EXHIBIT NO. 86 WAS RECEIVED INTO EVIDENCE.)

4 JUDGE THOMPSON: I think we're ready, are we  
5 not, for redirect of Mr. Biddy?

6 MR. COFFMAN: Yes, I'm ready.

7 JUDGE THOMPSON: Okay. Take it away.

8 REDIRECT EXAMINATION BY MR. COFFMAN:

9 Q. Mr. Biddy, you were asked some questions  
10 about the access road costs which you included, and I  
11 believe in response to one question you were  
12 describing what you saw in a photograph that was  
13 attached to your testimony and weren't allowed to  
14 finish that.

15 Would you like to describe what is shown on  
16 page 8 -- or I'm sorry. That would be, I believe,  
17 TLB-2, Schedule TLB-2 to your direct testimony, page  
18 No. 8 -- photo No. 8 of the old plant.

19 A. Yes, I will. That photograph is taken from  
20 essentially the south end of the treatment plant basin  
21 property where the sedimentation basins are, and it  
22 shows the filter building, a red brick building on the  
23 left. But on the right, what I was referring to in my  
24 earlier testimony is the graded access road leading  
25 onto the north.

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1           And my point was that it's several feet in  
2       elevation higher than the railroad, and it was my  
3       assumption that the utility was describing this road  
4       when they said that the access road to the north that  
5       connects to County Line Road was an alternative, and  
6       this is -- except for the two creeks to be forded,  
7       this was what I estimated as far as improvements to  
8       that access road.

9           Q.     And do you recall being referred to a  
10      paragraph in the feasibility study where the water  
11      company discussed two alternative roads?

12      A.     Yes, I do.

13      Q.     And one of those was the County Line Road  
14      which was characterized by the company as barely  
15      passable, and the other alternative which was the  
16      possibility of constructing a road to the top of the  
17      bluff?

18      A.     That's correct.

19      Q.     Okay. Did you -- after these issues were  
20      brought up in testimony, subsequent to your direct  
21      testimony, did you conduct any further investigation  
22      of this matter?

23      A.     Yes, sir. I did call the tax assessor's  
24      office in both Andrew County and Buchanan County to  
25      try to obtain some further information about where

1 exactly the roads were located. They did send some  
2 maps that at least show the existence of the road  
3 heading that direction.

4 I then tried to get some property  
5 information because I understand Mr. Merciel said that  
6 part of the property was private. I was unable to do  
7 so over the telephone. So I did not finish that  
8 scenario, but that was the roadway that I estimated.

9 Q. Have you seen any information in your  
10 investigation to suggest that these roads do not  
11 exist?

12 A. No. The roads do exist.

13 Q. The one road exists. I'd like to ask you  
14 some questions about the levee that you proposed. You  
15 were asked considerable questions about whether it  
16 would be feasible to design a levee the way you did or  
17 whether your cost estimates were accurate. I believe  
18 your direct testimony contained -- calculates the cost  
19 of building a levee around the existing river plant  
20 using a price of \$15 per cubic yard?

21 A. That's correct.

22 Q. And what does that price include?

23 A. Price includes the complete construction of  
24 the levee, including a clay core that extends four  
25 feet into the natural ground and through the existing



1     levee and to the top of the extension raising of the  
2     levee. It includes the additional fill material for  
3     the levee, which is 35,000 cubic yards around the  
4     property.

5             Also includes grassing of the levee and the  
6     normal compaction that you put in. It also includes  
7     the seepage collars for the pumpage, seepage collars  
8     for pipes that go through the levee.

9             Q.     So all of those items were included in the  
10    \$15 per cubic yard?

11            A.     Yes.

12            Q.     And there would be no need for additional  
13    costs on top of that?

14            A.     That's right. That total's a half a million  
15    dollars round number.

16            Q.     You were asked a question by Mr. Ciottone  
17    about whether you took any soil samples or studied the  
18    soil conditions at the plant, and you said that you  
19    did not. Is soil condition relevant to whether this  
20    levee would be reliable?

21            A.     No. Normally I would, of course, in  
22    designing the levee take borings and determine if the  
23    parent material was suitable, but in this case I  
24    designed a clay core extending into the subgrade just  
25    to make sure that I had an impermeable blockage to any

1 seepage water that might go under the levee itself.

2 Q. So with this clay core extending down below  
3 the ground level, it's your opinion that there -- that  
4 there would be no need to be concerned about the soil  
5 condition with regard to seepage?

6 A. That's correct.

7 Q. Okay. Given the design that you based your  
8 cost estimate on which would be four feet above the  
9 flood of record, is there any danger in your mind that  
10 this levee would be overtopped or in some way succumb  
11 to the pressures of a flood at the level of the great  
12 flood of 1993?

13 A. Not a chance.

14 Q. What would be the -- what would be the  
15 concerns that you would have to be aware of in  
16 maintaining such a levee?

17 A. Well, normal maintenance of the levee.  
18 Certainly you wouldn't allow anybody to go dig in it.

19 Q. That would include --

20 A. Animals.

21 Q. -- animals?

22 A. Or whatever. You would keep the grass  
23 growing on it. Now, grass is very important to  
24 prevent erosion, and any erosion that you saw on the  
25 levee, you would periodically inspect, you would

1       certainly address that immediately so that it would  
2       not increase.

3           Q.     So it would be fair to say that dangers to  
4       the levee would be more of a maintenance quality?

5           A.     Yes.

6           Q.     Would there be any reason to believe that  
7       any hydraulic forces would endanger such a levee?

8           A.     Not -- it could not.

9           Q.     Okay. And you do have extensive experience  
10      in designing and supervising the construction of  
11      levees, do you not?

12          A.     Yes, I do, at least three rivers.

13          Q.     And to your knowledge, are those levees that  
14      you've designed and supervised the construction of  
15      still standing today?

16          A.     Still standing. First one was in 1964, and  
17      it's still standing.

18          Q.     Mr. Ciottone asked you about several items  
19      which he attempted to characterize as shortcomings of  
20      maintaining a river treatment plant. I believe you  
21      consistently characterized them as design  
22      considerations and listed several of those, I believe,  
23      dealing primarily with operational expenses.

24                 Are there corresponding or offsetting design  
25      characteristics of ground water facilities that would

1       need to be considered in comparison to the design  
2       characteristics of a river treatment facility?

3           A.     Well, yes. In any facility you identify  
4       what are the design considerations. Two that come to  
5       mind right away on the new plant that are not problems  
6       with the existing plants are manganese and iron  
7       removal. We did not have that problem with the intake  
8       water from the Missouri River, but we do have it at  
9       the new plant.

10           We also have a much harder water at the new  
11       plant that has caused a pretty big outcry of water  
12       quality in St. Joseph right now. So each side has to  
13       be individually analyzed as to what are the design  
14       considerations, and certainly the new site had its  
15       share of design considerations to be designed to just  
16       as the old site would have.

17           Q.     I believe one of the design characteristics  
18       of a river treatment facility that was discussed with  
19       you by Mr. Ciottone included the fluctuations in low  
20       and high water and how they impact the reliability of  
21       the plant?

22           A.     Yes, sir.

23           Q.     Do you recall that? Are you aware of  
24       improvements that this water company has made to  
25       protect it against low water occurrences?

1           A.     Yes.  They made two basic improvements since  
2     the problem existed, and one is to extend their intake  
3     to the centerline of the river for the main intake.  
4     The second was to create an emergency intake structure  
5     with a 15 MGD pump on it as a separate intake  
6     structure.

7           Q.     Do you recall when those improvements were  
8     made?  Do you know?

9           A.     It was after '88.  I'm not sure what date.

10          Q.     So is it your professional opinion that the  
11     water company would not be susceptible to the problems  
12     that it had in 1988-'89 with low water?

13          A.     Yes, it is.

14          Q.     And is it your professional opinion that  
15     making the levee improvements that you've designed for  
16     this -- for the river treatment plant, they would not  
17     have had reliability problems even given a 500-year  
18     flood as was experienced in 1993?

19                 MR. CIOTTONE:  Objection, your Honor,  
20     redundant and leading.

21                 MR. COFFMAN:  I'll withdraw it.

22                 JUDGE THOMPSON:  Very well.

23     BY MR. COFFMAN:

24          Q.     You were asked several questions about  
25     residual handling facilities.  Isn't it true that

1 residual handling facilities are an item that could be  
2 added at a later date at little or no additional cost  
3 if and when such requirements were imposed in the  
4 future?

5 A. Yes. Sometime in the future it might be  
6 required.

7 Q. If I'm to understand your testimony  
8 correctly, that given that day, if and when such  
9 requirements were ever imposed, there would be -- in  
10 other words, there would be no reason that you would  
11 need to include such facilities in a construction  
12 project at this time?

13 MR. CIOTTONE: Objection, your Honor,  
14 relevance. The evidence in the record at this point  
15 indicates that the residual handling facilities are  
16 not, in fact, in the cost estimates used in the  
17 comparison for the feasibility study, and they are, in  
18 fact, considered to be something that might happen in  
19 the future only.

20 JUDGE THOMPSON: I believe that was the  
21 evidence, Mr. Coffman.

22 MR. COFFMAN: I believe that is true. There  
23 was considerable evidence, discussion, though, about  
24 what the different costs of those facilities might  
25 be -- and that was a --

1 JUDGE THOMPSON: You did pursue that issue,  
2 did you not, as to where he got the number?

3 MR. CIOTTONE: Yes, sir.

4 JUDGE THOMPSON: I'll permit the question.  
5 The objection is overruled.

6 THE WITNESS: Well, as we've said, they are  
7 not required at the present time. The Department of  
8 Natural Resources assured me that this plant would be  
9 operated for the foreseeable future without these  
10 facilities.

11 My testimony was that, in the event in the  
12 future that any part of these residuals were necessary  
13 to be treated, that the outside high cost was  
14 \$1 million for building a lagoon and drying beds and  
15 then hauling this material to the landfills.

16 BY MR. COFFMAN:

17 Q. Mr. Ciottone referred you to DNR's citing  
18 requirement rule. Do you recall that?

19 A. Yes.

20 Q. Do you know when that rule was promulgated?

21 A. I don't remember. There is a date on it, as  
22 I remember, but I don't remember what it is.

23 Q. It's one of the first few pages in TLB-3.  
24 It was, I guess, the second page of Attachment 1  
25 contained on -- attached to a letter from DNR.

1           A.     Yes, I see it.

2           Q.     That was the page that Mr. Ciottone was  
3 referring you to?

4           A.     Yes.

5           Q.     Can you tell from that page when that rule  
6 was promulgated?

7           A.     Yes. It says the original authority 1939  
8 was amended '78, '81, '82, '88 and '89.

9           Q.     You're referring, I guess, to the original  
10 authority there?

11          A.     Yes.

12          Q.     I think the paragraph above perhaps contains  
13 that date.

14          A.     Okay. It was authorized by Section 640.1 of  
15 the, I assume that's Missouri Code. Original rule  
16 filed May 4th, 1979, effective September 14th, 1979.

17          Q.     Okay. 1979 was prior to the 1991 report  
18 that Missouri-American Water Company submitted to DNR  
19 for its plan for rehabbing the facilities?

20          A.     Yes, it was.

21          Q.     You were asked some questions about the  
22 vulnerability of the discharge piping with the new  
23 wells, and you were asked if the defensive posturing  
24 of the wells, the orientation of the wells convinced  
25 you that they would be safe, and I believe your answer



1 was no.

2 Would you like to explain why that -- why  
3 that doesn't convince you that the discharge piping  
4 would be safe from flooding damage?

5 A. Yes. In a flood of any magnitude you'll  
6 always have floating debris. Many times you will have  
7 trees that have been washed off the banks of the  
8 river. These floating debris, logs, trees, whatever's  
9 in the water, doesn't necessarily flow parallel to the  
10 thread of the stream.

11 Now, the fact that the orientation of the  
12 wells in a straight line are more or less parallel to  
13 the thread of the stream doesn't do anything for stray  
14 debris, trees, logs that are flowing with the current  
15 and might not be exactly at a parallel line to the  
16 stream.

17 So I've considered the discharge piping from  
18 each one of the seven vertical wells could well be hit  
19 and destroyed by debris depending on the severity of  
20 the flood and the swiftness of the water.

21 Q. You were asked a considerable number of  
22 questions about the capacity adjustment that you've  
23 proposed in your testimony and asked about whether you  
24 believe it would be -- whether the utility could  
25 experience a peak such as the peak that it experienced

1 in 1991.

2 Do you know what the rated capacity for the  
3 river treatment plant was in 1991?

4 A. It wasn't 25.62 MGD. It was something less  
5 than that, I believe around 24.

6 Q. Okay. Is it possible for a water utility to  
7 provide more water than its peak capacity for a  
8 limited period of time?

9 A. Yes. American Waterworks Association  
10 requirement is that you have at least one average  
11 day's flow in storage throughout your system plus fire  
12 flow. If you have fire flow, you have to have more  
13 than that considerably, but just for general purposes  
14 that you have at least one average daily flow capacity  
15 in storage. So everything the plant is putting out  
16 plus that average daily flow is available in any one  
17 day for use for the public.

18 Q. Based on some of the questions you received  
19 on this capacity adjustment, I think there may be some  
20 confusion about what your adjustment suggests.

21 Does your use used and useful capacity  
22 adjustment suggest that the excess capacity or the  
23 investment associated with the excess capacity would  
24 always be excluded from the water company's rate base?

25 A. Well, no. The water company would -- as I

1 propose it, the water company receiving capital fees  
2 to take care of contribution, what we call  
3 contribution in aid of construction or allowance for  
4 funds prudently invested. The water company would  
5 fully recoup that final 20 percent if their customers  
6 increased as they had projected and as they increased.

7 Q. You were asked a question by Commissioner  
8 Schemenauer regarding costs of the -- the actual cost  
9 of the new ground water facility, and you made a  
10 couple of comments about that. But to be clear, do  
11 you believe that it's appropriate to judge the  
12 prudence of a construction project without analyzing  
13 the cost effectiveness of the alternatives to that  
14 project?

15 A. No. It would be just -- it would not be a  
16 study at all or a feasibility analysis or a prudence  
17 analysis without doing a cost effective analysis of  
18 all alternatives compared.

19 Q. Okay. Mr. Ciottone ran you through several  
20 hypotheticals and asked you to consider certain costs,  
21 construction costs and project costs and additions to  
22 construction costs, and I just want to make sure that  
23 the record is clear about what you believe is the  
24 proper cost estimate that the Commission should use to  
25 compare the alternative that this company had to

1       refurbishing its river treatment plant.

2           A.     The 36 million that I estimated plus  
3       something for soft costs for those items that didn't  
4       have soft costs in them, I'd say an outside high of  
5       \$40 million, appropriately examined for used and  
6       useful.

7           Q.     What is the maximum amount of investment  
8       that this water company should be allowed to earn to  
9       provide safe and adequate water service to the  
10      citizens of St. Joseph?

11          A.     It would be that \$40 million less the  
12      20 percent that's not used and useful.

13          Q.     Okay. And this \$40 million includes certain  
14      items that you didn't even feel in your professional  
15      judgment would necessarily -- would be necessary in  
16      your judgment --

17          A.     That's true.

18          Q.     -- is that correct?

19          A.     That's true.

20          Q.     And what were those items?

21               MR. CIOTTONE: Your Honor, I object. He's  
22      just going through the witness' direct and surrebuttal  
23      testimony -- rebuttal and surrebuttal testimony.  
24      There's nothing new here that the witness has not  
25      previously testified to.

1           MR. COFFMAN: I believe that this is  
2     important to clarify the record about what those  
3     numbers were, the \$40 million number that Mr. Ciottone  
4     had Mr. Biddy calculate during cross-examination.

5           JUDGE THOMPSON: I believe this is  
6     appropriate redirect. Please proceed.

7           THE WITNESS: There are two major items, and  
8     that is the ozone facilities which I included at a  
9     \$4 million cost, even though they're not needed for  
10    some time in the future, and also the intake  
11    facilities which I included at \$4.6 million, which I  
12    believe are not needed at all right now.

13           But in a spirit of bending over backwards,  
14    let's say, for the utility and giving them every  
15    benefit of the doubt, I did include those two items.  
16    BY MR. COFFMAN:

17       Q.     And that -- so that a proper cost for -- a  
18    proper cost estimate for refurbishing the river  
19    treatment plant would be something under \$40 million  
20    based on your experience and the evidence, testimony  
21    in this case and the data request responses you  
22    received?

23           MR. CIOTTONE: Objection; leading,  
24    redundant.

25           JUDGE THOMPSON: Objection sustained.

1798

1 Please restate the question in a nonleading form.

2 MR. COFFMAN: I think the record is  
3 sufficient on that point. I'll withdraw the question.

4 I believe that's all the redirect that I  
5 have.

6 JUDGE THOMPSON: Thank you, Mr. Coffman.  
7 Now, are we done with Mr. Biddy?

8 MR. CIOTTONE: Your Honor, I neglected to  
9 offer Exhibit 100. May I do so at this time?

10 JUDGE THOMPSON: You may. Exhibit 100 is  
11 the RFP acceptance?

12 MR. CIOTTONE: Yes, sir.

13 JUDGE THOMPSON: Do I hear any objections to  
14 receipt of Exhibit 100?

15 (No response.)

16 Hearing no objections, Exhibit 100 is  
17 received and made a part of the record of this  
18 proceeding.

19 (EXHIBIT NO. 100 WAS RECEIVED INTO  
20 EVIDENCE.)

21 JUDGE THOMPSON: Is Mr. Biddy going to be  
22 coming back?

23 MR. COFFMAN: He's not scheduled on any  
24 other issue.

25 JUDGE THOMPSON: You are excused, sir.

1799

1 Thank you very much. You may step down.

2 (Witness excused.)

3 I believe we're going to Mr. Trippensee.

4 MR. ENGLAND: Your Honor?

5 JUDGE THOMPSON: Yes, Mr. England?

6 MR. ENGLAND: Before we go through the  
7 process of bringing Mr. Trippensee up to the witness  
8 stand, I'd say on behalf of the company we have no  
9 cross-examination of Mr. Trippensee with respect to  
10 this issue. We do with respect to phase-in to be  
11 taken later, but if that would short circuit . . . .

12 MR. COFFMAN: I believe on the issue of  
13 prudence and capacity adjustment Mr. Trippensee merely  
14 takes Mr. Biddy's recommendation and shows revenue  
15 requirement calculations. That would be great if  
16 others want to waive on Mr. Trippensee on this issue.

17 JUDGE THOMPSON: Well, Mr. Conrad?

18 MR. CONRAD: We will have no questions for  
19 him on this issue.

20 JUDGE THOMPSON: Mr. Curtis still is not  
21 with us. Mr. Deutsch?

22 MR. DEUTSCH: We waive cross-examination of  
23 this witness.

24 MR. DORITY: We waive.

25 JUDGE THOMPSON: Mr. Snodgrass?

1800

1                   MR. SNODGRASS: We waive cross of  
2                   Mr. Trippensee.

3                   JUDGE THOMPSON: Okay. Well, everyone's  
4                   waived cross of Mr. Trippensee then.

5                   Let's go on to Dr. Morris. Mr. Conrad, this  
6                   is your witness; is that correct?

7                   MR. CONRAD: That is correct.

8                   JUDGE THOMPSON: Just ask that so I keep  
9                   myself straight.

10                  (Witness sworn.)

11                  JUDGE THOMPSON: Please be seated and spell  
12                  your name for the reporter if would you, sir.

13                  THE WITNESS: My name is Charles Morris,  
14                  M-o-r-r-i-s.

15                  JUDGE THOMPSON: Please proceed, Mr. Conrad.

16                  CHARLES MORRIS testified as follows:

17                  DIRECT EXAMINATION BY MR. CONRAD:

18                  Q.     Dr. Morris, please state your business  
19                  address.

20                  A.     It's at the University of Missouri at Rolla  
21                  campus.

22                  Q.     Dr. Morris, are you the same Charles D.  
23                  Morris that has previously caused to be filed with  
24                  this Commission direct testimony in question and  
25                  answer form marked as Exhibit 65 and surrebuttal

1801



1 testimony also in question and answer form marked as  
2 Exhibit 66?

3 A. Yes.

4 Q. Do you have a schedule to your direct  
5 testimony, Exhibit 65?

6 A. I believe so, yes, sir.

7 Q. And would that be marked CDM-1 as  
8 Schedule 1?

9 A. Yes.

10 Q. My understanding is that that was material  
11 that was provided to you by Missouri-American Water  
12 Company; am I correct?

13 A. That is correct, yes.

14 Q. Now, am I also correct, Dr. Morris, that  
15 elsewhere in your direct testimony you also make  
16 reference to another schedule but you did not attach  
17 it physically to your testimony; is that correct?

18 A. Yes.

19 Q. And you refer to that as CDM-2, but to save  
20 time would I also be correct that that would be the  
21 same material that had been previously filed with the  
22 Commission feasibility study in the WA-97-46 docket  
23 and is also before the Commission as Schedule TLB-3  
24 that was attached to Mr. Biddy's testimony?

25 A. Yes, it is.

1802

1 Q. And again, that was information, while not  
2 prepared by you or under your direction and  
3 supervision, it was provided to you by the company; is  
4 that correct?

5 A. That is correct, yes.

6 Q. Now, Dr. Morris, pursuant to our procedure  
7 here, if I were to ask you the questions contained in  
8 Exhibit 65 and Exhibit 66 now that you have been sworn  
9 to oath -- I'm sorry. Let me strike that.

10 Do you have any additions or -- excuse me --  
11 any changes or any modifications to your testimony  
12 that you're aware of at this point?

13 A. No.

14 Q. If I were to ask you the questions contained  
15 in Exhibits 65 and 66 today, would your answers  
16 thereto be the same?

17 A. Yes.

18 MR. CONRAD: Your Honor, we would at this  
19 time then move, subject to cross-examination, of  
20 Exhibit 65 and 66 into the record of the proceeding  
21 and Schedules 1, which is physically attached to  
22 Dr. Morris' direct testimony, 65, and would also by  
23 reference attach what was identified as Schedule 2,  
24 which we did that way in order to save a little bit of  
25 paper. I would move both 65 and 66 then into the

1 record of evidence at this point in time and tender  
2 the witness for cross.

3 JUDGE THOMPSON: Okay. I'm looking here to  
4 see if Mr. Biddy's exhibits have been received.

5 MR. FINNEGAN: 19 and 20.

6 JUDGE THOMPSON: Yeah, they have. So the  
7 schedule you refer to has already been received.

8 MR. CONRAD: Very well, your Honor.

9 JUDGE THOMPSON: Do I hear any objections to  
10 the receipt of Exhibit 65 or Exhibit 66 into the  
11 record of this proceeding?

12 MR. KRUEGER: No objection, your Honor.

13 JUDGE THOMPSON: Hearing no objections,  
14 Exhibits 65 and 66 are received into the record of  
15 this proceeding.

16 (EXHIBIT NOS. 65 AND 66 WERE RECEIVED INTO  
17 EVIDENCE.)

18 JUDGE THOMPSON: And we go now to  
19 cross-examination. Mr. Deutsch?

20 MR. DEUTSCH: No questions, your Honor.

21 JUDGE THOMPSON: Mr. Coffman?

22 MR. COFFMAN: No questions.

23 JUDGE THOMPSON: Mr. Dority?

24 MR. DORITY: No questions, Judge.

25 JUDGE THOMPSON: Mr. Snodgrass?

1                   MR. SNODGRASS: I believe Mr. Krueger's  
2     doing this, Judge.

3                   JUDGE THOMPSON: Oh, I'm sorry.

4                   MR. SNODGRASS: I apologize. I don't have,  
5     but Mr. Krueger may well have some.

6                   JUDGE THOMPSON: You know, you guys that are  
7     switch hitting need to let me know when you switch.

8                   MR. SNODGRASS: I apologize, Judge.

9                   JUDGE THOMPSON: Some of these guys, you  
10    know, they carefully change chairs. I won't mention  
11    any names, but that allows me to know.

12                  MR. KRUEGER: I said I had no objection to  
13    the admission of the exhibit hoping you would take a  
14    cue from that.

15                  (Laughter.)

16                  JUDGE THOMPSON: Thank you, Mr. Krueger. I  
17    am corrected.

18                  MR. KRUEGER: I'm not critical, of course.

19                  JUDGE THOMPSON: Mr. England, or is someone  
20    else doing your examination?

21                  MR. ENGLAND: I think Mr. Krueger has cross.

22                  JUDGE THOMPSON: Oh, do you have some cross?

23                  MR. KRUEGER: Yes, I do.

24                  MR. ENGLAND: And yes, Mr. Ciottone's doing  
25    it for us later.

1805

1 JUDGE THOMPSON: Thank you, Mr. England. I  
2 appreciate that.

3 CROSS-EXAMINATION BY MR. KRUEGER:

4 Q. Good afternoon, Dr. Morris.

5 A. Good afternoon.

6 Q. Were you present for the testimony of  
7 Mr. Biddy?

8 A. Yes, I was.

9 Q. Did you hear him testify that the only  
10 difference between surface water plants and ground  
11 water plants is the source of supply?

12 A. I don't agree with that.

13 Q. Do you think there's a significant  
14 difference between them?

15 A. There is some differences, yes.

16 Q. In the way that the water is treated?

17 A. Possibly, depending on the quality or the  
18 source of the surface water and likewise the source or  
19 quality of ground water.

20 Q. Now, I had not heard the term ground water  
21 under the direct influence of surface water before  
22 last Friday, and so I have a few questions about that.  
23 Did you address that subject in your testimony,  
24 prefiled testimony?

25 A. Yes.

1806

1           Q.     I don't believe that you used that specific  
2     term, ground water under the direct influence of  
3     surface water, did you?

4           A.     My terminology was consistent, in my  
5     opinion, technically with that term.

6           Q.     Mr. Conrad called the Commission's attention  
7     to page 3 of your surrebuttal testimony where you  
8     stated the quality of the shallow, alluvial ground  
9     water supply which is being directly recharged by the  
10    Missouri River surface water is not known. Is that  
11    the reference you're referring to?

12          A.     I believe in my surrebuttal there was some  
13    discussion -- I believe that was correct, yes, sir.

14          Q.     Would you agree with me that the term ground  
15    water under the direct influence of surface water is a  
16    term of art that has a specific meaning?

17          A.     Yes, it does.

18          Q.     And that meaning is set forth in regulations  
19    published by the US Environmental Protection Agency;  
20    is that correct?

21          A.     That's correct, yes.

22          Q.     And that was in Exhibit 88, which has been  
23    admitted into evidence in this case; is that right?

24          A.     I don't remember the number, but that sounds  
25    correct. Sounds like the right one. That is the EPA

1 docket.

2 Q. Do you have -- I'm sorry?

3 A. It was the EPA document.

4 Q. Do you have that document with you?

5 A. Yes, I do.

6 Q. Could you refer to it, please?

7 A. Sure.

8 MR. KRUEGER: If it would help, your Honor,  
9 I can provide a copy for him to refer to.

10 JUDGE THOMPSON: That will be fine.

11 MR. KRUEGER: May I approach the witness?

12 JUDGE THOMPSON: You may approach.

13 BY MR. KRUEGER:

14 Q. I'm going to show you a document, my copy.  
15 It's been marked in my handwriting as Exhibit 88. Is  
16 that the document we're talking about?

17 A. Yes, it is.

18 Q. I'd call your attention to the last page of  
19 that document in the middle of the page, and that does  
20 contain excerpts from the rules of the Environmental  
21 Protection Agency?

22 A. Yes, it does.

23 Q. And do you see the paragraph in the middle  
24 of the page that begins with the words ground water  
25 that portions of which I have highlighted on that copy

1 I've shown you?

2 A. Yes.

3 Q. Would you agree that the first sentence of  
4 that paragraph contains the EPA's definition of the  
5 term ground water under the direct influence of  
6 surface water?

7 A. It is a definition as defined by the federal  
8 EPA. Under the area that you highlighted there's also  
9 a sentence that says, Direct influence must be  
10 determined for individual sources in accordance with  
11 criteria established by the state.

12 Q. Okay. I'd like to talk first about that  
13 first sentence and ask you to read to me the first  
14 portion of the sentence that I have highlighted. I've  
15 highlighted actually in two groupings of words. Would  
16 you read that first grouping of words that I've  
17 highlighted that begins with the words with  
18 significant occurrences.

19 A. With significant occurrences of insects or  
20 other micro-organisms, algae, or large-diameter  
21 pathogens such as Giardia lamblia or (for subpart H  
22 systems serving at least 10,000 people only)  
23 Cryptosporidium or significant -- is that where you  
24 want me to end?

25 Q. Yes.



1           A.     Okay.

2           Q.     Now, would you agree with me that insects or  
3     other micro-organisms, algae, large-diameter pathogens  
4     and Cryptosporidium are all biological organisms?

5           A.     As far as I know, yes.

6           Q.     So could we accurately substitute the words,  
7     accurately if imprecisely substitute the words, With  
8     significant occurrence of certain biological organisms  
9     for the words that you read to me?

10          A.     I'm not sure what you want me to do. I  
11     mean, it's written there. Why not include all of it?

12          Q.     I'm just hoping to make it a little easier  
13     to analyze the sentence. Would that be an accurate  
14     paraphrase of that highlighted portion that you read  
15     to me?

16          A.     Well, basically it says, With significant  
17     occurrences of insects or other micro-organisms.

18          Q.     Okay. I'll accept that paraphrase as well.  
19     Now, I'd like to ask you to read the remainder of the  
20     sentence that I have highlighted after the word  
21     Cryptosporidium beginning with the word significant.  
22     Could you read that to me, please.

23          A.     Significant and relatively rapid shifts in  
24     water characteristics such as turbidity, temperature,  
25     conductivity or pH which closely correlates to

1 climatological or surface water conditions.

2 Q. Now, would it be an accurate paraphrase of  
3 that to say significant and relatively rapid shifts in  
4 certain water characteristics?

5 A. Yes.

6 Q. So then the definition, that entire  
7 sentence, that entire first sentence in that  
8 regulation basically states that ground water under  
9 the direct influence of surface water means any water  
10 beneath the surface of the ground with significant  
11 occurrence of certain biological organisms or  
12 significant and relatively rapid shifts in certain  
13 water characteristics; would that be accurate?

14 A. But it also includes and says, Direct  
15 influence must be determined by individual sources in  
16 accordance with criteria established by the state, and  
17 I believe that has to be included in the definition.

18 Q. Okay. But would you agree with me, then,  
19 that in order for water to be classified as ground  
20 water under the direct influence of surface water, it  
21 must -- there must either be a significant occurrence  
22 of those biological organisms that are listed there or  
23 there must be significant and relatively rapid shifts  
24 in certain water characteristics?

25 A. Or it has to be in accordance with criteria

1 established by the state.

2 Q. Does that -- is it your understanding that  
3 that gives the State the authority to apply some  
4 different definition?

5 A. I believe it does, yes.

6 Q. Where does it say that?

7 A. That's what it says. It says, Direct  
8 influence must be determined -- to me, that's very  
9 clear -- must be determined for individual sources in  
10 accordance with criteria established by the state.

11 Q. Isn't it possible that that means that the  
12 determination is made by the state, that they must  
13 apply those same criteria that are listed in that  
14 first sentence?

15 A. What that says to me is the state can make  
16 their determination. I assume they would be guided in  
17 that determination by what's included in the federal  
18 EPA guidelines.

19 Q. If water meets these characteristics that  
20 are described there, would that water have basically  
21 the characteristics of surface water?

22 A. No. I think it would have the  
23 characteristics that are stated here, which are not  
24 necessarily the same as surface water. Surface water  
25 quality varies. I mean, I could find surface water

1       that do not have micro-organisms in it.

2           Q.     Is it your understanding that the purpose of  
3       this regulation is to identify water that must be  
4       treated in manners similar to the treatment of surface  
5       water?

6           A.     Yes, sir.

7           Q.     That ground water that has the  
8       characteristics described there must be treated in  
9       methods similar -- with methods similar to the methods  
10      for treating surface water?

11          A.     Similar, yes.

12          Q.     Because the characteristics of the water are  
13      similar to those of the surface water?

14          A.     It can have some of the detrimental  
15      characteristics that exist in surface water sources,  
16      yes, sir.

17          Q.     Now, have you seen any evidence in this case  
18      that there is a significant occurrence of any of those  
19      biological organisms in the St. Joseph water supply?

20          A.     No.

21          Q.     Have you seen any such evidence anywhere  
22      else about that there is -- that there are these  
23      organisms in the St. Joseph water supply outside of  
24      this case?

25          A.     I guess I need to clarify that because we

1       were originally talking about raw surface water or raw  
2       water source, and when you say St. Joseph water  
3       supply, are you talking about finished water, raw  
4       water?

5           Q.     I am referring to the raw water at the new  
6       plant because that's what I understand the EPA  
7       regulations to apply to. Is your understanding that  
8       that EPA regulation pertains to the raw water?

9           A.     My opinion is that the raw water used by the  
10      new treatment plant at St. Joseph is ground water  
11      under the direct influence of surface water.

12          Q.     Now, have you -- but have you seen any  
13      evidence either presented in this case or outside of  
14      this case that the water that is withdrawn from the  
15      wells at the new St. Joseph water treatment plant  
16      contains biological organisms that are described in  
17      that regulation?

18          A.     I haven't seen the biological organisms, no,  
19      sir. I don't believe there were any tests, to my  
20      knowledge, that showed that.

21          Q.     To your knowledge, has the Department of  
22      Natural Resources found any occurrence of those  
23      organisms?

24          A.     No, but that's not the only criteria.

25          Q.     Have you done any testing of the St. Joseph

1 water?

2 A. No, sir.

3 Q. Have you seen any evidence in this case or  
4 outside this case that there have been significant and  
5 relatively rapid shifts in those water characteristics  
6 that are listed in this definition?

7 A. I have seen some. I have to clarify that in  
8 that the water that's being pumped now does not have  
9 the characteristics that the water will have  
10 ultimately once the field is fully developed.

11 Q. My question is whether you have observed  
12 such significant shifts --

13 A. I believe I said yes.

14 Q. -- up until now?

15 A. I believe I said yes.

16 Q. In this water?

17 A. The water that's being pumped, the raw water  
18 supply that was -- that's being pumped to the new  
19 St. Joseph plant was tested, and there were  
20 correlations in the hydrogeological report shown  
21 between water temperatures in the river and water  
22 temperatures that was being withdrawn from the wells.

23 And also I'd like to clarify that this was  
24 at initial pumping. So the source from the Missouri  
25 River has not been fully established and will not be

1 by the results of that report for another two or three  
2 years under full pumping.

3 MR. KRUEGER: Your Honor, I'd move to strike  
4 the portion of his response that pertains to what may  
5 happen in the future since the question was directed  
6 to whether he has observed any such shifts in the  
7 past.

8 JUDGE THOMPSON: Kellene, read me the  
9 question, would you, please.

10 (THE REQUESTED TESTIMONY WAS READ BY THE  
11 REPORTER.)

12 JUDGE THOMPSON: Strike the part that starts  
13 "And also I'd like to clarify." Proceed.

14 BY MR. KRUEGER:

15 Q. What water characteristics have you noted a  
16 shift in? Let me restate that question with a little  
17 better grammar.

18 I understood you to say that you have noted  
19 shifts, significant shifts in the water  
20 characteristics in the raw water supply at the new  
21 St. Joseph water treatment plant; is that correct?

22 A. What I recall seeing in the hydrogeological  
23 report was a plot of the water temperature in the  
24 river and the water temperature that was being  
25 withdrawn from the wells.

1           Q.     So water temperature is the characteristic  
2     in which you've observed a significant shift?

3           A.     That is one, yes, sir.

4           Q.     Can you describe the nature and extent of  
5     that shift?

6           A.     It was just a plot showing that one follows  
7     the other to some degree.

8           Q.     How much of a change was there in the  
9     temperature over how long a period of time? Can you  
10    quantify it in some way?

11          A.     I honestly can't. I just saw the  
12    correlation.

13          Q.     Could you say whether it was a 10 degree  
14    change or more?

15          A.     I honestly do not recall.

16          Q.     Thank you.

17                 Have any of the other water characteristics  
18    that were listed in that definition shown significant  
19    shifts?

20          A.     I believe there was some testimony or  
21    people's opinions that were presented at public  
22    hearings that there has been some, and also on the  
23    company's part, that they expect a change in the water  
24    quality to change or shift as the well field is  
25    continually pumped because of the induced water flow



1 from the Missouri River.

2 Q. What water characteristic did that refer to?  
3 Was that hardness?

4 A. Hardness was one, yes, sir.

5 Q. I'm sorry?

6 A. Hardness, yes.

7 Q. Was it any other water characteristic?

8 A. That's the main one I believe they were  
9 concerned about.

10 Q. Okay.

11 MR. KRUEGER: May I approach the witness,  
12 your Honor?

13 JUDGE THOMPSON: You may.

14 BY MR. KRUEGER:

15 Q. May I see your copy of that exhibit?

16 A. (Indicating.)

17 Q. As I read this definition, the  
18 characteristics --

19 JUDGE THOMPSON: Just a moment, Mr. Krueger.  
20 Mr. Conrad I think has a comment.

21 MR. CONRAD: I was just going to supply him  
22 a copy of 88.

23 JUDGE THOMPSON: I didn't want you two to  
24 collide. I'm sorry, Mr. Krueger. Please proceed.  
25 Thank you, Mr. Conrad.

1 BY MR. KRUEGER:

2 Q. As I read that definition, the water  
3 characteristics they're talking about are turbidity,  
4 temperature, conductivity or pH; is that correct?

5 A. That's correct, yes, sir.

6 Q. And hardness is not listed there?

7 A. The conductivity and pH would be bearable  
8 depending on the hardness.

9 Q. But hardness is not specifically mentioned?

10 A. Well, conductivity is a measure of hardness.

11 Q. Now, if there was no evidence that there was  
12 a significant occurrence of these biological organisms  
13 mentioned and if there was no evidence of rapid shifts  
14 in the water characteristics that are listed, would  
15 you agree that the water supply at St. Joseph would  
16 not be characterized as ground water under the direct  
17 influence of surface water?

18 A. Could you repeat your characterization,  
19 please?

20 Q. If there was no evidence of significant  
21 occurrence of biological organisms mentioned in the  
22 EPA's rule, and if there's no evidence of rapid shifts  
23 in the water characteristics that are listed, would  
24 you agree that the water supply at St. Joseph would  
25 not meet the EPA's definition of ground water under

1 the direct influence of surface water?

2 A. No.

3 MR. CONRAD: Your Honor, before he answers,  
4 I think we're making an assumption here in the  
5 hypothetical that is contrary to the witness'  
6 testimony, and I would offer that as an objection. I  
7 think it's -- the witness has testified that there was  
8 rapid shifts in water characteristics which closely  
9 correlate to climatological or surface water  
10 conditions. So the assumption that's being asked to  
11 be made is not consistent.

12 JUDGE THOMPSON: What was the assumption  
13 again?

14 MR. KRUEGER: One of the assumptions was  
15 that there was no evidence of rapid shifts in the  
16 water characteristics that are listed.

17 JUDGE THOMPSON: I will allow the question  
18 as a hypothetical. Please proceed.

19 THE WITNESS: I was going to add, I did  
20 answer no because, again, you're neglecting an  
21 important criteria, in my opinion, and that is the  
22 State's definition of ground water under the direct  
23 influence of surface water.

24 BY MR. KRUEGER:

25 Q. With regard to this, the second sentence of

1       that paragraph that we've been talking about, I  
2       believe you read it about three times, and it states,  
3       Direct influence must be determined for individual  
4       sources in accordance with criteria established by the  
5       state; is that correct?

6           A.     Yes.

7           Q.     And has Missouri established those criteria?

8           A.     Yes.

9           Q.     And are those criteria established in the  
10       Guidance Manual for Surface Water System Treatment  
11       Requirements published by the Department of Natural  
12       Resources?

13          A.     I believe that's the correct title. I need  
14       to look at it and see, but --

15          Q.     Can you find that document, or I'll show it  
16       to you?

17          A.     Okay.

18                 MR. KRUEGER: May I approach, your Honor?

19                 JUDGE THOMPSON: You may approach. You're  
20       referring to Exhibit 89?

21                 MR. KRUEGER: I am, your Honor.

22                 JUDGE THOMPSON: Yes, Mr. Conrad, you may  
23       supply a copy to the witness.

24                 MR. CONRAD: I have to move across the room  
25       in order to do so.

1 JUDGE THOMPSON: Thank you, sir.

2 THE WITNESS: This document, yes, does  
3 include those criteria.

4 BY MR. KRUEGER:

5 Q. And that's the place where the criteria are  
6 established by the State of Missouri?

7 A. That's my understanding, yes, sir.

8 Q. Okay. There's not some other place where  
9 Missouri has established different criteria?

10 A. No.

11 Q. So the way that Missouri determines whether  
12 there's ground water under the direct influence of  
13 surface water is by reference to that document,  
14 provisions of that document?

15 A. Yes.

16 Q. To your knowledge, has the State of Missouri  
17 ever made a determination that the water supply at  
18 St. Joseph is ground water under the direct influence  
19 of surface water?

20 A. It is my understanding that that is their  
21 classification for this water source.

22 Q. You say it is your understanding that they  
23 have so classified it as ground water under the direct  
24 influence of surface water?

25 A. That's the way it was stated to me.

1822

1 Q. Do you have any documentation of that?

2 A. No, I do not. It was in a conversation.

3 MR. KRUEGER: I'd move to strike that  
4 answer, your Honor, as impermissible hearsay.

5 JUDGE THOMPSON: You asked the question,  
6 Mr. Krueger. I think you're stuck with the answer.  
7 The objection is overruled.

8 BY MR. KRUEGER:

9 Q. Who made that statement to you?

10 A. Mr. Bernabe.

11 Q. Can you tell me when he told you that?

12 A. Probably a month or two ago.

13 Q. Was this -- has the State of Missouri taken  
14 any action to determine that this is not an acceptable  
15 water supply for the City of St. Joseph?

16 A. Not to my knowledge, no.

17 Q. Have discussed with Mr. Bernabe what action  
18 is contemplated?

19 A. I don't believe any, that I'm aware of.

20 Q. So, so far as you can tell, he has no  
21 problem with this; is that correct?

22 A. That's correct. I don't have a problem with  
23 it either.

24 Q. With the water supply?

25 A. That's correct.

1           Q.     Have you visited the well field at the new  
2     plant?

3           A.     Yes, I have.

4           Q.     Where are those wells located with respect  
5     to the river?

6           A.     I believe they're approximately 200 foot  
7     away from the river bank.

8           Q.     Approximately?

9           A.     Or less. That was Mr. Young's testimony, as  
10    I recall.

11          Q.     In the testimony, the prefiled surrebuttal  
12    testimony of Ted Biddy on page 19, at lines 13 and 14  
13    he states that the wells are perhaps 100 yards from  
14    the river. Is that -- do you recall seeing that?

15          A.     I don't, no.

16          Q.     Would you disagree with that statement?

17          A.     Yes.

18          Q.     Have you measured the distance of the wells  
19    from the river?

20          A.     No, I have not.

21          Q.     Do you know how deep the wells in this well  
22    field are?

23          A.     What I recall, something around 50, 60 foot  
24    deep. 50 or 60 foot deep.

25          Q.     50 or 60 feet deep?

1           A.     Uh-huh.

2           Q.     I'd like to discuss in a little more detail  
3     Exhibit 89 that Mr. Conrad handed you, the Guidance  
4     Manual for Surface Water System Treatment  
5     Requirements.

6                     Does that document contain the Missouri  
7     criteria for determining whether a water supply is  
8     classified as ground water under the direct influence  
9     of surface water?

10          A.     You are referring to Exhibit 89?

11          Q.     Correct.

12          A.     I believe I already testified to that, yes.

13          Q.     And those criteria are described in Part 4  
14     of that document on pages 34 to 41; is that correct?

15          A.     Yes.

16          Q.     Am I correct to say that beginning on  
17     page 34 of that document, the guidance manuals  
18     describes a four-step procedure for determining  
19     whether a water supply is a ground water under the  
20     direct influence of surface water?

21          A.     Yes.

22          Q.     And that determination is to be made by the  
23     State?

24          A.     It says, Ground water under direct influence  
25     of surface water is determined through this process,



1       yes.

2           Q.     Calling your attention to the second  
3       paragraph on page 34, the first sentence says, The  
4       Missouri Department of Natural Resources has the  
5       responsibility for determining which water supplies  
6       must meet the requirements of the Missouri public  
7       drinking water regulations, correct?

8           A.     Yes.

9           Q.     So is it your understanding, then, that DNR  
10      makes the determination of whether it's ground water  
11      under the direct influence of surface water?

12          A.     It says they have the responsibility for  
13      determining that.

14          Q.     Do you know how they determine that?

15          A.     Well, I would assume their interest and  
16      concern is that the water supplies must meet the  
17      requirements of the Missouri public drinking water  
18      regulations.

19          Q.     Now, Step 1 in that procedure that's  
20      described on pages 34 to 41 is to determine whether  
21      the source of water is obviously a surface water  
22      source; is that right?

23          A.     Step 1 says, A review of the records of the  
24      system's sources to determine whether the source is  
25      obviously a surface water, in other words pond, lakes,

1 streams and so forth.

2 Q. And if it is not obviously a surface water  
3 source, you go on to Step 2, is that your  
4 understanding?

5 A. Yes, it is.

6 Q. And in your opinion, is the water supply at  
7 St. Joseph obviously a surface water?

8 A. It's not directly on the -- or in contact  
9 with the surface water as the intake at the existing  
10 plant was.

11 Q. Well, if you were asked to perform this  
12 analysis of the water, would you say that it's  
13 obviously a surface water or would you go on to  
14 Step 2?

15 A. I'd go on to Step 2.

16 Q. Okay. Now, Step 2 is a review of all of the  
17 well sources, and a procedure is described for  
18 carrying out Step 2 on pages 35 and 36; is that right?

19 A. I believe that's correct, yes.

20 Q. Okay. I'd like to ask you to read to me the  
21 paragraph that begins on the bottom of page 35 and  
22 goes over to page 36, and you don't need to read all  
23 of the subparagraphs there but read subparagraph B.

24 A. I'm trying to find subparagraph B.

25 Q. The paragraph begins at the bottom of page

1 35 with the word wells, and it continues over to  
2 paragraph -- to page 36, and then it lists four  
3 subparagraphs, and the only one I'm interested in is  
4 subparagraph B.

5 A. B says, The well is located at least 200  
6 feet from any source -- excuse me -- any surface water  
7 or . . . .

8 Q. Okay. I'm sorry. My intention was that you  
9 would read to me, please, the paragraph beginning with  
10 the word wells and then concluding after the colon  
11 with paragraph B.

12 A. Are you talking the top of page 36? There's  
13 a wells at the bottom of page 35 and there's also  
14 wells at the top of page 36.

15 JUDGE THOMPSON: Why don't you read it,  
16 Mr. Krueger, and ask him if he agrees that you read it  
17 correctly?

18 MR. KRUEGER: Okay.

19 BY MR. KRUEGER:

20 Q. The paragraph I'm referring to begins at the  
21 bottom of page 35 and reads, Wells constructed into  
22 alluvium which records indicate have been constructed  
23 in a manner no less stringent than set forth for  
24 non-public wells in the water well construction code  
25 10 CSR 23-3.010 through 10 CSR 23-3.100 will be

1 considered to be not under the direct influence of  
2 surface water if, B, the well is located at least 200  
3 feet from any surface water.

4 Have I read that correctly?

5 A. Yes.

6 Q. Do you have any reason to believe that the  
7 wells that were constructed there were constructed in  
8 a manner that was less stringent than was set forth  
9 for non-public wells in the water well construction  
10 code?

11 A. No.

12 Q. So if those wells are located at least 200  
13 feet from any surface water, would you agree that that  
14 statement states that they will be considered to be  
15 not under the direct influence of surface water?

16 A. You've only picked one criteria out of the  
17 group.

18 Q. Okay. Paragraph A states a condition under  
19 which it would not be considered to be under direct  
20 influence of surface water and then it states or. Do  
21 you see the word or at the end of each of those first  
22 three paragraphs?

23 A. I'm sorry. Would you repeat that again?

24 Q. Would you agree that at the end of each of  
25 those paragraphs A, B and C on page 36, the last word

1 in each of those paragraphs is or?

2 A. Yes.

3 Q. Would you understand, then, that if any of  
4 those criteria are met, any of those four criteria are  
5 met, that the water supply would be considered to be  
6 not under the direct influence of surface water?

7 A. I believe there's some previous information  
8 which you neglected to read that also helps determine  
9 whether it's a ground water under the direct  
10 influence. For instance, at the end of page 35 it  
11 says, Wells constructed into alluvium, which you did  
12 include. This is constructed into alluvium. Then,  
13 and they -- well, in my opinion, they're within 200  
14 foot of the source. So they would meet -- or not meet  
15 criteria B.

16 Q. Okay. My question is, if they are not  
17 located within 200 feet of the surface water and if,  
18 as you testified, they were constructed -- you have no  
19 reason to believe that they were constructed in a  
20 manner that's less stringent than is set forth in  
21 the -- for non-public wells in the water well  
22 construction code. If those two conditions are met,  
23 do you agree that this statement says they will not be  
24 considered -- they will be considered to be not under  
25 the direct influence of surface water?

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1           A.     That appears to be what this particular part  
2     of the requirement says, yes.

3           Q.     It doesn't say in there that there's any  
4     exception, does it?

5           A.     Well, there's a number of different steps  
6     that they go through to determine that, and one of  
7     them is the distance the well is from the surface  
8     water source.

9           Q.     Now, if -- is it your understanding that if  
10    the wells do not satisfy any of the conditions in Step  
11    2, that you must then move on to Step 3 to determine  
12    whether this is ground water under the direct  
13    influence of surface water?

14          A.     Yes.

15          Q.     But you only move on to Step 3 if the water  
16    source do not meet any of those four criteria; is that  
17    right?

18          A.     It says, Wells that do not meet the above  
19    requirements must receive further evaluation in  
20    accordance with Step 3 and 4 to determine whether they  
21    are directly influenced by surface water.

22          Q.     Is it your understanding that wells that do  
23    meet the above requirements do not have to receive  
24    further evaluation in accordance with Steps 3 and 4?

25          A.     Well, generally the way I interpret criteria

1       like this is it's a way to eliminate and not proceed  
2       further if there's evidence to indicate that it would  
3       not be. Since these wells are that close, I would  
4       proceed to Step 3.

5           Q.       Since they are how close?

6           A.       I believe they're within 200 foot of the  
7       river.

8           Q.       So you're assuming that they are within 200  
9       feet, but my question to you is if they're not within  
10       200 feet?

11          A.       I would still look at how much water is  
12       being drawn from the river and how close they are. I  
13       don't think there's any -- personally, theoretically  
14       there isn't a magic cutoff as to the effect of the  
15       surface water on the ground water. These are  
16       guidelines.

17          Q.       Is that what these guidelines direct you to  
18       do or direct the DNR to do?

19          A.       I think again they're guidelines of DNR in  
20       determination of making this classification  
21       determination.

22          Q.       So is it your understanding, then, that they  
23       can follow these if they choose to do so and not  
24       follow them if the choose not to do so?

25          A.       I think, as any regulations, in the case of

1 any regulations, they require some understanding of  
2 the intent of the regulation and the application of  
3 that to a particular situation.

4 Q. Does it say that anywhere in this guidance  
5 manual that you need to understand the intent of the  
6 regulation and modify your willingness to follow the  
7 regulation based on the intent?

8 MR. CONRAD: Asked and answered.

9 JUDGE THOMPSON: The objection is sustained.

10 BY MR. KRUEGER:

11 Q. If you find that wells do not meet the  
12 requirements mentioned in paragraph 2, I understand  
13 your testimony to be that you then move on to Step 3;  
14 is that correct?

15 A. Yes.

16 Q. And Step 3 requires an on-site inspection or  
17 what it calls a survey, doesn't it?

18 A. Yes.

19 Q. Did you conduct such a survey at this well  
20 field?

21 A. I'm basing my opinion on the hydrogeological  
22 report that was performed for the company.

23 Q. Is that no?

24 A. No, I haven't performed any tests myself.

25 Q. Do you have any evidence concerning such a



1 survey by anyone else?

2 A. Again, I refer to the hydrogeological  
3 report.

4 Q. Do you think that hydrogeologic report  
5 complies -- follows the procedures described for  
6 on-site inspection for Step 3 in this guidance manual?

7 A. I don't think that was their intent, no.

8 Q. Calling your attention to page 37 of that  
9 document, approximately in the middle of the page  
10 there's a paragraph that's identified as 4.2.3.7. Do  
11 you see that?

12 A. 4.2. --

13 Q. -- 3.7.

14 A. Yes, sir.

15 Q. And that states, If the survey does not show  
16 conclusive evidence of direct surface water influence,  
17 the analysis outlined in Step 4 should be conducted;  
18 is that correct?

19 A. Yes.

20 Q. I'd like to ask you to read for me the  
21 sentence at the bottom of page 37 beginning with the  
22 word therefore in the third line from the bottom.  
23 Would you read that for me, please.

24 A. Therefore, it is recommended that only the  
25 presence of the other five parameters, diatoms and

1 certain other algae, rotifers, coccidia, insect parts  
2 and Giardia, be used as indicators of direct surface  
3 water contamination. In addition, if other  
4 large-diameter, greater than seven micro-meters,  
5 organisms which are clearly of surface water origin  
6 such as Diphilobothrium are present -- let me spell  
7 that D-i-p-h-i--l-o-b-o-t-h-r-i-u-m -- are present,  
8 these should also be considered as indicators of  
9 direct surface water influence.

10 Q. Have you done any tests to determine whether  
11 there are any diatoms or certain other algae,  
12 rotifers, coccidia, insect parts, Giardia or other  
13 large-diameter organisms present in the water supply  
14 from the well field?

15 A. No, sir.

16 Q. Have you seen any evidence whatsoever that  
17 any of these critters exist in that water supply?

18 A. I do not. No, I do not, and I wouldn't  
19 expect for them to show up until the wells have been  
20 pumped for a significant period of time.

21 Q. So is it your testimony, then, that what the  
22 DNR is really supposed to do is predict what the water  
23 is going to be like in the future or are they supposed  
24 to follow the procedure that's outlined in this  
25 guidance?

1           A.     I would -- I need some clarification of your  
2 question. I'm confused by it.

3           Q.     Do you understand this guidance manual to  
4 tell the DNR that they are supposed to follow the  
5 procedures outlined there or are they supposed to try  
6 to guess whether these micro-biological organisms will  
7 develop in the future?

8           A.     My answer to that would be that I believe  
9 that DNR would -- might change their classification of  
10 water source if these substances became -- were  
11 evident in the water supply, and in my opinion, that's  
12 not going to occur at this particular place until the  
13 well field has been pumped sufficiently to induce  
14 quantities of river water into the aquifer and  
15 ultimately into the wells.

16          Q.     You said they might change their  
17 classification of the water supply?

18          A.     Sure. I've seen that done. I mean, that  
19 changes from time to time depending on the quality of  
20 the water source.

21          Q.     And it's presently classified as what?

22          A.     I'm sorry?

23          Q.     It's presently classified as what?

24          A.     I don't know. I was telling you what my  
25 classification is. I think it's ground water under

1 the direct influence of surface water.

2 Q. But you don't know what the DNR's  
3 classification is?

4 A. I was told, as I testified earlier, that it  
5 would be classified or they would classify it, or this  
6 particular individual I was talking to said in his  
7 opinion it was ground water under the direct influence  
8 of surface water, and that is likewise my opinion.

9 Q. I'd like to call your attention now to your  
10 surrebuttal testimony, page 9.

11 A. Yes, sir.

12 Q. Specifically lines 9 to 13, would you read  
13 that to me, please.

14 A. Construct an entirely new water source --

15 Q. I'm sorry. We must not be --

16 A. I thought you said page 9, line 9.

17 Q. I think I misdirected you to surrebuttal  
18 testimony. I intended to refer to the direct  
19 testimony. I'm sorry.

20 A. Likewise line 9?

21 Q. Yes, beginning with the sentence that begins  
22 in the middle of the line there.

23 A. Once that decision to abandon had been made,  
24 however, I believe that MAWC's subsequent estimates of  
25 the cost of renovating the existing surface water

1 supply and treatment facilities were inflated in order  
2 to justify this decision.

3 Q. And is it your testimony that the company  
4 purposefully inflated those cost estimates for the  
5 renovation of the existing plant?

6 A. It is my testimony that there was no  
7 documentation justifying the inflation of those  
8 numbers.

9 Q. So are you saying that they were negligent  
10 or intentional in the way they inflated the --

11 A. I have no way of knowing that, sir.

12 Q. So you're not suggesting that they made  
13 misrepresentations concerning what they believe the  
14 costs of renovating that existing plant were?

15 A. I have no way of knowing that. I just did  
16 not see the documentation for those numbers in the  
17 justification for the change in those numbers.

18 Q. In your -- in the testimony that you  
19 prefiled in this case, did you utilize any information  
20 that was not available during the time that Case  
21 No. WA-97-46 was before the Commission?

22 A. I cannot answer that. I don't know what all  
23 was available at that time.

24 MR. KRUEGER: That's all the questions I  
25 have.

1 JUDGE THOMPSON: Thank you, Mr. Krueger.

2 Mr. Ciottone?

3 CROSS-EXAMINATION BY MR. CIOTTONE:

4 Q. Dr. Morris, how do you do, sir?

5 A. How are you, sir?

6 Q. Let's stay on this subject of direct  
7 influence of surface water before people lose track of  
8 it and then we'll go on to other things.

9 Earlier in the -- were you in the room  
10 earlier in your conversations with counsel and myself  
11 about this issue and the objections about whether  
12 certain matters should be introduced with respect to  
13 this issue?

14 A. I'm having trouble following your question.  
15 It seems like you're including a lot of things.

16 Q. I'm trying to clear things up.

17 A. Okay.

18 Q. Earlier we argued about whether or not  
19 ground water under the supervision of surface water  
20 was a subjective or an objective critical  
21 determination. What we -- what we had done, and I was  
22 as guilty or more guilty than others, is we were  
23 leaving out the word direct. That's the key issue,  
24 right?

25 I mean, you and Mr. Young both agree that

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1       this well supply is influenced by surface water,  
2       correct?

3           A.     Yes, sir.

4           Q.     Because of modifications and changes in  
5       hardness, among other things, correct?

6           A.     Yes. All -- actually, all water is  
7       influenced by surface water one way or the other.

8           Q.     So the real issue here is whether this well  
9       supply constitutes ground water under the direct  
10      influence of surface water, correct? That's the issue  
11      we're debating?

12          A.     I'm not debating it. To me, it's obvious.

13          Q.     It's the issue you're being questioned  
14      about?

15          A.     It's ground water under the direct influence  
16      of surface water.

17          Q.     And that has significance because if it does  
18      rise to that level, it then has different treatment  
19      requirements, correct?

20          A.     Yes.

21          Q.     All right.

22          A.     I'm sorry. In comparison to what?

23          Q.     Ground water not under the direct  
24      influence --

25          A.     Yes.

1 Q. -- of surface water. Significant  
2 difference, correct?

3 A. There are differences.

4 Q. And the company is making the allegation  
5 that the ground water plant has water that is far  
6 superior from a health and safety point of view, and  
7 you're disputing that saying that, Well, it's also  
8 similar to the surface water because it is ground  
9 water under the direct influence of surface water.  
10 Isn't that what this is all about?

11 A. Yes. And the basis for that in my mind is  
12 that 80 or 90 percent of water ultimately will come  
13 from the river.

14 Q. Now, Exhibit 89 says -- now, you correct me  
15 if I'm wrong, but the way this -- as I understand what  
16 counsel has questioned you on, it says very clearly  
17 wells will be considered to not -- to be not -- wells  
18 will be considered to be not under the direct  
19 influence of surface water if, B, the well is located  
20 at least 200 feet from any surface water. It says  
21 that, correct?

22 A. It does.

23 MR. CONRAD: Where are you reading, sir?

24 MR. CIOTTONE: I'm reading from Exhibit 89,  
25 top of page 36.



1                   MR. CONRAD: I guess I don't see what you  
2 read. I see what -- I see what Mr. Krueger read but  
3 not what you read.

4                   MR. CIOTTONE: Well, shall we go off the  
5 record and I will show it to him?

6                   JUDGE THOMPSON: Do it on the record.

7                   MR. CIOTTONE: The top of page 36.

8                   THE WITNESS: What document are you looking  
9 at?

10                  MR. CIOTTONE: This is Exhibit 89, the  
11 Guidance Manual for Surface Water Systems Treatment  
12 Requirements, top of page 36, wells, very first word,  
13 Wells in the Water Well Construction Code 10 CSR  
14 23-3.010 through 10 CSR 23-3.100 will be considered to  
15 be not under the direct influence of surface water if,  
16 and then it lists four criteria. If you meet any one  
17 of those, because they are connected by the  
18 conjunction or, you're out?

19                  MR. CONRAD: Was that argument or is that a  
20 question?

21                  MR. CIOTTONE: That was the question I posed  
22 that you didn't understand.

23                  MR. CONRAD: Well, I'm understanding your  
24 question, counsel -- or your Honor, I'm understanding  
25 counsel's question. The material, however, that he's

1 added to that constitutes nothing more than his  
2 interpretation of what follows which he's asking the  
3 witness to agree to.

4 JUDGE THOMPSON: I understand.

5 MR. CONRAD: The material stands for what --  
6 it says what it says.

7 MR. CIOTTONE: Shall I rephrase my question,  
8 your Honor?

9 JUDGE THOMPSON: Yes, sir.

10 BY MR. CIOTTONE:

11 Q. Dr. Morris, is it true that under these  
12 guidance regulations, the Guidance Manual for Surface  
13 Water Treatment Requirements, that wells will be  
14 considered to be not under the direct influence of  
15 surface water if the well is located at least 200 feet  
16 from any surface water?

17 A. That's what it says. I believe that it's an  
18 interpreted regulation or requirement to help judge  
19 whether or not it's ground water under the direct  
20 influence of surface water.

21 Q. So it doesn't apply?

22 A. Well, what I'm trying to say is 200 foot is  
23 an arbitrary number. You can't convince me that  
24 because you're 200 foot or 201 foot away that the  
25 water is all of a sudden going to change.

1 Q. Well --

2 A. The concept is of these regulations as to  
3 what's in the water and the potential for contaminants  
4 getting in the water because it's directly connected  
5 to the surface water source.

6 Q. So you don't like what DNR did?

7 A. I'm trying to say that --

8 MR. CONRAD: Excuse me. What did DNR do?

9 MR. CIOTTONE: They wrote this regulation.

10 MR. CONRAD: They wrote this and that's what  
11 your question is, he doesn't like it?

12 MR. CIOTTONE: He says that --

13 MR. CONRAD: We're the ones who introduced  
14 it, counsel.

15 MR. CIOTTONE: I understand, and now he's  
16 disputing that it's applicable.

17 MR. CONRAD: In your interpretation,  
18 counsel.

19 MR. CIOTTONE: Has counsel made an  
20 objection? I'm not aware of what it is.

21 MR. CONRAD: Well, I'll make one to the form  
22 of the question. It's hypothetical. It assumes facts  
23 that aren't in evidence. It doesn't have any  
24 foundation. It's also argumentative, by the way.

25 MR. CIOTTONE: In response to that, your

1 Honor, this is getting much more confusing than it  
2 need be. The regulation says very simply if the -- if  
3 your well is located 200 feet away, you're out. And  
4 the witness as I hear him testifying is saying, Well,  
5 yeah, it says that, but maybe that's not what it  
6 means. And if we're there, I'm willing to leave it.

7 JUDGE THOMPSON: I think we're there.

8 BY MR. CIOTTONE:

9 Q. And Dr. Morris, Exhibit No. 88 says that  
10 direct -- that you already were cross-examined on  
11 says, Direct influence must be determined for  
12 individual sources in accordance with criteria  
13 established by the State, correct?

14 A. Yes.

15 Q. So they've got the right to do that?

16 A. Yes.

17 Q. All right. Now, the gentleman you spoke  
18 with that you claim said something about the  
19 classification with DNR was whom, Mr. Bernabe?

20 A. Yes.

21 Q. And I heard you say two different times once  
22 that he said it was, and then I heard you say that he  
23 said it might be or that it could be. Do you recall  
24 what he did tell you?

25 A. I believe he said in his opinion it was.

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1 Q. That it was?

2 A. Ground water under the direct influence,  
3 yes, sir.

4 MR. CIOTTONE: Your Honor, I'd like to have  
5 an exhibit marked. I guess we're up to Exhibit 101 --  
6 102.

7 JUDGE THOMPSON: Let me look at my paper.  
8 102, sir. This will be Exhibits 102. How do we  
9 describe this, Mr. Ciottone?

10 MR. CIOTTONE: This is the permit from DNR  
11 to build the well field.

12 JUDGE THOMPSON: Permit from DNR.

13 (EXHIBIT NO. 102 WAS MARKED FOR  
14 IDENTIFICATION.)

15 JUDGE THOMPSON: Please proceed.

16 BY MR. CIOTTONE:

17 Q. Dr. Morris, are you familiar with what a  
18 permit looks like? Have you seen them before?

19 A. I have seen permits before.

20 Q. Did you see Exhibit JSY-22 to Mr. Young's  
21 surrebuttal testimony which was the permit for the  
22 treatment plant?

23 A. I don't recall seeing that, no.

24 Q. Would you look at this documents and review  
25 it for me, please, briefly. I'll give you time for

1       that, and pay particular attention to the signature.

2           A.     Yes, it's by Mr. Bernabe.

3           Q.     Is that the same gentleman you had your  
4       purported conversation with?

5           A.     Yes, it is.

6           Q.     Let me direct your attention to the last  
7       paragraph on the first page, about six lines down, the  
8       sentence that begins three words into that line.  
9       Correct me if I'm wrong as I read this out loud.  It  
10      says, The outer end of each lateral shall not extend  
11      closer than 200 feet from the river's edge.

12          A.     I haven't found that yet, but --

13          Q.     It's four lines from the bottom of the page.

14          A.     Okay.  I found it.

15          Q.     Do you have reason to dispute that this is,  
16      in fact, the permit that was issued to the company?

17          A.     I don't see anything on here that says  
18      permit per se.  It says they're approving the report  
19      on the plans and specifications for the ground water  
20      source of supply.

21          Q.     Well, read the small print on the bottom of  
22      the second page, approval to construct.

23          A.     It's really fairly hard to read.  There's  
24      four paragraphs there.

25          Q.     The first paragraph.  It says, Approval as

1        regards these points is hereby given?

2            A.     Right, but they're talking about engineering  
3        plans and specifications, sanitary features of design  
4        so forth. There's nothing in there that --

5            Q.     So you have not seen a permit from DNR  
6        before to build a plant?

7            A.     Yeah, this is a --

8                    MR. CONRAD: Pardon me. Pardon me.  
9        Counsel's statement was not that this was a permit to  
10       build a plant.

11                   MR. CIOTTONE: A well field.

12                   THE WITNESS: I would classify it as  
13       approval to construct.

14       BY MR. CIOTTONE:

15            Q.     So you have not seen one of these documents  
16        before?

17            A.     Yes, I have. Yes, but I would not call it a  
18        permit. I would call it an approval to construct.

19            Q.     And the distinction would be?

20            A.     Well, there's a number of processes that DNR  
21        goes through, and this is simply one to say that the  
22        plant as proposed in the plan specification meets  
23        their approval. In other words, they're approving  
24        just what it says, approval to construct.

25            Q.     So it's your allegation or conclusion now

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1       that the company violated this approval to construct  
2       and built these wells within closer than 200 feet?

3           A.     No.

4           MR. CONRAD:  Objection; argumentative.

5           MR. CIOTTONE:  That is the witness'  
6       testimony, I think, your Honor, that he's alleging --

7           MR. CONRAD:  Well, then it's asked and  
8       answered.

9           MR. CIOTTONE:  Well, do we know what his  
10      answer is?

11          JUDGE THOMPSON:  The objection is overruled.  
12      The witness will answer if he is able.

13      BY MR. CIOTTONE:

14          Q.     Is it your testimony that the company built  
15      these wells closer than 200 feet to the river?

16          MR. CONRAD:  Objection.  Which wells?

17          JUDGE THOMPSON:  The objection is overruled.  
18      The witness will answer if he --

19          MR. CONRAD:  Your Honor, please, there are  
20      seven vertical collector wells -- excuse me.  There's  
21      seven vertical wells.  There's one what's called a  
22      rainy well.  The rainy well is the item that has  
23      laterals with it to which counsel had previously asked  
24      the witness to make reference.

25          MR. CIOTTONE:  I will clarify.



1 JUDGE THOMPSON: Please, Mr. Ciottone.

2 BY JUDGE THOMPSON:

3 Q. Dr. Morris, is it your testimony that the  
4 company built any or all of the wells closer than 200  
5 feet to the river and violated this approval to  
6 construct document?

7 A. If some of the wells -- again, this only  
8 refers to the rainy well, as I understand it, in terms  
9 of this 200 foot, and, therefore, even if they were  
10 closer than 200 foot, they wouldn't necessarily be in  
11 violation of this.

12 MR. CIOTTONE: Your Honor, that's not  
13 responsive. The question to the witness is, is it his  
14 testimony that the company built any or all of the  
15 wells closer than 200 feet to the river, and he's  
16 deliberately not answering the question.

17 JUDGE THOMPSON: Evidently that is not his  
18 testimony.

19 At this point we're going to take a  
20 ten-minute recess. Thank you.

21 (A recess was taken.)

22 MR. CIOTTONE: Let me offer 102,  
23 Exhibit 102.

24 JUDGE THOMPSON: Do I hear any objections to  
25 the receipt of Exhibit 102?

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1 MR. CONRAD: Just a moment, your Honor.

2 This was offered as a DNR report?

3 JUDGE THOMPSON: I think this was offered as  
4 the permit.

5 MR. CONRAD: Well, I would have to object to  
6 it on that basis.

7 JUDGE THOMPSON: The basis being?

8 MR. CONRAD: The basis being that nowhere on  
9 it does it say it's a permit. Also, your Honor if you  
10 would please, at the very bottom it says, Approval to  
11 construct. It's not a permit to operate. And, in  
12 fact, the last paragraph of that says they reserve the  
13 right to withdraw that approval. So there's really  
14 nothing permanent about it.

15 If it's properly characterized as a report  
16 for plans and specifications of ground water source of  
17 supply dated September 11, 1998. You know, it appears  
18 to be a document from DNR. We don't have an objection  
19 on that basis. So the characterization is the issue.

20 JUDGE THOMPSON: Mr. Ciottone, do you have a  
21 response?

22 MR. CIOTTONE: Well, your Honor, the  
23 document is from Mr. Bernabe who is of the permits  
24 section, and if Mr. Conrad would be more satisfied if  
25 we characterize it as an approval to construct, I

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1 think it is a semantic problem which is not worthy of  
2 pursuing. And how you write it down and characterize  
3 it on your exhibit list, it is what it is and says  
4 what it says.

5 JUDGE THOMPSON: I'm going to overrule the  
6 objection. Exhibit 102 is received and made a part of  
7 the record of this proceeding.

8 (EXHIBIT NO. 102 WAS RECEIVED INTO  
9 EVIDENCE.)

10 JUDGE THOMPSON: Please continue.

11 BY MR. CIOTTONE:

12 Q. Mercifully, Dr. Morris, we're going to move  
13 on to something else.

14 A. Thank you.

15 Q. Were you present for Mr. Biddy's  
16 cross-examination this morning?

17 A. Yes.

18 Q. You understand that I have to do some of the  
19 same things. I apologize to you for that because they  
20 are similar subjects, but I'll try to make it a little  
21 varied and come at it from a different point of view.

22 Let's go to your calculation of costs. All  
23 right? Do you follow me?

24 A. Yes.

25 Q. And your testimony is that the plant could

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1 have been built for -- is \$40,300,000 the right  
2 number?

3 A. I'm sorry, sir. I'd like to know what  
4 you're referring to.

5 Q. I am looking at your work paper, which I  
6 would like for you to have in front of you so we can  
7 discuss this further. It's Exhibit 91.

8 A. I have a document that I guess is more of an  
9 explanation of that sheet if you would like to look at  
10 it. Right now I'm having trouble finding that sheet,  
11 but it contains the same information, just a little  
12 clearer.

13 Q. All right. Do you have it, sir?

14 A. No, I don't. I still can't find it.  
15 I have it.

16 Q. Now, Exhibit 91 was provided to the company  
17 in response to a Data Request by you; is that correct?

18 A. 91 was contained in an exhibit -- or  
19 information that was provided to me because of a Data  
20 Request, yes, sir.

21 Q. And 91 is a document that is a paper from  
22 the feasibility study which you used to make  
23 modifications to help you with your calculations; is  
24 that correct?

25 A. Basically what I did is used it as a work

1 sheet. It was -- I could have just as easily and did  
2 write it on another piece of paper, the same  
3 information. It was just that that was a document  
4 that I wrote the information on.

5 Q. Is the total you reached \$40,300,000?

6 A. Yes. The total shown there is 40.3 million,  
7 and it's also shown on another sheet.

8 Q. Were you here for Mr. Young's testimony?

9 A. Yes, I was.

10 Q. Did you -- or were you under the impression  
11 that this document was something different than  
12 Mr. Young described it to be when you made your use of  
13 it?

14 A. No.

15 Q. Did you understand that this is a cash flow  
16 document and not a representation of costs that can be  
17 compared to the projects next to them?

18 A. Well, yes. I understood it was an annual  
19 cash flow, but that has -- or better be related to  
20 costs of the project in one way or another.

21 Q. Well, for example, you -- on page 14 of your  
22 direct testimony, the second line from the top, you  
23 say, MAWC projected a 1999 expenditure -- a 1999  
24 expenditure of 12.1 million for renovation of the  
25 chemical and operations building, the transfer pump

1 stations and the clear well, correct?

2 A. The 1999 is confusing me.

3 Q. Well, I'm reading your words. This is the  
4 top of page 14 of your direct testimony.

5 A. What page was it again, sir?

6 Q. 14.

7 A. Okay.

8 Q. So that is a correct characterization of  
9 your testimony?

10 A. Again, what lines are you referring to?

11 Q. The very second line from the top.

12 A. Yes.

13 Q. And is it reasonable to assume that that  
14 12.1 million, since it matches exactly the number on  
15 your work sheet that you have not crossed out, came  
16 off of this work sheet --

17 A. No, sir.

18 Q. -- which is Exhibit 91?

19 A. It did not.

20 Q. It's a coincidence that the 12.1 is adjacent  
21 to that same description?

22 A. No. I'll be glad to explain to you how I  
23 arrived at that number if you would like.

24 Q. Please.

25 A. What I did is I used what was in the 1991

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1 report that I was provided, and it had a grand total  
2 of \$26.6 million. I took that from 1991 dollars to  
3 1996, and that totaled to a total of 30.1 million,  
4 which subsequently I compared to this sheet you're  
5 referring to, and that totaled to the same as those  
6 two items on that particular sheet.

7 So I assume those costs were at least part  
8 of what the company had on that sheet and their  
9 capital expenditures.

10 Q. Let me follow you here now. You do  
11 understand that this document, this annual cash flow  
12 document does not nor did it ever purport to be a  
13 comparison of costs with projects that are one for  
14 one? Do you understand?

15 A. I understand that, yes, sir. But there is  
16 some comparison because you're going to spend dollars.  
17 Obviously some of those dollars that are purported to  
18 be spent would need to be spent somewhere around that  
19 point in time.

20 Q. They would be -- well, they would be spent,  
21 would they not, either in that year that the  
22 facilities were placed in service or earlier?

23 A. Possibly, yes, sir. That would be my  
24 understanding.

25 Q. That would have to be the way the statement

1 would work, correct?

2 A. Yes.

3 Q. All right. Now, on page 13 and 14, the same  
4 section, you say that MAWC estimated a 1998  
5 expenditure of 18 million for replacement/renovation  
6 of existing filters, super-pulsators and the  
7 presedimentation clarifier. Now, that matches this  
8 statement exactly also. That's coincidence?

9 A. Like I say, I arrived at the 30.1, and those  
10 two numbers totaled up to my estimate, construction  
11 cost estimate for those items. So I selectively  
12 picked those as representing at least my estimate of  
13 the cost.

14 Again, this is just a work sheet. I wasn't  
15 relying on the numbers on that sheet. I simply found  
16 a comparison or similarity between those numbers  
17 presented and the ones that I came up with.

18 Q. Well, how did you tie it exactly to the  
19 date, then? You said, MAWC estimated --

20 A. Because that's what was shown in the --

21 Q. Let me finish my question, sir. The  
22 question was, with respect to your statement that MAWC  
23 estimated a 1998 expenditure of 18 million. That  
24 tells me that had to have come off this sheet.  
25 Nowhere else could you have determined that it was a



1 1998 expenditure, correct?

2 A. That's correct.

3 Q. And so you totaled the two numbers that are  
4 coincidentally on this sheet of 18 million and  
5 12.1 million and you come up to 31 million?

6 A. That's correct.

7 JUDGE THOMPSON: What page are we looking  
8 at, Mr. Ciottone?

9 MR. CIOTTONE: Pardon me, sir?

10 JUDGE THOMPSON: What page are we on?

11 MR. CIOTTONE: We're still on Exhibit 91.

12 JUDGE THOMPSON: Thank you.

13 BY MR. CIOTTONE:

14 Q. And now you're telling me that  
15 notwithstanding Mr. Young's testimony that you can't  
16 tie those numbers across, and you accept that? You  
17 accept --

18 A. Not directly, no, without my independent  
19 investigation, but those numbers did total up to the  
20 amount that I came up with. So that's why I made that  
21 reference to those dates.

22 Q. So your testimony is now that you took 1991  
23 numbers and adjusted them for inflation?

24 A. No. I say those numbers conform or were  
25 consistent with numbers that I estimated, as I

1 explained earlier, by taking the 1991 estimate updated  
2 to '96.

3 Q. What does updated mean?

4 A. Taking the engineering use record and  
5 applying inflation to it and my judgment, I came up  
6 with a percentage increase.

7 Q. And you came out to the exact dollar for  
8 those 31 million that just coincidentally matched this  
9 statement?

10 A. Well, that was --

11 Q. That's your testimony?

12 A. I was looking at those, and it appeared to  
13 me to be reasonable based on my cost estimates.

14 Q. So that's your testimony. That's how you're  
15 reconciling Mr. Young's notification to you that you  
16 can't use these numbers, that they just happened to  
17 match with numbers you arrived at a different way?

18 A. Well, I think there is some correspondence.  
19 They're not one to one as he said, but there is a  
20 correspondence between expenditures and construction.

21 Q. Why did you cross out the \$10 million in  
22 1997?

23 A. Because it didn't -- it wasn't supported. I  
24 couldn't find any reason to include it.

25 Q. Well, didn't we just discuss the fact that

1 facilities in service had to have been supported by  
2 dollars either in the year they were placed in service  
3 or earlier? You agreed with that, did you not?

4 A. But again you're missing the point. This is  
5 a work sheet. I was just writing the numbers on that  
6 sheet. It doesn't mean that's where they came from.

7 Q. So rather than conclude that that \$10  
8 million, some of that \$10 million was, in fact, spent  
9 for either the filters, super-pulsators,  
10 presedimentation clarifiers, chemical and operations  
11 buildings, distributing and transfer pump stations and  
12 clear well as Mr. Young told you the schedule would  
13 work, you just threw it out?

14 A. I threw it out because there wasn't any  
15 documentation in the 1991 report for those costs  
16 increase that he -- that's included in that particular  
17 document.

18 Q. All right. And so you're still insisting  
19 that you didn't take those numbers off this sheet?

20 A. I told you how I arrived at them, sir.

21 Q. Why did you cross out the \$10 million for  
22 the raw water intake and the low service pumps and  
23 access road?

24 A. Because that wasn't my estimate. I wrote my  
25 estimate of the costs of those items in the margin of

1 the same area. Basically what I did was to use that  
2 as a work sheet to write my numbers on. I also have  
3 another sheet that shows the same thing that wasn't  
4 written on that sheet.

5 Q. How about two million point seven for design  
6 and land acquisition, is it coincidence, too, that  
7 that matches exactly the expenditures in 1995 and 1996  
8 for design and design land acquisition? That's  
9 coincidence, too?

10 A. That was my estimate of those values, yes.

11 Q. And it's just coincidence that they match  
12 exactly what's on our sheet?

13 All right. Let's go down to raw water  
14 intake, low service pumps and access road. All right.  
15 The \$2 million for intake, where did you get that  
16 number?

17 A. That was my estimate, sir.

18 Q. I understand that. How did you arrive at  
19 it?

20 A. That's based on my engineering judgment,  
21 having design intake structures.

22 Q. And when was the last --

23 A. And given my site visit to the existing  
24 plant.

25 Q. When was the last time you designed an

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1 intake structure?

2 A. Probably about five years ago.

3 Q. And did you see JSY-8, the costs of the  
4 intake structure in Alton?

5 A. Yes.

6 Q. And do you think those numbers are wrong?

7 A. When they apply to this site, yes.

8 Q. And how do you explain? What's the  
9 difference between the sites?

10 A. Because every site is different. The costs  
11 can vary tremendously depending on where you're  
12 building the intake structure. I built enough of them  
13 to know that, and it's not a function of the volume of  
14 water you're pumping. Depends mostly on the site.

15 Q. So did you do some kind of an engineering  
16 analysis with respect to this site that could get you  
17 to \$2 million?

18 A. That's my judgment of what it would take to  
19 renovate the existing intake facilities.

20 Q. But my question sir, was, did you do some  
21 type of an analysis --

22 A. Yes.

23 Q. -- and engineering determination or is it  
24 just your judgment?

25 A. It's my engineering judgment as a

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1 preliminary cost -- engineering cost estimate.

2 Q. And it comes out to 2 million even?

3 A. That's what my estimate was, yes, sir.

4 Q. And the million dollars for pumps and  
5 piping, your answer would be the same?

6 A. Yes, sir.

7 Q. Now, the \$2,500,000 for access road and  
8 flood-proofing, did you hear the testimony this  
9 morning with respect to Mr. Biddy?

10 A. Yes.

11 Q. Do you accept his criticisms of your numbers  
12 and of the company's estimates for costs for flood  
13 protection?

14 A. Well, as I understand, he was specifically  
15 talking about flood protection, and I have included in  
16 there access road, flood protection, residual  
17 clarifiers and pipelines. So it is more than just  
18 flood protection.

19 Q. So could you do all the flood protection for  
20 \$500,000?

21 A. No, I don't think so.

22 Q. Is that a realistic number?

23 A. I think it would take more than that to do  
24 it.

25 Q. How much more?

1           A.     Again, to do a detailed cost estimate rather  
2     than a preliminary one, one would have to have more  
3     information, as Mr. Biddy testified, to do more  
4     engineering analysis. But my estimate I would say is  
5     around a million dollars.

6           Q.     What's your \$2 million for miscellaneous?

7           A.     That's to cover design costs, other costs  
8     that I guess was referred to earlier as soft costs.

9           Q.     All right. Now, why is there no ozone in  
10    there?

11          A.     Because I don't think it's necessary and I  
12    don't think it's proper to include it since it's not  
13    known -- one, it's known we have to do it. Secondly,  
14    there are other alternatives that in my opinion are  
15    cheaper than ozone for producing disinfection.

16          Q.     So if the determination is made by the  
17    Commission that ozone was appropriate, consistent with  
18    what even Public Counsel's witness stated, how would  
19    you price that or would you be unable to do so at this  
20    time?

21          A.     I'm not following your question, sir.

22          Q.     What would ozone cost?

23          A.     If it was installed at this plant?

24          Q.     Yes.

25          A.     At the existing treatment plant?

1 Q. The old one.

2 A. I'd probably say around \$4 million.

3 Q. All right. Now, are these construction  
4 costs or are these total project costs that you're  
5 doing?

6 A. Those were intended to be -- I guess I  
7 misspoke myself a while ago. I said these -- these  
8 are total costs, and I was comparing those to the  
9 construction costs. These are construction costs, and  
10 the -- what I misspoke was that I said the  
11 miscellaneous costs. That was included for additions  
12 or additional things that might be overlooked or has  
13 been referred to earlier as a contingency or estimate.

14 Q. So you're saying this is a total project  
15 cost?

16 A. It was estimated -- in my opinion, it was  
17 estimated to be a construction cost for the renovation  
18 of the existing plant.

19 Q. And what is the difference between  
20 construction cost and total project cost?

21 A. Would be the costs as Mr. Biddy testified to  
22 this morning; legal fees, engineering, construction  
23 supervision, other things.

24 Q. Engineering supervision, interest?

25 A. Right. Now, some of that -- some of that



1 was included, as he testified to, in the 1993  
2 estimates, cost estimates that Gannett and Fleming  
3 did, which I wasn't privy to. I wasn't giving that  
4 information in the Data Request initially. So I did  
5 not have that information initially.

6 Q. Now, do you realize that the clarifiers in  
7 the 1991 study are not identical to the ones that are  
8 in the \$63.3 million final estimate?

9 A. Which -- what was the first study you refer  
10 to?

11 Q. The '91 study that you claim you derived  
12 your numbers from.

13 A. Right.

14 Q. That the clarifier work that is described in  
15 that is not the same as the clarifier work that is  
16 described in the \$63.3 million ultimate construction  
17 cost?

18 A. I thought it came from the 1993 study, and  
19 that same number was in the 1991 study, the  
20 \$26.6 million.

21 Q. Would it surprise you if I told you that's  
22 not the case?

23 A. What do you mean, the two numbers aren't the  
24 same?

25 Q. Yeah, that they're different. The work

1 contemplated is different.

2 A. That's all the -- all the information I had  
3 initially was the 1991 report which had the  
4 26.6 million in it, and I took that with the  
5 engineering use record to 1996 values, and I had this  
6 1996 report evaluation study, and that's the only  
7 information I was provided initially through Data  
8 Requests.

9 Q. You had the feasibility study, didn't you?

10 A. Yes, I did.

11 Q. Why did you elect to ignore the  
12 \$63.3 million number and concentrate instead on the  
13 \$78 million number?

14 A. I didn't.

15 Q. Do you concede the \$63.3 million number is  
16 the appropriate number?

17 A. It's a construction cost estimate.

18 Q. Do you concede that that's the appropriate  
19 number?

20 A. For what?

21 Q. In the feasibility study comparison about  
22 which project is more appropriate.

23 A. I believe in an evaluation report when  
24 you're evaluating alternatives you should look at  
25 construction cost estimates, yes, sir.

1           Q.     And you're under the impression that that's  
2     not a total project cost estimate?

3           A.     That is my understanding, yes, sir.

4           Q.     Would it change your testimony if you were  
5     to find out differently?

6           A.     Which testimony?

7           Q.     Everything you've said so far, if you were  
8     to find out that the 63.3 million is the total project  
9     cost?

10          A.     You're going to have to be more specific  
11     about what opinions. I mean, I've said a lot of  
12     things today. I don't know what you're referring to.

13          Q.     Well, what would -- what would your total  
14     project cost be? What are you up to now when you take  
15     all of your adjustments and you add total project  
16     costs instead of just construction costs? What do you  
17     say they could renovate that plant for?

18          A.     38.2 million.

19          Q.     And how did that number -- that's because  
20     you're refusing ozone?

21          A.     It does not include ozone, that's true.

22          Q.     And let's go back to the intake, if you  
23     will, \$2 million for an intake, and you derived -- can  
24     you tell me anything more about that other than that  
25     is your engineering judgment?

1           A.     I was going to make utilization of the  
2     existing intake structure and modify it, which I think  
3     would have substantial cost savings rather than  
4     building a totally new structure.

5           Q.     Did you have the time to do an appropriate  
6     analysis of that to determine if that would work?

7           A.     You're going to have to define appropriate  
8     analysis. I did a preliminary engineering cost  
9     estimate.

10          Q.     Well, in your testimony on page 6 you say,  
11     In reviewing these document studies and  
12     investigations, I did not perform designs, detailed  
13     cost estimates based on design or other detailed  
14     engineering relative to this testimony due to time and  
15     budget constraints.

16          A.     That statement is true. There's two types  
17     of engineering estimates we make as engineers. One we  
18     call a preliminary cost estimate, which is not based  
19     on design. It's based on experience, on understanding  
20     what would be involved in building the facility and  
21     making the estimate on that basis.

22                 The second type we do is, once the plans and  
23     specs are developed, once the project has been  
24     designed, then we take quantity takeoffs of that  
25     design and make a more detailed cost estimate.

1 Obviously we did not have time to do a design of the  
2 facility.

3 Q. Are you familiar with this text, Dr. Morris,  
4 Water Treatment Plant Design by the American  
5 Waterworks Association?

6 A. Yes, sir. I have it on my desk.

7 MR. CIOTTONE: May I approach, your Honor?

8 JUDGE THOMPSON: You may.

9 BY MR. CIOTTONE:

10 Q. Let me direct your attention to page 712 and  
11 713 on construction costs, specifically Table 26.3,  
12 Level of Cost Estimates.

13 A. I'm sorry. I forgot what your question is.

14 Q. There isn't one. I just asked you if you're  
15 familiar with it.

16 A. Yes.

17 Q. I was giving you time. Do you consider that  
18 to be a reputable text?

19 A. It is one of many.

20 Q. All right. Now, it speaks in terms of  
21 levels in periods of time of design, does it not,  
22 categories?

23 A. What I read is it says level of cost  
24 estimates and has type of cost statements and has four  
25 different types.

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1           Q.     And they are at different time periods in  
2     the development of a project, correct?

3           A.     Generally.

4           Q.     And what are they? How are they described?

5           A.     The first one is order of magnitude. Second  
6     is conceptual. Third one is preliminary design, and  
7     the last one is definitive.

8           Q.     Now, the next two columns, do they not,  
9     depict what the variances in estimates, what can  
10    happen to the variances in estimates percentage-wise  
11    can be with respect to those different states of the  
12    project, and then the third column states the  
13    appropriate contingency amount, omissions and  
14    contingency percentage that should be utilized at  
15    those stages, correct?

16          A.     It's a recommended amount.

17          Q.     What level would you say your estimates are  
18    here of those four categories of determinations? What  
19    level would you describe yours as being? Do they rise  
20    to preliminary design?

21          A.     I would have to look at his definitions of  
22    what he means by each of those levels. I had earlier  
23    defined my definition. I could equally write the book  
24    the same as this person did. I wouldn't write it the  
25    way he did. I would have two levels, basically what I

1 would call a preliminary cost estimate and then one  
2 after you developed plans and specs. That's what I  
3 did when I was in practice.

4 Q. So you disagree with that table or you just  
5 would state it different?

6 A. I just think it's another way to look at it.  
7 There's legitimate differences of opinion.

8 Q. So would you say -- you said you had no  
9 drawings. How did you describe yourself? You did not  
10 perform designs, detailed cost estimates based on  
11 design or other detailed engineering relative to this  
12 testimony.

13 A. That is true.

14 Q. So would that rise to the level of  
15 preliminary design?

16 A. Again, I'd have to look at what he -- how he  
17 defines preliminary. I used my terms and I defined  
18 them. That's what I'd like to stick to.

19 Q. Well, in your terms would it rise to the  
20 level of preliminary design?

21 A. I call it a preliminary cost estimate is  
22 what I call it.

23 Q. On that chart, what does that tell you that  
24 typically the variation in accuracy of those costs is,  
25 from what percent to what percent?

1           A.     In which one, sir?

2           Q.     The preliminary designs.

3           A.     It says level of accuracy, he's got a plus

4     30 percent to a minus 15 percent.

5           Q.     So it can swing 45 percent?

6           A.     That's what he's saying, yes, sir.

7           Q.     And then what about the omissions and

8     contingency percent that would be appropriate at the

9     preliminary design stage?

10          A.     He's saying 15 to 10 percent.

11          Q.     Do you agree with that?

12          A.     Again, it's someone's opinion. I think

13     it's -- it depends on the project. In my opinion, it

14     depends on the project, how many unknowns there are.

15     There's a lot of factors I would take into account.

16     My opinion is those are just rough estimates to give

17     you some guidance.

18          Q.     Well, this says your estimate could float

19     45 percent?

20          A.     I don't think that's what he's saying. He's

21     just saying on the average, that's his opinion of what

22     one might anticipate.

23          Q.     On the average, that's his opinion of what

24     one might anticipate at the preliminary design stage,

25     there's a 45 percent swing?

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1           A.     However he defines the preliminary design.

2           Q.     In your credentials, moving back to the  
3 beginning here, Doctor, if I may, you said you haven't  
4 done any design in ten years?

5           A.     No, that's not true.

6           Q.     Tell me what the truth is. I'm sorry. I  
7 didn't mean to --

8           A.     I did -- full-time I worked for a consulting  
9 firm, and now I'm a professor at the University. I  
10 also have a consulting firm that I do consulting with  
11 on design.

12          Q.     But what was the reference you made about  
13 ten years? There's something you stated about ten  
14 years.

15          A.     As I recall, it was the projects, the large  
16 water treatment plant projects that I was referencing  
17 there as my experience I said had been done prior to  
18 ten years ago, and I don't have records. I was asked  
19 to produce the designs and specs and all the details,  
20 and I basically was saying I no longer have those  
21 details because I don't keep records that long.

22          Q.     Well, you said you couldn't even identify  
23 the name, location and owner of any water treatment  
24 plant that you've designed or have had substantial  
25 involvement in designing?

1           A.     That's right. That's something that I don't  
2 necessarily keep a record of.

3           Q.     Did you ever do a treatment plant or design  
4 a treatment plant for surface water?

5           A.     Yes.

6           Q.     How long ago?

7           A.     I worked on it probably about, I think it  
8 was probably about two or three years ago.

9           Q.     Which one was that?

10          A.     It was Boonville.

11          Q.     You went so far as to make a pronouncement,  
12 I think -- and I say that because I'm confusing you  
13 with Mr. Biddy, testimony, not personalities. Did you  
14 make a determination with respect to the prudence?  
15 Did you use that word?

16          A.     I believe I did, yes.

17          Q.     What does that mean to you?

18          A.     That means to me that the proper procedures,  
19 methods weren't applied to make what I would consider  
20 the proper decision in this case.

21          Q.     Is it dependent on relative costs?

22          A.     Yes, sir.

23          Q.     Is it dependent only on relative costs?

24          A.     Not necessarily.

25          Q.     What else would it be dependent on?

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1           A.     That would probably be the major thing.  
2     There might be secondary considerations that I might  
3     look at.

4           Q.     Well, we're going to have to go through the  
5     same list that I went through with Mr. Biddy, as  
6     you're aware.

7                     You conceded in your testimony that many  
8     inadequacies exist as defined by the Design Guide for  
9     Community Public Water Supplies issued January 1999 at  
10    the existing surface water supply and treatment  
11    facilities? You did say that, correct?

12          A.     I don't recall saying that, no.

13          Q.     It's at your direct testimony, page 17. In  
14    fairness, you went on to say, In my opinion, all of  
15    the existing inadequacies can be fixed.

16          A.     What line were you referring to, sir?

17                     MR. CONRAD: We don't find it on that page,  
18    your Honor.

19    BY MR. CIOTTONE:

20          Q.     Direct testimony, prepared direct, bottom,  
21    last -- the last question, 17 and 18.

22          A.     And what was your question, sir.

23          Q.     Well, I've misquoted you. That was a  
24    question and I characterized that as your answer. So  
25    I withdraw that. I stated that improperly.

1           Would you state that there are inadequacies  
2     at the existing plant out there now, the old plant?

3           A.     There are things that I saw at the existing,  
4     the old plant that I think should be renovated, yes.

5           Q.     Let's go through the drill that we did with  
6     Mr. Biddy, and I want you to tell me as my engineer  
7     the things that I should consider in determining  
8     whether or not I really want to stay here. What are  
9     the bad things out there? What would you describe as  
10    being the bad things that we would have to learn to  
11    live with to stay there?

12          A.     I'm having a hard time characterizing it as  
13    your engineer. I mean, you're asking me to stay  
14    there. I don't understand the concept. That's not  
15    the way I would approach it.

16          Q.     Well, the question is, if I were -- as my  
17    engineer, if I were to ask you to define for me and  
18    teach me the concerns that I would have to accept to  
19    rehabilitate and keep that plant down there as  
20    compared to moving out of the neighborhood, I want you  
21    to tell me what are those things that I have concerns  
22    about that I have to live with?

23                 For example, are there operational  
24    disadvantages with respect to personnel?

25                 MR. CONRAD: Your Honor, I truly don't want

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1 to seem quarrelsome or quibblesome, but we're --

2 JUDGE THOMPSON: Thank you, and I respect  
3 that.

4 (Laughter.)

5 MR. CONRAD: But I'll go ahead and do so  
6 anyway.

7 JUDGE THOMPSON: So what is it you're  
8 quarreling and quibbling with?

9 MR. CONRAD: Well, I think it's the  
10 structure of the question that's causing me the  
11 trouble, because what it's presuming is that there  
12 are -- there are concerns which you would have to live  
13 with.

14 The very point of, I thought, what the  
15 question was is what concerns would need to be  
16 addressed. And if you're going to address the  
17 concerns, then by definition you would be addressing  
18 them rather than living with them, and I think that's  
19 the problem I'm having.

20 MR. CIOTTONE: That is --

21 MR. CONRAD: Perhaps I'm just not  
22 understanding the question either.

23 MR. CIOTTONE: No, I think you do understand  
24 the question. It is the former, not the latter. I'm  
25 not asking what has to be corrected. I'm asking what

1       you would be left with after you did everything you  
2       could.

3               MR. CONRAD:   Well, and that's --

4               JUDGE THOMPSON:   With that clarification, if  
5       you can answer the question, sir, please do.

6               THE WITNESS:   I'll need to think about that  
7       just a second.

8               JUDGE THOMPSON:   Please take your time.

9               THE WITNESS:   I believe that even with  
10      renovation which I think would be needed in the intake  
11      structure, that there are some problems that are  
12      associated with surface water supply such as the  
13      Missouri River with a direct intake of ice, low flows.  
14      That is going to have to be contended with.   There's  
15      no way to totally solve the whole situation.

16      BY MR. CIOTTONE:

17              Q.     What happens with low flows?   Does it affect  
18      water quality as well as quantity?

19              A.     It may.

20              Q.     In what respect?

21              A.     Well, sometimes the quality changes if the  
22      river flow is low.   It depends on what's causing the  
23      low flow.   If it's a drought, you might get a little  
24      different water quality than if it was an ice jam or  
25      something.

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1 Q. Does that require changing treatment?

2 A. It might, but it's done all the time.

3 There's all kinds of treatment.

4 Q. Is it an expense?

5 A. It might be a slight expense.

6 Q. Does it require labor?

7 A. It might.

8 Q. Is the treatment of the surface water supply  
9 more labor intensive than the ground water plant?

10 A. I think that -- that's hard to answer, and  
11 the reason is because I'm not sure yet what the  
12 reliability or the long-term labor requirement's going  
13 to be for the ground water under the direct influence  
14 of surface water.

15 Q. Have you been told, or if you haven't, are  
16 you aware of the fact that the intent is to operate  
17 that plant unmanned?

18 A. Well, I think that may be due to other  
19 things than just the raw water source. It's an  
20 automated plant. It's very sophisticated. I would  
21 classify it myself as a Cadillac water treatment  
22 plant. I mean, it is top of the line.

23 Q. You think you could design a surface water  
24 treatment plant to operate unmanned?

25 A. I think I could design one that would

1       require minimal manning.

2           Q.     Did you contemplate that in your costs?

3           A.     Yes.

4           Q.     To be unmanned or to be reduced labor?

5           A.     Yes.

6           Q.     How about treatment costs disadvantages? Is  
7       not surface water, does it not need two steps sediment  
8       process?

9           A.     It does, yes, sir.

10          Q.     How about debris in the water?

11          A.     I think that can be handled.

12          Q.     How?

13          A.     By designing the intake properly.

14          Q.     And that would be expensive?

15          A.     I don't believe it would be that expensive.  
16       It would cost something.

17          Q.     If it were to fail, what would you have to  
18       do?

19          A.     I don't know what you mean by fail.

20          Q.     If the intake was unable to draw water in  
21       because it was blocked with debris or --

22          A.     That would require some -- if that was the  
23       case -- I think it would be designed so that wouldn't  
24       be a problem. But if it was, then it would require  
25       some maintenance. You'd have to remove the material.



1 Q. How about employee safety?

2 A. That would be a concern.

3 Q. We talked about taste and odor. Taste and  
4 odor is attributable to what, could you tell us, in a  
5 surface water supply?

6 A. I think taste and odor is a problem in any  
7 water supply, it can be, depending on the specific  
8 quality of that source. Ground water also has taste  
9 and odor problems.

10 Q. Surface water has problems with runoff due  
11 to rotting plants and farm animals and herbicides,  
12 things like that, right?

13 A. That is one aspect of it.

14 Q. You do have some experience in hydrology,  
15 correct?

16 A. Right.

17 Q. Can you tell us about Giardia and Crypto?

18 A. I couldn't in-depth.

19 Q. So you're not an expert on that?

20 A. Well, I am familiar with ground water  
21 treatment. That's not necessarily my area of  
22 expertise, no.

23 Q. Well, can you --

24 A. But I'm familiar with it.

25 Q. Can you tell us anything about the concerns

1 with respect to -- in surface water supply with  
2 respect to those contaminants?

3 A. Yes. I think basically what EPA's saying  
4 and the water quality standards are to address those  
5 issues so they don't exist in a form that can cause  
6 health problems in our drinking water supplies.

7 Q. And that would be an expense?

8 A. If it existed, it might be some additional  
9 expense, yes.

10 Q. And would it be fail-safe?

11 A. I don't think any system's fail-safe no  
12 matter what.

13 Q. So there would still be the risk of those  
14 contaminants getting into the drinking water supply?

15 A. Whether it's surface water, ground water,  
16 whatever the supply is, there's always a possibility.

17 Q. Isn't there a considerably reduced if not  
18 almost nonexistent concern over Giardia and Crypto in  
19 a pure ground water supply?

20 A. In a pure ground water supply, but not one  
21 that's so directly connected to the Missouri River.

22 Q. How about water temperature?

23 A. I don't see it as a big concern, no.

24 Q. Are you aware of the temperature changes in  
25 the Missouri River?

1           A.     Yes.

2           Q.     Are you aware of the impact temperature  
3 changes have on old cast iron pipe?

4           A.     Well, there's been some theoretical  
5 arguments on that, whether that's due to the  
6 temperature changes of the ground or whether it's due  
7 to the temperature changes in the pipe. I think  
8 that's yet to be proven, but it may have some effect  
9 on it.

10          Q.     Whatever effect it would have on maintenance  
11 is nonexistent with the consistent temperature of the  
12 ground water supply; isn't that true?

13          A.     Again, I'm going to have to clarify that in  
14 that you're talking about a ground water supply which  
15 I find is directly influenced by surface water, which  
16 means the temperature will change, as contrasted to  
17 deep ground water such as we have where I live in  
18 Rolla which doesn't change in temperature.

19          Q.     So you think the ground water supply is  
20 going to change similar to what the Missouri River  
21 changes?

22          A.     It's going to change is what I said.

23          Q.     In what range?

24          A.     I don't know. It's yet to be determined.  
25 No one knows.

1 Q. How about limited space out there, is that a  
2 problem?

3 A. I think land could be purchased around that  
4 area.

5 Q. Even with the railroad behind it?

6 A. Yes.

7 Q. How would you deal with the railroad?

8 A. I've dealt with them before. It's  
9 difficult, as Mr. Biddy said, but it's possible.

10 Q. And on the flooding concerns, would you  
11 argue, as Mr. Biddy was cavalier as to do, that he  
12 could flood-proof the plant?

13 MR. COFFMAN: Objection.

14 JUDGE THOMPSON: What's the objection?

15 MR. COFFMAN: Characterizing Mr. Biddy's  
16 testimony as cavalier.

17 JUDGE THOMPSON: Could you restate it  
18 without the characterization, please?

19 MR. CIOTTONE: Reluctantly.

20 (Laughter.)

21 BY MR. CIOTTONE:

22 Q. Dr. Morris, would you agree with Mr. Biddy's  
23 characterization that the plant could be flood-proofed  
24 to the point where there was no risk of flooding?

25 A. I would rather call it flood protection, and

1 as I said earlier, any plant, whether it's in the  
2 flood plain or not, has a certain risk of not being  
3 operational from whatever sources. There's other  
4 hazards besides just flooding.

5 Q. The road difficulties, you'd be stuck with  
6 those, would you not, the access problems?

7 A. I think a road could be built to prevent  
8 that from being a problem.

9 Q. But levees break and leak both? You're from  
10 Missouri. I'm sure you're aware of that.

11 A. If constructed properly, I believe the  
12 probability's very, very remote that a levee couldn't  
13 be built to protect the site.

14 Q. A levee properly built and inadvertently  
15 improperly maintained is vulnerable, is it not?

16 A. It needs to be maintained, yes, sir.

17 Q. Animals dig burrows in it. Things like that  
18 can cause all sorts of problems, can't they? I'm from  
19 St. Louis. I lived through it.

20 A. Well, it can. I would anticipate --

21 MS. COOK: Your Honor, he's testifying in  
22 the form of a question.

23 MR. CONRAD: Is the suggestion made that  
24 people who live in St. Louis are more familiar with  
25 animals?

1 MR. DEUTSCH: Yeah.

2 MR. CONRAD: I understand they're more  
3 familiar with cardinals, but --

4 JUDGE THOMPSON: Let's proceed.

5 BY MR. CIOTTONE:

6 Q. Levees do need maintenance?

7 A. They do, yes.

8 Q. And failed maintenance makes them  
9 vulnerable?

10 A. Again, it depends on the degree of lack of  
11 maintenance. Generally, most levees don't require  
12 that much maintenance, but they should be inspected on  
13 some kind of routine basis, probably every year or  
14 two.

15 Q. Your expertise in hydrology would make you  
16 familiar with water and soils?

17 A. Yes.

18 Q. Dr. Biddy said that the soil conditions are  
19 unimportant out there in his concerns over building  
20 levees because he's going to put some kind of clay  
21 insert or -- did you understand his testimony?

22 A. Yes, sir.

23 Q. Do you agree with it?

24 A. I don't -- I generally agree with what he  
25 said. I would want some information on the soils

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1 before I designed it. What he was referring to is a  
2 cut-off wall, a clay cut-off wall to reduce the  
3 permeability under the levee.

4 Q. Do you have some concerns over the soils out  
5 there?

6 A. Yes. I'd want to know what -- I'd want to  
7 know more information about it. But what I'm saying  
8 is whatever the conditions are could be designed for.  
9 It might change the cost, but it would need to be  
10 looked at more deeply.

11 Q. Were you made aware of the fact through  
12 testimony in this case or otherwise of the fact that  
13 water, in fact, penetrated through the underground and  
14 through the brick foundation walls and pipe entrances  
15 below grade?

16 A. I could generally answer. I wasn't -- I'm  
17 not familiar with it, other than I know they had some  
18 seepage, and any time you have a levee you're going to  
19 get some seepage and it has to be handled. That's  
20 part of a flood protection system.

21 Q. Does that tell you anything about the soil?

22 A. As I said, every levee I've ever seen has  
23 seepages. All soil has some permeability. So you're  
24 going to get some seepage. The question is how much  
25 and how do you design to control that so it's

1 acceptable.

2 Q. So all these things we've just discussed, do  
3 you think it's appropriate to consider those in a  
4 determination of whether or not it's prudent to leave  
5 in addition to any economic ramifications you would  
6 tender evidence about?

7 A. No. I think we could handle those from an  
8 economic point of view, design systems that would  
9 provide flood protection at the plant that would be  
10 sufficient and that could be looked at in the cost.

11 Now, once I did a cost estimate, then I  
12 would bring in possibly some of these issues, as I  
13 understand the company did. In terms if the costs  
14 were the same, then one might decide in favor of one  
15 way for these benefits, if there are, in fact,  
16 benefits. That wouldn't be included in the cost  
17 estimate.

18 But if there's a significant difference in  
19 the cost estimate, which is what I contend and I  
20 believe Mr. Bidy contends, then I think that that has  
21 to override considerations.

22 Q. That was not the nature of my question, but  
23 what I'm asking you is, notwithstanding the costs, all  
24 right, notwithstanding the cost differential. Are you  
25 with me?



1           A.     So in other words you're ignoring the cost  
2 differential?

3           Q.     For purposes of my question. Are not all of  
4 these considerations critical to a determination of  
5 whether you would want to stay in the flood plain or  
6 move out if that option was available?

7           A.     I wouldn't characterize them being critical.  
8 I think they should be looked at, because as I said, I  
9 think there's other natural disasters that can make a  
10 plant inoperable.

11          Q.     Well, then let me ask it to you this way.  
12 If the costs were identical, would these concerns  
13 persuade you to leave?

14          A.     Yeah. I think my interpretation of what DNR  
15 said in terms of relocating the plant or expanding it  
16 or refurbishing or rebuilding it, they basically  
17 require you -- if the costs are the same or close  
18 thereabouts, then you would be required to relocate  
19 the plant outside the flood plain.

20          Q.     Now, how about the disinfection and  
21 disinfection byproduct rule? You heard earlier in my  
22 examination of Mr. Bidby Mr. Lee's testimony where he  
23 described concerns over enhanced coagulation,  
24 conversion of disinfection processes through a  
25 chlorine dioxide, chlorine or ozone system and

1 enhanced use of powdered activated carbon. Do those  
2 cause you concern?

3 A. No.

4 Q. Why?

5 A. Because they're not law yet, and also I have  
6 some reservations in my own mind even if -- as the new  
7 plant is designed that you may have to exercise -- if  
8 these things do, in fact, become law, that you may  
9 have to exercise some of them at the new facility as  
10 well.

11 Q. So when Mr. Lee says the residual disposal  
12 issue is likely to evolve into a major capital expense  
13 for this existing facility, you disagree with that?  
14 You say that's not sufficiently proximate to give  
15 concern?

16 A. That's correct.

17 Q. And he also says, These uncertainties, just  
18 the uncertainties, these uncertainties are raised  
19 because they ultimately and significantly impact  
20 decisions regarding improvements to the existing  
21 facilities. You discount that also?

22 A. The problem I have is he's classifying those  
23 as uncertainties, and when they're uncertainties I  
24 don't believe you can really classify them or include  
25 them in the decision because you don't know they're

1 going to be a fact. The other aspect of that, we  
2 don't know what new technologies are coming down the  
3 road.

4 Q. That's exactly the point. You discount  
5 uncertainties? If they're uncertainties, they don't  
6 matter; is that what you're saying?

7 A. Yeah, because of their nature, they're  
8 uncertain. You don't know.

9 Q. On what do you base your -- you made a  
10 similar timing accusation against the company when you  
11 said that, on page 9, and I think that's your direct,  
12 Rather than being based on sound economics, that  
13 choice in my opinion was incorrectly based on a  
14 decision to abandon an existing and operational water  
15 treatment plant in reaction to the 1993 flood. Once  
16 that decision had been made, I believe the subsequent  
17 estimates of the cost of renovating the facility were  
18 inflated to justify the decision. And then you point  
19 to the \$44 million estimate.

20 A. I'm sorry. What page was that? I'm having  
21 trouble finding it.

22 Q. Well, my notes say it's page 9.

23 A. I'm looking at page 9.

24 Q. It begins on line 6.

25 A. Yes. Yes. That's my statement.

1 Q. You say that is your statement?

2 A. Yes, sir.

3 Q. Have you since learned that those estimates  
4 were issued to the public before the flood? Were you  
5 not aware of that?

6 A. But they're not the same cost estimates that  
7 were used in the evaluation report to make the  
8 decision to move to the new treatment plant.

9 Q. Well, the \$44 million was. I thought that's  
10 what you were accusing the company of.

11 A. No. I was talking about the 63.6 million.

12 Q. I see. Can you tell me -- and honestly, I  
13 don't understand -- what your phasing argument is?

14 A. I would characterize that, probably a better  
15 term would have been staging of the construction. One  
16 of the advantages of renovating existing plant is that  
17 you can make use of the existing treatment capability  
18 of the plant and you can renovate units, in other  
19 words smaller capital investments, and spread that  
20 over a period of time by staging the construction.

21 Q. Well, is your argument that this would not  
22 be completed at this time?

23 A. In other words, what I would do, since the  
24 plant is producing a satisfactory quantity and quality  
25 of water, I would say we would -- if I was the

1 engineer analyzing this, and I did analyze it, what I  
2 would do is look at the major problems first and  
3 renovate those and proceed through the plant.

4 So after some period of time, I would  
5 completely renovate the plant, but I wouldn't renovate  
6 it all at one time.

7 Q. But I don't understand, sir, and I'm not  
8 trying to challenge you, but I don't understand what  
9 your point is. That the overall construction costs  
10 would thus be less or that AFUDC would be less or that  
11 the project would not be finished at this time, what  
12 is your point?

13 A. Well, could you take those one at a time?  
14 Basically my point is, the way I would see it  
15 proceeding is I would look at the most severe problem  
16 that needed to be renovated, attack that first, and  
17 spend that capital investment, have that reflected in  
18 a rate change so the company -- so that would occur  
19 then in a gradual stage process.

20 So it wouldn't be a large expenditure at one  
21 point in time. It would be rather a renovation  
22 process. I guess similar to if you had a home you  
23 wanted renovated, you don't want to move out and have  
24 it all done at one time. You attack different things  
25 at different times until you eventually get everything

1 finished.

2 Q. And then you would go to the next cycle and  
3 do another phase the same way?

4 A. I would rather call it stage.

5 Q. And how many stages did you contemplate?

6 A. I think I had three.

7 Q. And would they not all be completed by today  
8 in your scenario?

9 A. I think I had something like five or six  
10 years total construction, something like that.

11 Q. Beginning when?

12 A. Whenever the project was started, or as soon  
13 as possible I guess.

14 Q. And you say -- you state that, after you  
15 complete a project, you put it into rates. Do you  
16 understand what that involves? Are you sufficiently  
17 knowledgeable of the regulatory process to realize  
18 what it takes to put something into rates?

19 A. Well, I've been involved with the process  
20 before, if that's what you're asking.

21 Q. Do you know how long it takes in time?

22 A. I know it takes some time.

23 Q. Do you know it takes 11 months?

24 A. I'm not aware of exactly how long, but that  
25 sounds reasonable.

1           Q.     Do you know that AFUDC stops as soon as the  
2     facility's placed in service? Do you understand that?

3           A.     Uh-huh.

4           Q.     And so explain to me how this would work.  
5     You would file your rate case before the phase and  
6     time everything around these phases?

7           A.     I would break the construction up into  
8     stages, as I would call them, and then I would carry  
9     out the phase and then -- yes.

10          Q.     Would there be any additional cost for all  
11     these regulatory proceedings and my brethren here to  
12     argue about them?

13          A.     I assume so.

14          Q.     Would there be any additional cost of  
15     attempting to rehabilitate facilities while the  
16     facility is being continued in operation?

17          A.     Yes, and that was -- I took that in account  
18     in my cost estimate.

19          Q.     And those -- all right. I understand. So I  
20     see there two additional costs. What I don't  
21     understand is where the savings come from.

22          A.     Because we've got a physical facility there  
23     that was producing 30 million gallons of good quality  
24     water. It has a value, in my opinion, and I think I  
25     design using maximum utilization of the existing

1 facility.

2 Q. But it doesn't produce 30 million gallons.

3 A. Whatever it produces. I thought it did. In  
4 other words, it's sufficient, and we can increase the  
5 capacity of that. I mean, that would be part of the  
6 renovation.

7 Q. I apologize, but where does the savings come  
8 from?

9 A. Well, let me give you an example. It would  
10 be like me taking a car and using components of it  
11 that are still good and just repairing what doesn't  
12 work. It still has value, as contrasted to going out  
13 and buying a brand-new car.

14 And I would hope I could -- you know, at  
15 some point, of course, you would get beyond that  
16 point, and that's what I did in my analysis. In my  
17 opinion, there's still value in the existing plant.  
18 It could have been renovated at less cost than  
19 building a new treatment plant. That's my testimony.

20 Q. Well, this seems to be a fairly  
21 sophisticated analysis to be able to say that you  
22 could do this in stages and what those stages would  
23 be, but you did not rise to that level of  
24 determination?

25 A. I did, yes. I've done that before. I've



1       renovated plants.

2           Q.     I thought you said in reviewing these  
3       document studies and investigations I did not perform  
4       designs, detailed cost estimates based on design or  
5       other detailed engineering relative to this testimony  
6       due to time and budget constraints?

7           A.     I did not develop engineering designs and  
8       specifications for the renovation of the existing  
9       plant. That's what I'm saying in the statement. But  
10      I did make cost estimates, preliminary cost estimates  
11      of what it would take to renovate the existing  
12      treatment plant.

13          Q.     And since they're preliminary cost estimates  
14      based on our friendly textbook here, they could float  
15      45 percent in either way?

16          A.     I think that's extreme, but that's what he  
17      says, yes.

18          Q.     How much do you think they could float  
19      either way?

20          A.     My estimate would be within 10, maybe  
21      10 percent, 15, because you have offsetting errors.  
22      In other words, you may estimate one thing wrong, but  
23      you -- there's offsetting compensating factors  
24      involved.

25          Q.     I want to ask you a question that's

1 transparently about the various testimonies in this  
2 case, capacity reductions. If I were to ask you to  
3 price a 30 million gallon a day water treatment plant  
4 with some reliability and gave you the time and budget  
5 to do it, could you do it?

6 A. Well, I'd have to do some work on what's  
7 water source and get some information on that.  
8 Where's it located? I mean, there's a lot of  
9 preliminary data before I start design.

10 Q. But you have the credentials and experience?

11 A. Yes. I've renovated. I've designed  
12 treatment plants. I've renovated existing water  
13 treatment plants.

14 Q. And you would give me a number which in my  
15 questions to Mr. Biddy I characterized as X. All  
16 right?

17 A. As X?

18 Q. X. That's the cost you've told me.

19 A. I would come up with a total cost.

20 Q. Of X. This is a hypothetical.

21 A. Okay. I could come up with an estimate for  
22 a treatment plant at a particular location for a  
23 particular quantity of dollars.

24 Q. And let's call that X. All right?

25 A. All right.

1           Q.     If I were to come back to you a month later  
2     and say, I've changed my mind. Now I would like you  
3     to reprice the entire project because I want only  
4     15 million gallons a day, can I take X divided by two  
5     with any confidence?

6           A.     No.

7           Q.     Why not?

8           A.     Because it's not a direct function of the  
9     capacity of the plant. There's many, many factors.  
10    For instance, what's the source of the water? Where  
11    is it located? There's a lot of factors that affect  
12    cost, just like we talked about the intake structure.  
13    That's why I don't think the company can take the cost  
14    at one location and apply it to another location.  
15    There's too many unknown factors that affect the cost.

16          Q.     So you would reject the premise that there's  
17    a straight line relationship between capacity and  
18    cost?

19          A.     Definitely.

20                 MR. CIOTTONE: May I speak with co-counsel,  
21    your Honor?

22                 JUDGE THOMPSON: Yes, you may.

23                 BY MR. CIOTTONE:

24          Q.     A few more questions, Dr. Morris, if I may.  
25    On the staging concept, the actual costs of the work

1900

1 presumably would not change by simply moving them in  
2 time but for inflationary costs, right? The project  
3 would still cost the same?

4 A. You mean whether I staged it or I didn't?

5 Q. Right.

6 A. No, I don't think that's true.

7 Q. I'm not talking about interest costs. I'm  
8 talking about the actual work.

9 A. Just actual construction.

10 Q. Why is it cheaper to do something today and  
11 something tomorrow than to do both of them the same  
12 day?

13 A. Well, there's mobilization costs for the  
14 contractor if you don't keep him on site. In other  
15 words, you give him the first stage and if you don't  
16 follow up with the second stage, he has to leave, go  
17 to another job and come back. He's going to charge  
18 you for that.

19 Q. Which would mitigate in favor of it being  
20 cheaper to do it all at once, wouldn't it?

21 A. Yeah, but there are reasons for staging as  
22 well.

23 Q. But the total project costs then in  
24 construction costs would not be less because of  
25 staging?

1           A.     Probably not, that's true.

2           Q.     And one other area I completely overlooked.  
3     You made testimony -- offered testimony which was  
4     intimating that the well field could have been closer  
5     perhaps to the old plant site or more -- located  
6     somewhere closer than it is?

7           A.     Yes.

8           Q.     Did you read Mr. Young's testimony with  
9     respect to that on page 7 of Exhibit 16, Mr. Young's  
10    direct testimony?

11          A.     Just a second. I'm sure I read it, but I  
12    don't recall it. I need to --

13          Q.     May I hand it to you, sir?

14          A.     Yes.

15                 MR. CIOTTONE: Your Honor?

16                 JUDGE THOMPSON: You may approach. What  
17    page did you say?

18                 THE WITNESS: He opened to page 7, your  
19    Honor.

20                 JUDGE THOMPSON: Thank you.

21    BY MR. CIOTTONE:

22          Q.     Have you read it, sir?

23          A.     Yes.

24          Q.     Do you find that persuasive?

25          A.     I would defer, which I think Mr. Young also

1902

1 did, to the hydrogeological report.

2 Q. Let me hand you then, sir, one of your own  
3 Data Requests, Data Request No. 46, which requests the  
4 hydrological evaluation of Area C, and I'll hand you  
5 that.

6 A. Yes. I'm aware of it. I have that  
7 information.

8 Q. Does that assuage your concerns about the  
9 unusability of the areas closer due to yield and  
10 travel time?

11 A. No.

12 Q. So you reject the hydrological study?

13 A. Basically they only looked at two sites, and  
14 I think there were other potential sites that they  
15 didn't look at. And one of the things they mentioned  
16 was because of land availability at those two sites is  
17 why they chose those two sites.

18 And of those two sites, the one that is used  
19 was the best of those two sites, and my contention  
20 would be I believe there's other sites that would have  
21 been closer to the existing plant where they could  
22 have produced water of similar quality.

23 Q. Did you do any studies --

24 A. No, sir.

25 Q. -- or do you have any reason to draw that

1903

1 conclusion other than speculation?

2 A. Just my own experience in alluvial wells in  
3 the Missouri River flood plain.

4 MR. CIOTTONE: Your Honor, have I offered  
5 all my exhibits?

6 JUDGE THOMPSON: You have offered 102 and  
7 that has been accepted. We took official notice of  
8 the transcript of WA-97-46.

9 MR. CIOTTONE: How about 91?

10 JUDGE THOMPSON: 91 you have not offered and  
11 it has not been accepted.

12 MR. CIOTTONE: I would offer 91 at this  
13 time.

14 JUDGE THOMPSON: Is there any objection to  
15 the receipt of Exhibit 91 into the record of this  
16 proceeding?

17 MR. CONRAD: No.

18 JUDGE THOMPSON: Hearing no objections,  
19 Exhibits No. 91 is received and made a part of the  
20 record of this proceeding.

21 (EXHIBIT NO. 91 WAS RECEIVED INTO EVIDENCE.)

22 MR. CIOTTONE: I have no further questions  
23 of this witness, your Honor.

24 JUDGE THOMPSON: Thank you, Mr. Ciottone.

25 QUESTIONS BY JUDGE THOMPSON:

1904

1           Q.     I have a question for you from Chair Sheila  
2     Lumpe.

3           A.     Yes, sir.

4           Q.     Chair Lumpe would like to know about  
5     reliability. Is the well field a more reliable water  
6     source than the river, in your opinion, sir?

7           A.     In my opinion, it is not because it  
8     basically utilizes the river as the main source of  
9     water for the well field.

10          Q.     So is it subject to fluctuation as the river  
11     fluctuates?

12          A.     Yes. The river fluctuations would affect  
13     the well field system.

14          Q.     Do you know what the daily capacity of the  
15     old plant was?

16          A.     I think it was less than the 30 million  
17     gallons a day, but I don't recall exactly what it was.

18                 JUDGE THOMPSON: Mr. England, are you  
19     expecting to have a witness who can answer that  
20     question for me?

21                 MR. CIOTTONE: If you will pardon the lack  
22     of official volunteerism of the information, we  
23     believe it's about 20.

24                 JUDGE THOMPSON: About 20?

25                 MR. CIOTTONE: Yes, sir.

1905



1 JUDGE THOMPSON: Thank you.

2 MR. ENGLAND: Your Honor, I think it may be  
3 in Mr. Young's testimony. Maybe we'll try to locate  
4 that overnight.

5 JUDGE THOMPSON: I'll take 20 subject to  
6 check.

7 JUDGE THOMPSON: With respect to  
8 Exhibit 102 -- and this, I guess, is a question for  
9 you, Mr. England, or Mr. Ciottone -- I notice in the  
10 first sentence on page 1 of Exhibit 102, Plans and  
11 Specifications For Ground Water Supply Source, is this  
12 the only document that exists that shows the DNR has  
13 rated this as a ground water supply source?

14 MR. CIOTTONE: That and the corresponding  
15 permit, if I may use the word, or permission to  
16 construct, which is Exhibit JSY Schedule 22, which is  
17 for the treatment plant. This is for the well field  
18 and JSY-22 is for the treatment plant. Those are the  
19 only two official documents.

20 JUDGE THOMPSON: Very well. On the second  
21 page of this Exhibit 102, at the bottom, the small  
22 print states, Approval is given with the understanding  
23 that final inspection and approval of the completed  
24 work, and I assume that's shall be made by DNR before  
25 same is accepted and placed in operation.

1906

1                   Was that inspection ever performed and, if  
2                   so, is there a report?

3                   MR. CIOTTONE: Your Honor, I have a document  
4                   here which purports to be a letter dated April 17th  
5                   from William Hills, Environmental Engineer, that  
6                   states, The new water treatment facilities were  
7                   successfully placed in service and operated until  
8                   water meeting applicable drinking water standards was  
9                   produced. All of the necessary processes in the new  
10                  treatment facilities operated adequately in a manual  
11                  mode, and the facilities are expected, et cetera,  
12                  et cetera.

13                  Then finally it says, This letter --  
14                  therefore, this letter is issued as an interim  
15                  approval to operate the new treatment facilities until  
16                  a normal final approval of construction can be issued.

17                  JUDGE THOMPSON: Are you planning to put  
18                  that into evidence?

19                  MR. CIOTTONE: I certainly can. I wasn't,  
20                  but I certainly can.

21                  JUDGE THOMPSON: Would you, please?

22                  MR. CIOTTONE: Yes, sir.

23                  JUDGE THOMPSON: Thank you. You can bring  
24                  it tomorrow with the appropriate number of copies.

25                  MR. CIOTTONE: 103?

1907

1 JUDGE THOMPSON: Yeah. Let's make that 103.  
2 We'll call that interim operating approval.

3 And finally, do you have a witness that you  
4 expect will be able to tell us authoritatively exactly  
5 the distance from each of these wells to the river?

6 MR. ENGLAND: Could we have a minute?

7 JUDGE THOMPSON: Sure.

8 MR. ENGLAND: The short answer is no.

9 MR. CIOTTONE: The difficulty, your Honor,  
10 is with not where the wells are but where is the  
11 river, where is the official designation of the river?

12 JUDGE THOMPSON: We don't want to have a  
13 spin-off docket on that.

14 (Laughter.)

15 MR. CIOTTONE: My expert tells me that you  
16 would need as-built plans, and those are in the  
17 process of being prepared by Black & Veach. They  
18 don't exist today.

19 JUDGE THOMPSON: Okay. Thank you very much.  
20 That's all the questions that I have.

21 Recross based on my questions, Mr. Deutsch?  
22 He's not here. Mr. Coffman?

23 MR. COFFMAN: No questions.

24 JUDGE THOMPSON: Thank you. Mr. Dority?

25 MR. DORITY: No questions.

1908

1 JUDGE THOMPSON: Thank you. Mr. Krueger?

2 MR. KRUEGER: No questions, your Honor.

3 JUDGE THOMPSON: Mr. Ciottone?

4 MR. CIOTTONE: No, sir.

5 JUDGE THOMPSON: Mr. Conrad, redirect?

6 MR. CONRAD: Redirect.

7 REDIRECT EXAMINATION BY MR. CONRAD:

8 Q. Dr. Morris, you were queried with respect to  
9 Exhibit 88, that being the EPA document.

10 A. Yes, sir.

11 Q. Please comment, if you will, with respect to  
12 what you believe to be the most critical portion of  
13 the definition of ground water under the direct  
14 influence of surface water.

15 A. Well, the way I -- my personal  
16 interpretation and what it says here is that when  
17 there is a direct relationship between the surface  
18 water and the ground water under the direct influence  
19 can be demonstrated by a correlation to many factors  
20 which exist in the river water, then it would be under  
21 the direct influence, some of which we talked about  
22 earlier.

23 And also in these regulations they talk  
24 about both surface water and ground water under the  
25 direct influence.

1909

1           Q.     You were also queried by staff counsel with  
2     respect to conductivity. Please comment, if you will,  
3     how in your understanding hardness of water is  
4     measured.

5           A.     It's measured by measuring the constituents  
6     in the water, such as magnesium, calcium carbonate,  
7     other substances or chemicals or materials, natural  
8     materials that dissolve into the water and cause it to  
9     be what we classify as harder. In other words, it  
10    contains more of those minerals.

11                   Generally those minerals change the  
12    conductivity of the water as well. So conductivity  
13    may be an indirect measurement of the hardness of the  
14    water.

15          Q.     Mr. Ciottone queried you with respect to  
16    Exhibit 91, that being a work paper. Do you recall  
17    that?

18          A.     Yes, sir.

19          Q.     Please comment on the relationship that you  
20    see between Exhibit 1990 -- pardon me -- between  
21    Exhibit 91 and your 1991-based estimate.

22          A.     Yes. What I did was I took the 1991 cost  
23    estimate of 26.6 million and I added an inflationary  
24    factor to that number to come up with the  
25    30.1 million. I then looked at their estimate and saw

1910

1 two items on there that totaled up to that amount,  
2 which as that being a work sheet I simply marked out  
3 things that didn't fall in line with my estimate. So  
4 that's how I came up with my estimate.

5 I've also prepared another sheet which has  
6 the same information on it which isn't on this  
7 original sheet that came out of the 1996 report, but  
8 it has the same information.

9 Q. Do you think that would be helpful to the  
10 Commission at this point?

11 A. I do. It just basically summarizes what's  
12 in my testimony and what's shown on the sheet.

13 JUDGE THOMPSON: Would you like to mark  
14 that, Mr. Conrad?

15 MR. CONRAD: Yes, I think I would.

16 MR. CIOTTONE: Your Honor, I would object to  
17 that because it was not provided to us in work papers  
18 and I'd like to know when it was prepared.

19 JUDGE THOMPSON: I think we can go ahead and  
20 mark it, and then you can raise that objection if he  
21 offers it. This will be Exhibit 104, and what would  
22 you characterize this as, Mr. Conrad?

23 MR. CONRAD: Cost Estimate of Surface Water  
24 to Existing Site is how it's titled.

25 (EXHIBIT NO. 104 WAS MARKED FOR

1911

1 IDENTIFICATION.)

2 BY MR. CONRAD:

3 Q. Dr. Morris, we've marked a document for  
4 identification at this point as Exhibit 104. Is that  
5 the document that you were referring to just a moment  
6 ago?

7 A. Yes, sir.

8 Q. I'm going to ask you, sir, when this was  
9 prepared?

10 A. Probably about two or three days ago.

11 Q. By whom?

12 A. Myself. It was an attempt to clarify the  
13 information that was presented on this work paper,  
14 Exhibit No. 91.

15 MR. CONRAD: Well, your Honor, I'll offer it  
16 so we can get over the hurdle here. We'd offer 104.

17 JUDGE THOMPSON: Mr. Ciottone?

18 MR. CIOTTONE: Yes, your Honor. I object to  
19 it. It is a marginally pathetic attempt to justify  
20 numbers that transparently came off of Exhibit 91, and  
21 now the witness has scrambled to try to find a way to  
22 get to those same numbers and has the audacity to  
23 present it as a work paper that supports a conclusion  
24 that magically matched the numbers that he took off  
25 the wrong document.

1912

1           So I object to it as self-serving,  
2    irrelevant, prepared after the fact and as offering no  
3    evidence of value to this Commission.

4           MR. CONRAD: Well, the witness has testified  
5    as to the timing. I just object to the  
6    characterization. If counsel's characterization were  
7    not self-sufficient as to its total ludicrousness, I  
8    would ask that it also be stricken.

9           JUDGE THOMPSON: I will comment that I would  
10   be surprised if they offered an exhibit that was not  
11   self-serving. I think that's what he's being paid to  
12   do.

13           (Laughter.)

14           The objection will be overruled. Exhibit  
15   No. 104 is received and made a part of the record of  
16   this proceeding.

17           (EXHIBIT NO. 104 WAS RECEIVED INTO  
18   EVIDENCE.)

19           MR. CONRAD: Your Honor, I just have about  
20   three or four other questions and then we'll be done,  
21   with your permission.

22           JUDGE THOMPSON: Absolutely. With the whole  
23   case or --

24           MR. CONRAD: Well, that's up to the company  
25   if they want to dismiss.

1913



1 JUDGE THOMPSON: Please proceed, Mr. Conrad.

2 BY MR. CONRAD:

3 Q. Dr. Morris, Mr. Ciottone also queried you  
4 with respect to another surface plant that you had --  
5 surface treatment plant that you had worked on, and  
6 you had, I believe, identified Boonville?

7 A. Yes, sir.

8 Q. Please state the source of the water for the  
9 Boonville treatment facility.

10 A. Missouri River.

11 Q. Mr. Ciottone also queried you with respect  
12 to whether a plant could be made fail-safe. Do you  
13 recall that?

14 A. Yes.

15 Q. Please comment as to other risks that a  
16 water utility plant might face.

17 A. The first one that comes to mind is an  
18 earthquake. Obviously in Missouri there are areas  
19 that have more susceptibility to earthquake damage  
20 than others, but I do believe that that is a risk that  
21 could take a water treatment plant out of operation.

22 There could be a fairly significant failure  
23 of some of the units for a number of reasons, such as  
24 soils if there was a failure of support, soil support  
25 under a structure. I'm familiar with a couple cases

1914

1       where the geology wasn't sufficiently examined under a  
2       treatment plant and there was some failure of some  
3       units.

4               So there's always -- in my opinion, in  
5       engineering design, there is some risk associated with  
6       the operation, continual operation of a water  
7       treatment plant.

8       Q.     If you know, does the treatment plant  
9       require electricity?

10      A.     Yes, it does.

11      Q.     I think lastly, Dr. Morris, Mr. Ciottone  
12      also queried you with respect to differences between  
13      your -- a certain portion of your estimate and that of  
14      Mr. Biddy. Do you recall that?

15      A.     I'm not sure what part you --

16      Q.     To help you out, I think he was specifically  
17      referring to something on Exhibit 91 about the access  
18      road and the flood-proofing -- not flood-proofing but  
19      flood protection.

20      A.     Yes.

21      Q.     My question to you with respect to that,  
22      comment if you will as to what contact, if any, you  
23      had with Mr. Biddy in the process of preparation of  
24      your materials.

25      A.     None.

1915

1                   MR. CONRAD: Your Honor, I believe that  
2 would conclude my redirect. Thank you.

3                   JUDGE THOMPSON: Thank you, Mr. Conrad.  
4 Now, it's my understanding Mr. Harwig is not here?

5                   MR. CONRAD: He would not be here today. We  
6 could have him here tomorrow.

7                   JUDGE THOMPSON: And you would propose that  
8 you wouldn't even have him here tomorrow if the  
9 Commissioners have no questions?

10                  MR. CONRAD: Subject to the Commission.

11                  JUDGE THOMPSON: Everyone else has agreed to  
12 waive cross, is that it? I don't have an answer for  
13 you yet. Would it be possible to just not have him  
14 come tomorrow and then bring him next week if they  
15 have questions -- or excuse me -- during the true-up  
16 week?

17                  MR. CONRAD: I would be happy to check on  
18 that. I don't know about his availability during that  
19 week. I know he would be available tomorrow. So the  
20 thing I could offer would be, he's in St. Louis, you  
21 know, hour and a half, two hours drive away.

22                  JUDGE THOMPSON: So he could be here for the  
23 afternoon session?

24                  MR. CONRAD: He could be here in the  
25 afternoon, sir.

1916

1 JUDGE THOMPSON: Because I don't know  
2 whether I'll be able to find out an answer to that  
3 question for you prior to tomorrow. I'll do my best.

4 Is he going to be back?

5 MR. CONRAD: I don't believe he's on the  
6 schedule for any other issues.

7 JUDGE THOMPSON: Okay. Thank you very much,  
8 sir. You're excused. You may step down.

9 (Witness excused.)

10 JUDGE THOMPSON: Do you want to try to get  
11 another one in before five? That was a joke. We will  
12 recess for the day.

13 WHEREUPON, the hearing of this case was  
14 adjourned until 8:00 a.m., June 16, 2000.

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I N D E X

PRUDENCE, CAPACITY AND SJTP VALUATION

OPC'S EVIDENCE:

TED L. BIDDY

Direct Examination by Mr. Coffman	1613
Cross-Examination by Mr. Snodgrass	1615
Cross-Examination by Mr. Ciottone	1629
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ST. JOSEPH INDUSTRIAL WATER USERS EVIDENCE:

CHARLES MORRIS

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E X H I B I T S

MARKED REC'D

EXHIBIT NO. 19		
Direct Testimony of Ted L. Biddy		1614
EXHIBIT NO. 20		
Surrebuttal Testimony of Ted L. Biddy		1614
EXHIBIT NO. 65		
Direct Testimony of Charles Morris		1804
EXHIBIT NO. 66		
Surrebuttal Testimony of Charles Morris		1804
EXHIBIT NO. 86		
Cost Estimates of OPC		1783
EXHIBIT NO. 91		
Work sheet used by Dr. Morris		1904
EXHIBIT NO. 100		
1/20/2000 letter to John B. Coffman from Ted. L. Biddy	1630	1799
EXHIBIT NO. 101		
Page 3-12 of Schedule TLB-11 of Ted Biddy Direct	1781	1782
EXHIBIT NO. 102		
Report on Plans and Specifications for Ground Water Source of Supply	1846	1852
EXHIBIT NO. 103		
Interim Operating Approval	*	
EXHIBIT NO. 104		
Cost Estimate of Surface Water at Existing Site	1911	1913

\*Late-filed exhibit.