

I N D E X

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CERTIFICATE OF REPORTER

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COMMISSIONER CLARK: Let's go ahead and call the hearing to order. Mr. Jaeger.

MR. JAEGER: Yes, Commissioner Clark. Pursuant to announcement at the bench last night, the hearing has been continued to this place and location and time.

COMMISSIONER CLARK: Do we have any preliminary matters we need to take up before we move to the testimony?

MR. JAEGER: There are several preliminary matters. First of all, staff would like to note that our records show that Exhibit 4, the e-mail from Halstead Metal Products, was not moved into evidence by OPC. And I wanted to make sure if he wanted to move that in?

MR. McLEAN: Yes, ma'am, we will move that in.

MR. JAEGER: Okay. Another preliminary matter that was --

COMMISSIONER CLARK: I thought that was a late-filed exhibit. Did we actually get copies of it?

MR. JAEGER: We got copies of it yesterday.

MR. DETERDING: I have never seen it, to this minute.

COMMISSIONER CLARK: We will get you copies, Mr. Deterding, and then we will deal with moving it into the record.

1 MR. JAEGER: Do you want to review it, then,
2 before we move it --

3 MR. DETERDING: Well, I would like to review it
4 before we move it into the record, yeah.

5 MR. JAEGER: It is there beside Jane Faurot's
6 table.

7 Okay. Well, I guess we'll let him review it and
8 then we will make a decision on moving it.

9 Another preliminary matter, we had testimony
10 from Mr. Blough last night from B.F. Goodrich, and I think
11 Mr. McLean has a motion, or he wants to -- he would like
12 to address that. There was some question of whether it
13 should be stricken or not.

14 COMMISSIONER CLARK: Mr. McLean.

15 MR. McLEAN: Well, what I would like to do is
16 prevent his further testimony. He didn't put anything in
17 the record that does us any harm. I still don't know who
18 called him, whose witness he is or anything like that. If
19 it is necessary to strike his testimony to prevent his
20 being heard from any further, then I so move. Otherwise,
21 I don't particularly -- it doesn't do the record any harm.
22 I hate to be wishy-washy on the point, but I don't have
23 strong feelings about it.

24 COMMISSIONER CLARK: Mr. Deterding.

25 MR. DETERDING: Well, I don't have any strong

1 feelings on it, either. I really didn't see any harm in
2 what he did offer. It was basically fact testimony. But
3 while there was no opportunity for discovery or prior
4 notice, I mean, there is certainly something to be said
5 for it being stricken, but it appeared to me as though it
6 at least provided some information on an issue, so we
7 don't have strong feelings, either.

8 COMMISSIONER CLARK: Mr. Jaeger.

9 MR. JAEGER: Staff -- I'm sorry. They have no
10 strong feelings, we have no strong feelings.

11 COMMISSIONER CLARK: All right. We will leave
12 the testimony in, then.

13 MR. JAEGER: That's fine.

14 MR. McLEAN: Now, I understand we are not to
15 here from the gentleman again in this case.

16 COMMISSIONER CLARK: No, I don't understand that
17 we're going to hear from him again.

18 MR. JAEGER: I think he is gone. We weren't
19 going to call him. We hadn't planned to call him to begin
20 with.

21 COMMISSIONER JACOBS: It was my understanding
22 that it was to be taken only for the facts that he
23 testified to, that he redid this piping. And any opinion
24 evidence as to what effect that had on the problem at this
25 gentleman's house is at best at question. Is that right?

1 MR. WHARTON: He was not qualified to give an
2 opinion.

3 COMMISSIONER JACOBS: Right.

4 MR. JAEGER: The last preliminary matter, if you
5 will remember at the prehearing conference, Ms. Clark,
6 there was some confusion about whether Exhibit 2 attached
7 to Stephen Watford's rebuttal testimony should be
8 stricken.

9 COMMISSIONER CLARK: Yes.

10 MR. JAEGER: Pursuant to a motion to strike
11 filed by OPC on November 10th, Exhibit 1 was stricken.
12 Also beginning on Page 1, Line 18 through Page 2, Line 18,
13 the rebuttal testimony of Mr. Watford was stricken.

14 After a further review of the testimony in
15 Exhibit 2 and the rulings of the Commission in Order
16 Number PSC-00-0087, that was the order that did the
17 striking, the parties are agreed that an additional
18 approximate page and Exhibit 2 should also be stricken. So
19 basically what we're --

20 COMMISSIONER CLARK: We'll show those stricken.

21 MR. JAEGER: Basically, what we are saying is
22 specifically starting on Page 1, Line 18, that is where it
23 started before, but now it goes through Page 3, Line 17 of
24 Mr. Watford's rebuttal testimony and his Exhibit 2 should
25 be stricken.

1 Finally, the Commission struck Pages 32 and 33
2 of Mr. Porter's rebuttal testimony. After further review,
3 the parties are agreed that only Lines 3 through 14 of
4 Page 33 should be stricken, and that 32 in its entirety
5 should be left in.

6 COMMISSIONER JABER: Of whose testimony?

7 COMMISSIONER CLARK: Mr. Porter's rebuttal,
8 right?

9 MR. JAEGER: It is all rebuttal, yes, ma'am.

10 COMMISSIONER CLARK: Give me the pages again.

11 MR. JAEGER: The order originally struck Pages
12 32 and 33, but the parties -- I think Harold has agreed
13 now that only Lines 3 through 14 of Page 33 need to be
14 stricken.

15 COMMISSIONER CLARK: Okay.

16 MR. JAEGER: That order also struck the entire
17 testimony of Mr. Nixon and Deterding, and there would be
18 no change to that, those would remain stricken.

19 COMMISSIONER CLARK: Anything else?

20 MR. JAEGER: That is the last of the preliminary
21 matters I have.

22 MR. WHARTON: Well, Commissioner Clark, if I
23 may.

24 COMMISSIONER CLARK: Yes.

25 MR. WHARTON: This may sound like an odd

1 question, but is the implication of Mr. Jaeger clearing up
2 the admittance of Exhibit Number 4 that the other exhibits
3 have been admitted?

4 MR. JAEGER: No. Exhibit 3 has not been moved,
5 also. And I think there is still -- you know, only part
6 of that was used, and there has been a problem with
7 authentication at this point.

8 MR. WHARTON: You're going to lay some
9 foundation.

10 MR. JAEGER: We need further foundation before
11 --

12 (Simultaneous conversation.)

13 MR. WHARTON: We want to speak to that at that
14 time.

15 COMMISSIONER CLARK: Commissioner Jaber has just
16 reminded me to remind you, you need to speak one at a
17 time.

18 MR. JAEGER: I think we are ready to proceed
19 with the Utility's testimony.

20 COMMISSIONER CLARK: Mr. Wharton or Mr.
21 Deterding, do you have any other preliminary matters?

22 MR. DETERDING: No.

23 MR. McLEAN: None, Commissioner. Thank you.

24 COMMISSIONER CLARK: Mr. Deterding, you can call
25 your first witness.

1 MR. DETERDING: Yes, we call David W. Porter,
2 P.E.

3 COMMISSIONER CLARK: Mr. Porter, you were sworn
4 yesterday, were you not?

5 THE WITNESS: Yes, ma'am, I was.

6 MR. DETERDING: In accordance with the
7 prehearing order, I was going to ask him that.

8

9 DAVID W. PORTER, P.E.

10 was called as a witness, and having been first duly sworn,
11 was examined and testified as follows:

12 DIRECT EXAMINATION

13 BY MR. DETERDING:

14 Q Mr. Porter, please state your name and employment
15 address.

16 A My name is David W. Porter, P-O-R-T-E-R, and my
17 employment address is 3197 Ryans, R-Y-A-N-S, Court, Green
18 Cove Springs, Florida 32043.

19 Q And have you been retained by Aloha Utilities to
20 provide testimony as an expert in this proceeding?

21 A I have.

22 Q Did you prepare in conjunction with my office a
23 document that is entitled prefiled direct testimony of
24 David W. Porter, consisting of -- I believe it is five
25 pages.

1 A I did; and that is correct.

2 Q If I asked you those same questions that are
3 shown in that testimony here today, would your answers be
4 the same?

5 A They would.

6 Q Do you have any corrections to make to that
7 testimony?

8 A I do. There are several typographical errors
9 that need be corrected.

10 Q Please go ahead and give us those.

11 A On Page 1, on Line 22, beginning with the words
12 "almost three years ago," it needs now to be changed to,
13 "over three-and-one-half years ago." Page 3, Line 8, we
14 need to insert after the word allow, "FDEP do not allow."
15 And then insert, "lead and copper tap." Further on down
16 that line --

17 COMMISSIONER CLARK: I'm sorry, read that again.
18 Read the whole sentence.

19 THE WITNESS: Yes, ma'am. On Line 8, starting
20 with the beginning, "FDEP does not allow," please insert
21 the words, "lead and copper tap."

22 COMMISSIONER CLARK: What page are you on?

23 THE WITNESS: Page 3, Line 8.

24 COMMISSIONER CLARK: Okay.

25 THE WITNESS: Further down that line after the

1 word customers, strike "home water systems for analysis
2 and reporting," and the rest of the line on Page 9 and 10,
3 and substitute after customers, "who have in-home water
4 treatment systems," period.

5 And the last that I have on Page 4, Line 17, at
6 the beginning of that sentence where the word "now two
7 years," the words "two years ago" begin. In front of
8 those words at the beginning of the sentence please insert
9 "over," so it will now read, "over two years ago." And
10 those are the corrections that I have.

11 MR. JAEGER: I'm sorry, Mr. Porter, did you
12 strike everything after customers, 8, 9 and 10, the whole
13 line and then add, "who have in-home water treatment
14 systems," is what you substituted?

15 THE WITNESS: Yes. Let me read that to you the
16 way it should read now to make it clearer. Starting on
17 Line 7, beginning with the word this, "This is why the
18 USEPA and FDEP do not allow lead and copper tap water
19 samples to be collected from customers who have in-home
20 water treatment systems," period.

21 BY MR. DETERDING:

22 Q Mr. Porter, did you prepare an exhibit that was
23 referenced in your testimony and attached to that in
24 pre-filing, entitled DWP-1, Volume 1, a water facilities
25 upgrade report?

1 A I did.

2 Q And was that prepared by you or under your
3 direction and control?

4 A It was.

5 Q And do you have any changes or corrections to
6 make to that report?

7 A I do not.

8 Q Do you have any other exhibits attached to your
9 direct?

10 A No.

11 MR. DETERDING: We request that Mr. Porter's
12 prefiled direct testimony be inserted in the record as
13 though read.

14 COMMISSIONER CLARK: It will be inserted in the
15 record as though read.

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BEFORE THE FLORIDA PUBLIC SERVICE COMMISSION

DOCKET NO. 960545-WS

WATER QUALITY INVESTIGATION OF ALOHA UTILITIES, INC

PRE-FILED DIRECT TESTIMONY OF DAVID W. PORTER, P.E.

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- 6 Q. Please state your name and professional address.
- 7 A. David W. Porter, P.E., C.O., Water/Wastewater System Consulting Engineer, 3197 Ryans
- 8 Court, Green Cove Springs, Florida, 32043.
- 9 Q. What is the purpose of your testimony?
- 10 A. To update the Public Service Commission on the activities of Aloha Utilities, Inc. since its
- 11 Order in March of 1997 wherein it found the quality of service of Aloha was providing to
- 12 its customers was unsatisfactory, and to demonstrate to the Commission that in fact the
- 13 service provided by Aloha is not only satisfactory, but of very high quality. Aloha has done
- 14 everything that it can reasonably be expected to do in order to resolve the water quality
- 15 concerns that have been raised by the customers of the Utility.
- 16 Q. At the behest of the Public Service Commission as outlined in that March 1997 Order, did
- 17 you prepare a study on behalf of Aloha Utilities outlining the potential upgrades that the
- 18 Utility could undertake to its water system in order to alleviate some of the concerns?
- 19 A. Yes. While the study itself stated that it was limited to hydrogen sulfide removal, we also
- 20 continued to investigate and actually put in writing within the study, some of the other
- 21 alternatives that we had considered in order to address the water quality concerns that the
- 22 customers had raised in those hearings almost three years ago. That study is attached hereto
- 23 as **Exhibit DWP-1**.
- 24 Q. What were your ultimate conclusions in that study?
- 25 A. We determined that Aloha could undertake substantial improvements to help in the reduction

1 of hydrogen sulfide to very minute levels. We believe that reducing hydrogen sulfide to
2 these extremely low levels will not only assist in addressing some of the concerns of the
3 customers with odor and copper corrosion, but will also assist the Utility in conforming to
4 expected environmental agency regulations which will begin to be phased in approximately
5 three to six years from now. It should be noted that hydrogen sulfide, which was the primary
6 focus of the upgrades investigated, is not present in excessive levels in Aloha's water. This
7 naturally occurring constituent of the water is converted to sulfate at Aloha's water treatment
8 facilities. The resulting levels of sulfate are nowhere near the maximum limits allowed by
9 the environmental regulatory authorities, nor are they even as high as those in the Pasco
10 County system as of the most recent data I have reviewed.

11 The attached engineering study which we performed, discusses plant improvements which
12 would reduce hydrogen sulfide levels to extremely low levels far beyond anything needed
13 to have high quality water under current regulations. It will however, likely have the effect
14 of reducing any odor concerns of customers, as well as having an impact on copper
15 corrosion. As noted in the report, these improvements will not be required by DEP and EPA
16 regulations for approximately three to six more years; however, we have volunteered to
17 undertake them immediately.

18 I should note that there are several additional factors that will affect color and odor concerns
19 the customers have raised. Water quality can be negatively impacted by home water
20 treatment units and hot water systems in the customers' home.

21 Home water treatment units change the water chemistry from what it was as provided by
22 Aloha and can increase the corrosivity of the water by removing most if not all, the naturally
23 occurring minerals. Hot water system components, such as the hot water heater, can be a
24 home to sulfur reducing bacteria that convert sulfate to sulfide that reacts with copper piping
25 to form copper sulfide. The number of these sulfur reducing bacteria can increase to high

1 numbers when the quantity of hot water used in the home is small relative to the size of the
2 hot water system (hot water tank size and amount of water held in the hot water piping).

3 The Utility should not be placed in a position of trying to treat water to specifications
4 assuming utilization of a home treatment system or the water quality changes that take place
5 in home hot water systems. Not only would such a task be impossible, but would have to
6 recognize numerous different home treatment systems and hot water use patterns which can,
7 and do, affect the quality of the water in customers' homes. This is why the USEPA and
8 FDEP do not allow water samples to be collected from customers' home water systems for
9 analysis and reporting to meet regulatory water system monitoring for all but lead and copper
10 tap sampling.

11 The quality of the water as it is delivered to customers' homes by Aloha is of high quality
12 and meets, and in most cases exceeds, all USEPA and FDEP standards. The corrosion
13 control program implemented in 1996 has performed as expected and was deemed
14 "optimized" by the FDEP in August of 1998. On June 28, 1999 the FDEP notified Aloha
15 that its corrosion control system was operating so well that the system was eligible for
16 reduced monitoring. There should have been a drop in the number of additional homes
17 reporting copper corrosion related black water problems due to the success of the corrosion
18 control program.

19 The following factors can negatively affect the quality of the water after it is supplied by
20 Aloha to the customer in his/her home:

- 21 1. The use of home water treatment units to modify the water chemistry.
- 22 2. The length of time water resides in the hot water system and its temperature
23 before its use.
- 24 3. The type of hot water tank components installed in the home (magnesium
25 anodes used in the hot water tank to prevent corrosion of the hot water tank).

1 4. The grade and quality of the copper pipe used to pipe the customers' homes.

2 Q. What have you concluded from your research and study of water quality and Aloha Utilities
3 since the 1996 hearings?

4 A. When all is said and done, several things become clear:

5 1. First, Aloha's water meets all applicable standards and has for many years.

6 2. Aloha has complied with the USEPA and FDEP Lead and Copper Rule and
7 has implemented and optimized a FDEP approved corrosion control program.
8 Aloha's corrosion control program was deemed optimized by the FDEP in
9 August of 1998 and was deemed eligible for reduced monitoring status in
10 June of 1999.

11 3. Water quality changes that take place in the customers' homes are the
12 primary, if not the exclusive, cause of the corrosion of some customers'
13 copper piping systems. This corrosion of the copper pipe generates a copper
14 sulfide byproduct that is experienced as "black water" in some customers'
15 home water systems. Home water treatment systems and hot water systems
16 are the primary cause of the adverse water quality changes.

17 4. Two years ago, Aloha completed a study to determine what water system
18 modifications could be made to address the complaints of water odor and
19 color expressed by some of Aloha's customers. This study was completed
20 at the request of the Commission. The study identified and evaluated several
21 alternative scenarios for upgrading the Seven Springs Water System. One
22 alternative, that of consolidating a number of small pumping and treatment
23 systems into three regional state-of-the-art water production, storage and
24 delivery facilities was recommended. This alternative would produce a water
25 of very high quality. This alternative would also address upcoming (three to

1 six years) regulatory driven modifications that will need to be made to the
2 facilities. Aloha has previously volunteered to immediately move forward
3 with the design and construction of these facilities, however, the Commission
4 has declined to order Aloha to do so. Aloha still stands ready and willing to
5 accelerate the design and construction of these improvements as the
6 Commission so desires and if the appropriate rate relief can be provided to
7 cover their cost.

8 Q. Do you have any further testimony to provide at this time?

9 A. No. I do not.

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1 MR. DETERDING: And that his prefiled Exhibit
2 DWP-1 be marked.

3 COMMISSIONER CLARK: It will be marked as
4 Exhibit 12.

5 (Exhibit 12 marked for identification.)

6 BY MR. DETERDING:

7 Q Mr. Porter, please provide a brief summary of
8 your direct testimony.

9 A Very well. May I ask at this point, based on
10 the request that was asked of me yesterday to provide a
11 description and technical discussion on the problem as a
12 whole, may I do that at this time?

13 MR. McLEAN: We'll object to that, that is not
14 in his direct testimony.

15 COMMISSIONER CLARK: Mr. McLean, I had asked him
16 to do that yesterday, to provide an overview of that. I
17 thought it was important for the customers to have that.
18 Why don't you just summarize your testimony now, and then
19 if -- I'm trying to think. I think it would be helpful to
20 have that for the customers. If he says something that
21 you feel is way beyond what has been presented here, go
22 ahead and object to it, and I will deal with it then.

23 MR. McLEAN: Well, let me object on behalf of
24 the customers of the free-ranging discussion by Mr. Porter
25 on any topic, including this one.

1 COMMISSIONER CLARK: All right. Mr. Porter,
2 just stick to the summary of your prefiled testimony.

3 THE WITNESS: Commissioner, in my exhibit, which
4 is now Exhibit 12, I provide that discussion. So as a
5 part of my summary, that is part of what I need to
6 discuss.

7 COMMISSIONER CLARK: Go ahead.

8 THE WITNESS: Okay. Beginning approximately
9 five years ago, a number of customers, largely centered
10 around one subsection of Aloha's service area, began
11 experiencing problems with --

12 COMMISSIONER CLARK: Excuse me just a minute.
13 Do we know whose phone that is, and maybe somebody could
14 shut it off.

15 (Off the record.)

16 COMMISSIONER CLARK: Okay.

17 THE WITNESS: A number of customers of a
18 subsection of Aloha's service area began to report that
19 they were experiencing discolored water in their homes.
20 At that time, I was asked by Aloha Utilities to look into
21 the matter and try to determine what the extent of the
22 problem was, and to try to determine what the problem was,
23 which I did. We also contacted the Department of
24 Environmental Protection and asked that they assist us in
25 that endeavor, which they did. And I might add they did a

1 very good job assisting us.

2 We interviewed a number of the customers, looked
3 at the problem, and I want to state up front absolutely
4 without any reservation this dirty water problem that
5 people have discussed here this last day absolutely does
6 exist, beyond a shadow of a doubt. I have seen it myself.

7 It does exist in some customers' homes. It certainly
8 doesn't exist in all customers' homes, but where it
9 exists, it really does exist. And Aloha has been on
10 record with that a number of times, as have I. So I would
11 like to reassure the customers, we have never said that
12 that problem that they experience does not exist. And I
13 wouldn't be happy with the problem myself.

14 And I and Aloha, I speak for Aloha, would love
15 to see this problem resolved, as well. But I think we
16 need to discuss true causes and true solutions, and that
17 is what I am here to do today. Getting back on topic.
18 The DEP and ourselves with Aloha Utilities did a rather
19 extensive and rather unprecedented review of what was
20 going on with the customers.

21 In addition, the Department of Environmental
22 Protection took samples of the black material and
23 discolored water that was in some of the persons homes
24 that we just discussed. They sent it off to their
25 laboratory and had it analyzed, and to be perfectly honest

1 and fair, it was DEP that identified the copper sulfide
2 problem and not ourselves.

3 At that point in time five years ago, we were
4 not real familiar with that problem. We are now. That
5 problem has now become very evident to us, and to many
6 other folks in the state and across the United States, as
7 well. At that time the body of research available on this
8 issue was very minor. So the DEP identified it and we
9 will give them credit for it, because they did it.

10 At that point we started to look for
11 correlations between what we observed in the field and how
12 the water was being generated. Because the puzzling thing
13 was there could be five or six neighbors on a street, the
14 one thing that is common amongst all the homes is the
15 water. Everybody gets the same water. There is no
16 different, we don't have different taps for different
17 people. Everybody on a street, everybody in the
18 neighborhood gets the same water.

19 But the puzzling thing was if there was three
20 homes side-by-side, it was not uncommon to have one home
21 in the middle absolutely experience the problem, no doubt
22 about it, and two others on each side never see the
23 problem in a million years. Just never saw it. It was
24 very puzzling.

25 I have been working in this industry for 28

1 years, and generally that is not the way it works. If one
2 person sees it, everybody sees it. But this is not the
3 case.

4 That immediately lead us to believe that since
5 the one thing that was common amongst all the homes was
6 the water, that we should therefore not only look at the
7 water, but look at other factors that might be influencing
8 what could be causing the black water in the homes, the
9 discolored water. We then started to search the
10 literature, talk to other systems. I, myself, called
11 many, many, many utility directors in the state and asked
12 about the problem. And I will tell you that many admitted
13 to having the problem. And I have said that here before.

14 Most said what we said. They see it
15 sporadically, they see it once in awhile. I had it five
16 years ago, we have never had it since. So it was, again,
17 one of these things that was hard to put your hand on.

18 So then we started to determine what was different
19 and what was similar in some of these homes that were
20 having the problems. And, basically, what it came down to
21 was there was a whole host of things taken in one
22 combination or another that seemed to have a major effect
23 on where this black water problem would be generated. And
24 some of those things we found were the type of treatment
25 that the water received before it went into the homes.

1 And I will touch on that in a minute as to why that
2 is important. It was also how often and how frequent the
3 water was used in the home, which meant how long the water
4 actually was resident, stagnant in the house piping, how
5 long that was. The longer it sat in the pipes in the
6 home, the more the likelihood that this problem would
7 develop.

8 The temperature at which the hot water system was
9 maintained, whether it was low, high, medium, whatever,
10 had an effect. And since then we have found there is
11 another -- I, and members of Commission staff, and DEP,
12 and a whole host of contractors, plumbers, university
13 professors and so forth did sit on a committee in the last
14 two years funded by the State of Florida to investigate
15 this problem, because it is statewide. We looked at this
16 probably, I think, about as in-depthly in the State of
17 Florida as it possibly can, and it was found that from
18 Jacksonville down through Orlando, across I-4 corridor
19 into Tampa Bay, especially that corridor, there is a
20 tremendous problem with copper corrosion.

21 In the Orlando area it was reported to us by a
22 number of the plumbing contractors that copper plumbing in
23 that area, in some areas in Orlando last six months and it
24 is gone. It is full of holes. It has to be replaced.
25 And the common solution to that is to replace it with CPVC

1 pipe, that is where this original idea came from.

2 As a matter of fact, that group, the study group,
3 the outcome of that group was a letter that went to all
4 building officials in the State of Florida. Because this
5 came up from the customers yesterday, they could support
6 and understand there has been an effort on the State to
7 notify the building officials. They have been notified.
8 And so have contractors, plumbers and people of that sort.

9 Anyone that they could find that were licensed,
10 regulated, registered or public servants. They were
11 notified that there is a problem with copper, and that
12 there is no definitive answer as to why there is a
13 problem, but that before copper is used in residential
14 construction it is imperative that you consider not only
15 water quality, but the other issues that we brought up in
16 the letter before you make a selection of materials. We
17 never said don't use it. We said it is important that you
18 consider these things because there is a problem.

19 And as the Commission -- Commission Clark knows, I
20 don't believe the other two Commissioners do, there have
21 been localities in the State of Florida that have taken
22 copper out of the approved materials list for residential
23 construction. Duval County being one of them, because of
24 problems similar to this. Going back, again. So we found
25 that there was a number of different types of things that

1 could influence whether this problem existed or didn't.
2 And also you had to look at it not only from a discolored
3 water perspective, because that is really a symptom, it is
4 not the problem.

5 The true problem is copper corrosion. It is
6 actually corrosion of the pipelines is the problem here.
7 And those colors that you see are symptoms, they are one
8 of the effects. The other effects are what you heard
9 yesterday, pinhole leaks and premature wearing out of the
10 copper and short life span. That is the true problem. And
11 the colors are a result or a symptom. And what we found
12 was that everything, and it has been studied here, and I
13 can provide you with a bibliography or a reference list,
14 everything from lightning strikes, which I know a lot of
15 customers laughed about yesterday, but in reality there
16 has been a major funded program from the University of
17 Central Florida to study that issue. And it has been
18 shown that lightning strikes play a major role in pinhole
19 leaks outside the home in the State of Florida. And it is
20 because of the way the copper piping is now grounded to
21 the systems in homes.

22 Most systems like Aloha's don't have metal pipes in
23 the streets anymore, we have got PVC. We don't have metal
24 pipes. In the olden days when people used to ground their
25 house ground system to the cold water piping, they thought

1 they were getting a ground because the entire grid system
2 was grounded because the piping itself in the street was
3 PVC. You heard one customer yesterday say, well, you
4 know, the piping coming in from the road and, in fact, all
5 the way up to my property is PVC. And that is true, that
6 is what we do.

7 So, now when you ground the piping in the home, you
8 don't have a ground any longer. You have got a floating
9 ground. And that creates currents in the pipeline. And
10 currents or movements of electrons, that is the definition
11 of oxidation, loss of electrons is oxidation. When you
12 lose electrons, you oxidize something. When you oxidize
13 it, you corrode it. That is what corrosion means, it's
14 oxidization. So these galvanic cells become set up for
15 these problems that you see with lightning strikes causing
16 immediate movement of current, those things move
17 electrons, and when they do they cause corrosion of the
18 pipelines. And, again, that is well-documented. I can
19 provide you with many different documents. Yes, ma'am.

20 COMMISSIONER JABER: Say that again one more
21 time. I want to make sure I understand that concept.
22 It's the fact that there is PVC to the home that creates a
23 reaction in your --

24 THE WITNESS: No. What happens is when you
25 connect your electrical system in your home to copper

1 piping in your home, it has been commonly understood in
2 the industry for many, many, many years that you are
3 grounding the system. And what grounding means is if
4 there is any stray current in your home from any source,
5 it passes through this ground system and into, literally,
6 the ground. That is why it is called the ground. It
7 discharges it somewhere.

8 And when you move electrons, what you are doing
9 is you're causing oxidation. It makes a compound shed
10 electrons, copper for instance. Now, if it moves the
11 ground, and you just pass electrons, that is really not a
12 big problem. However, now that piping no longer is
13 metallic in the streets, when you clamp this ground wire
14 onto your home piping system, you are essentially not
15 grounding the testimony anymore. You have a floating
16 ground. So what that means is there is really no place
17 for those electrons to go, so they just keep moving around
18 the system. And what further complicates that is now you
19 have a cable system coming into your house that is
20 grounded to one part of your system that is piped. You
21 have piping over here, you have got a telephone system
22 that is grounded over there, you have got an electric
23 system that is grounded over here, and each one of those
24 operate at different voltages. So what that does, it sets
25 up a movement of electrons in the system that creates a

1 corrosion problem that didn't exist in the past. That is
2 real, and that exists, and that is one of the things we
3 studied in this state-sponsored group.

4 The other thing, the lightning strikes does
5 essentially the same thing. What it does is now since in
6 the street you have PVC pipe, you have got copper piping
7 going from the home to this PVC pipe, which is an
8 insulator, a lightning strike hits, you have got these
9 tremendous currents set up, they induce into the
10 pipelines, which is conduction, and now where do the
11 currents go? They just move around again, and they create
12 corrosion.

13 As a matter of fact, there was a number of
14 plumbers brought into this group. And, like I said, you
15 have staff on the committee, as well, that showed us holes
16 that were this big that were blown into copper piping. So
17 it is absolute and definite. It happens. That is one
18 case.

19 Obviously today, with the home treatment
20 systems, it's a major problem for us. Because as you may
21 be well aware, what a softener does, and this is why
22 people like them, it removes minerals and things from the
23 water to make the water soft. Soft water means water with
24 very little minerals in it. That is exactly what it
25 means. So when you take the minerals out of the water,

1 there are no minerals left to coat the insides of the
2 pipe. If you don't have a water softener, what happens is
3 minerals will build up on the inside of your copper pipe,
4 or any pipe for that matter. And what that does is it
5 makes a barrier between the water itself and the copper.

6 So you can imagine, if you have calcium ions,
7 you all see calcium, you know, limestone. It eventually
8 forms a coating on the inside of this piping. And this
9 coating, then, prevents the water from actually touching
10 the copper. Water is the universal solvent. Whether it
11 is good, bad or indifferent water. As a matter of fact,
12 distilled water, which most people would say is the
13 greatest water they have ever seen, is the most corrosive.
14 Because what happens is when you place water through any
15 kind of substance, through the soil, through the dirt,
16 through the copper pipe, the minerals or metallic content
17 in the receiving material tries to be transmitted and come
18 into equilibrium with the water. Well, the water has
19 nothing in it, so there is a tremendous chemical pressure
20 or chemical demand for those two things to come into
21 equilibrium, but they can't when there -- when there is
22 the calcium there, because they don't touch. And the
23 thing is, the calcium and the water, before when the water
24 had calcium in it, you said keep depositing it, so, yes,
25 it would pick some up as it when through, but it would

1 deposit some more behind it. So you had a constant
2 coating of calcium or some other material on the inside of
3 the pipe that would prevent the water from oxidizing the
4 copper.

5 COMMISSIONER CLARK: Well, if that is true, why
6 are they experiencing pinholes in the copper before it
7 gets to those treatment systems?

8 THE WITNESS: Absolutely. And that is what we
9 said before. If you have electron, electronic
10 decomposition of the pipe due to either grounding effects,
11 again, if they are grounded to their copper piping -- and
12 this is something Aloha has already sent out in notices to
13 the customers numerous times, please have an electrician
14 come in and check and see if this is a problem. There are
15 ways to determine if that is happening.

16 And we have also said that lightning strikes are
17 a real serious problem. And, again, one of the products
18 of the study group was a list of materials and appendices
19 of research that has been done not only here in Florida,
20 but across the United States that shows that these things
21 are real and that they exist. And there is a lot of
22 people doing a lot of research right now trying to
23 determine what is causing this problem. None more so than
24 the Copper Institute, the folks that supply the copper to
25 make the pipe. And they were a member of this group, as

1 well. And they were aware of the fact. They said -- as a
2 matter of fact, their comment to the group was copper is a
3 great material when it is appropriate. And that is true.
4 Copper, I will tell you, is not a common problem. I mean,
5 there are places where copper is very appropriate. There
6 are other places where copper is not appropriate. And,
7 unfortunately, in Florida situations where you have
8 sulfides, or sulfates, or any other kind of sulfur product
9 in the water than can be converted back to sulfide in a
10 customer's home through various means that I will be glad
11 to tell you about in a minute, then copper is the wrong
12 choice.

13 Because those sulfides, once they are converted
14 back, you know, sulfur converts to sulfide in a customer's
15 home, it will attack that copper and form copper sulfide.
16 And additional leaks, and pinholes, and black water, and
17 green water, and blue water and every other color under
18 the rainbow. And it creates a serious problem.

19 Copper is not the solution for waters of the
20 type that we are talking about in most parts of Florida.
21 And there is another problem. A lot of customers said
22 yesterday, well, why isn't Aloha doing anything to protect
23 our pipes. Well, Aloha is. Aloha, as I reported three
24 years ago, four years ago, started an aggressive DEP and
25 EPA-approved corrosion control program for its water

1 system, and has been diligently and effectively providing
2 this corrosion inhibitor over the last three and a half
3 years. It has worked very well. As a matter of fact, it
4 be has worked so well that the EPA now, this year, has
5 allowed Aloha Utilities to become one of the utilities in
6 the state that has reduced monitoring. We don't have to
7 monitor lead and copper as much as most utilities do. And
8 I'm sure that is going to be news to some of the
9 customers, but Aloha doesn't have to monitor as much as
10 some of our sister counties because ours has been so
11 successful.

12 Now, you ask yourself, if that is true, why are
13 these people seeing this problem of black water? Well,
14 again, as you heard yesterday, and I think the customers
15 were very good at pointing this out many, many, many of
16 those customers with a few exceptions had home treatment
17 systems. And if you remember what I told you earlier,
18 what a softener does is it removes minerals, and one of
19 those minerals is calcium. The inhibitor that Aloha uses,
20 which is the same inhibitor that Pinellas County uses, by
21 the way, is a product made of both orthophosphate and
22 polyphosphate. And those compounds mix and combine with
23 the calcium in the water to form calcium phosphate, which
24 is an even stronger coating on the pipe than calcium by
25 itself. But, now, in a customer's home, if they remove

1 that calcium, then there is no way for that inhibitor to
2 form the calcium phosphate, because there is no calcium
3 left.

4 So when they take and use a home treatment
5 system that removes the minerals from their water, they
6 not only inactivate completely Aloha's very expensive and
7 complicated, I think, I believe it is complicated,
8 inhibitor system and encroachment control program, but
9 they also, in addition to that, make the water very
10 aggressive, so they have got a double-whammy. They have
11 got the fact that they have prevented this coating from
12 being able to set on the pipes, but they have also now
13 made the water so corrosive that it really is aggressive.

14 COMMISSIONER JABER: Mr. Porter, how do you
15 explain the fact that some customers didn't have water
16 softeners and still testified that they had black water
17 problems?

18 THE WITNESS: Absolutely. And remember we said
19 at the very beginning there are a whole host of problems.
20 What I'm telling you about the softeners is it exacerbates
21 the problem. It makes it far worse. So the fact that we
22 see it more often than not with people with softeners
23 doesn't surprise me. The fact that we see it sporadically
24 with people that do not have softeners doesn't surprise
25 me, because a whole host of things, like I said, the

1 length of the time the water sits in the system -- and I
2 will tell you why in a minute that is so -- the fact that
3 some people have the system grounded improperly, I mean,
4 all of those things can address why some people have it.

5 But keep in mind the thing I said to begin with,
6 because it goes back to the question you just asked. You
7 can go on any given street, the one thing that is common
8 to everybody is the water. Everybody gets the same water.
9 You will find this house with a severe black water
10 problem. This house doesn't have it. This house doesn't
11 have it. That one does. That one does. That one does.
12 That one doesn't. The one thing that is common amongst
13 all those homes is the water, the one thing.

14 COMMISSIONER JABER: Could it also be that the
15 inhibitor and the chemicals you are now treating the water
16 with, it hasn't worked because the copper pipes are so
17 damaged because of the corrosion of the water? I mean, is
18 there --

19 THE WITNESS: Absolutely. And one of the
20 reasons can be this. There was a study done, as a matter
21 of fact the study, the one definitive study that has ever
22 been completed on this issue was recently done about two
23 years ago, three years ago, at the University of Colorado.
24 And at that time it was a graduate student, Ms. Jenkins,
25 and her professor, a fellow by the name of Mark Edwards,

1 who is a very well respected expert in the water treatment
2 field, recognized this was a serious problem.

3 Again, contrary to what some of the customers
4 said, this problem exists in many places, and some of them
5 were Minnesota. I heard someone say we have great water
6 in Minnesota. Well, Minnesota has the problem. But the
7 problem is it is specific to areas. Because if the area
8 uses ground water or surface waters that have sulfides or
9 sulfur in them, which is what we have to work with, then
10 you are possibly going to see the problem. Other areas
11 don't have it.

12 I can show you places in Florida that don't have
13 it. But the reality is Sarah Jacobs and her group found
14 that once the problem began, the material that is
15 deposited on the pipe, that corrosion material, the copper
16 sulfide itself, the black stuff that people are talking
17 about, actually acts as a catalyst to keep the reaction
18 going. And her study said, basically, once it is there,
19 it is very hard to stop, almost impossible. And she was
20 the one that said and her findings were that even if you
21 were then to remove all the sulfide, take it all away,
22 that those people with that problem, it would take a very
23 long time before their piping went back to normal. And
24 there is a reason for that, and some customers illustrated
25 it very well yesterday. You know how some said, well, I

1 will tell you what, when I run my faucets, I don't have a
2 problem. But I put on that tub, and boy, I can get the
3 problem almost every time. And you ask yourself, why
4 would that be, why would it favor a tub and not a sink.
5 Well, the one thing that is different about a tub is when
6 you turn the tub on you have got a great big flow of
7 water, a very rapid flow of water. In a little sink, you
8 have got a little small amount of water. Especially if
9 you have got an aerator. Well, when that huge volume of
10 water comes out relative to the amount of water that comes
11 out of the faucet, then water as you might imagine might
12 have to flow much faster in the copper pipes to get that
13 much volume of the tub. And when it does, it literally
14 drags off some of that copper sulfide that has been
15 attached to the copper where it has been forming. And
16 that is why all of a sudden you go, wow, look at that
17 copper. And it also explains why they don't see it
18 tomorrow, because they just dragged it all off. It would
19 take a couple of days to form.

20 COMMISSIONER JABER: Well, then how do you
21 explain that same reaction in a toilet closet?

22 THE WITNESS: But what is happening there, I'm
23 afraid, in some cases is misconception. There is lots of
24 things in this world that are black. This is black, this
25 is black, some dirt soils are black, the little balls in

1 the bottom of your toilet that flap, they are black and
2 they are rubber. They disintegrate with time. And while
3 I will grant you that sometimes these people have the
4 problem in the piping system like we just talked about,
5 that fills up the toilet tank, some of that black in the
6 back of their toilet tank, if they have the black water in
7 other parts of the home is probably copper sulfide over
8 time building up. Because remember what you do with a
9 toilet tank; fill and draw, fill and draw, fill and draw.
10 And it sits there a long time in between use. So any of
11 the black stuff that you saw fall in the bottles will fall
12 there and artificially look worse, because it is
13 concentrated. It is just as if you took a bottle, you
14 filled it up, you waited until it filled and you dumped it
15 out, but you left that little bit of black. Then you fill
16 it up again, and you wait for it to settle and you dump it
17 again. And you keep doing that over and over and what is
18 going to happen, you are going to concentrate it, so it
19 looks a lot worse than it really is. That is one reason.
20 The other reason is --

21 COMMISSIONER JABER: Mr. Porter, would you agree
22 with me, a customer showed us yesterday a jar where he let
23 the water evaporate a little bit and let the black slimy
24 substance dry up. And then we saw a picture of a toilet
25 tank that was allowed to dry up. Would you agree with me

1 that the two sites look the same?

2 THE WITNESS: Looked very similar. Absolutely.
3 And what I'm saying to you is there are cases where that
4 is exactly what is happening. If you remember what he
5 said he did, I filled the jar and emptied it, I filled
6 the jar and emptied it, I filled the jar and emptied it,
7 and then I let it sit, and then I let it dry, and this is
8 what I got. That is exactly what happens in the back of a
9 toilet tank to someone that has the problem.

10 Now, there are other customers that came in here
11 and said, well, I really don't have the problem too often,
12 but it is in the back of my toilet tank. And I have
13 personally been out to some people's homes that say, I
14 never see it in my taps, but it is in my toilet tank.

15 COMMISSIONER JABER: Would you agree with me
16 that if one customer has the problem it is a problem?

17 THE WITNESS: Absolutely, no doubt about it. My
18 comment on that, though, is let's find out where the
19 problem really is, and I believe I'm going to tell you
20 that, and let's solve the problem.

21 Again, let me reiterate. Aloha never -- at
22 least I have never given testimony that it doesn't occur
23 and that it is not a problem, and neither has Aloha. What
24 I'm -- I guess going back to where I was, these materials
25 build up in that system, and build up in the system, and

1 then when you flush them by turning on the tub or
2 something, you see them. And you especially see it in
3 back bedrooms. Did you notice everyone said, well,
4 everyone -- a lot of people said, I see it in my back
5 bedroom where my guests stay more often than ever. And,
6 again, that makes perfect sense. Because the water that
7 is in the copper pipes stays there the longest, okay. In
8 between uses that water is in contact with that copper for
9 a very long time. So that reaction, then, can proceed as
10 far as it can proceed with the amount of sulfide in the
11 water until it is all used up. So, of course, you would
12 see it worse back there. And, again, I don't want to bore
13 you with it, but I'm trying to give you a full explanation
14 of what is going on.

15 Now, where does it come from? Well, I think I
16 have demonstrated. Where it comes from -- let me go back
17 and say one thing. Never once in this entire proceeding,
18 never once in the entire five years that this thing has
19 been going on, never once by anyone, any source, with all
20 the scrutiny that this water has gotten, never one person,
21 not one sample, nothing has shown that the water going
22 into every single customer's home doesn't meet the rules,
23 not one. Not once has anyone showed us a sample going
24 into a customer's home that wasn't clean, clear, and odor
25 free. Not one. Not one. And that is absolute going into

1 the home.

2 COMMISSIONER JACOBS: Going in it is odor free?

3 THE WITNESS: Absolutely.

4 COMMISSIONER JACOBS: So you're saying that --

5 THE WITNESS: Let me rephrase that. Odor free
6 from what point? The smell of chlorine sometimes?
7 Absolutely. There is no drinking water that doesn't. But
8 as far as hydrogen sulfide goes, absolutely never. Not
9 once.

10 COMMISSIONER JACOBS: So the hydrogen sulfide
11 also creates the sulfer smell in the house?

12 THE WITNESS: Let me tell you how that happens.
13 At Aloha Utilities right now, the way they manage the
14 sulfur, the hydrogen sulfide problem that comes from the
15 wells, understand that where the sulfur comes is not
16 something that Aloha can control. A lot of Florida
17 waters, many, many, many of them, especially in that
18 corridor that we spoke about, when you drill a well you
19 are going to get varying amounts of hydrogen sulfide in
20 the water. It is there. So now the utility must deal
21 with it.

22 And there is ways to deal with it. One of the
23 accepted ways is to oxidize, chemically convert that
24 hydrogen sulfide, which smells and which is corrosive to
25 something else. You convert it. You chemically use a

1 process to fix it. And what Aloha chose to do, and what
2 many, many, many utilities, and you can ask the DEP folks
3 that are here this afternoon, what many, many, many folks
4 do is they use a chemical oxidant, chlorine, which is
5 bleach. They chemically oxidize that sulfide to sulfate
6 at the wells. So before the water ever enters the
7 distribution system, ever, Aloha has converted that smelly
8 material from what it was to sulfate. Sulfate does not
9 smell, does not taste at the concentrations we are at at
10 all, and also isn't corrosive. It passes right through
11 the system. And in many customers' homes that is
12 absolutely true. And that is why you don't see everybody
13 here.

14 Now, in some customers' homes, it is possible
15 under the right conditions, in the presence of a type of
16 bacteria called sulfur-reducing bacteria, that largely
17 exists in either hot water systems or in cold water
18 systems that are allowed to go warm and sit for a very
19 long time so that the number of bacteria can grow, okay,
20 that what happens is when you pass these sulfates through
21 the system which we have oxidized, when we oxidize it we
22 went from sulfide to sulfate, an oxidation step, the
23 sulfur-reducing bacteria do the opposite. They now take
24 the sulfates and convert them back to sulfides. So where
25 we had sulfides in the system originally, converted them

1 to sulfates, and I might also mention at this point
2 because the question is going to come, is there a limit on
3 that? There is. The limit from EPA is 250 milligrams per
4 liter sulfates. Aloha's, after doing this treatment, runs
5 at the most around 16. So it is very minute amounts of
6 sulfates.

7 They go out into the system, and in some
8 customer's homes, especially those customers that have
9 really big water tanks and have two or two people in the
10 home, so they have very big tanks and very long residence
11 times in the tanks, then the lines themselves, the
12 bacteria will build up to high numbers because the water
13 isn't used enough. If you don't pull the water out, the
14 bacteria will grow. And when they do, there get to be
15 large enough numbers in that tank, and it's not so many
16 that you can see them, but they are there, they will then
17 convert that sulfate right back to sulfide again. And
18 that is why some customers say, man, I can smell it. But
19 you go outside their house and take a sample, there is
20 none. You go inside their house, believe me, I've been in
21 some of their houses, it's there. And again, they are not
22 telling you a lie, they are telling you the truth.
23 Absolutely beyond a shadow of a doubt. I have been in
24 there. Some of those homes have strong hydrogen sulfide
25 odors in them. And, again, it is because in the system in

1 their home, those sulfates are then converted back to
2 sulfides.

3 The solution to that, according to the
4 literature in the study groups, were to raise the hot
5 water tank temperature. I never recommend it, because I'm
6 afraid with older folks to recommend they raise them to
7 the levels that most of the hot water tank manufacturers
8 do, and that is like 150 or 160 degrees. And that is kind
9 of dangerous for older folks that don't have the same
10 tactile responses that we do. But that is one of the
11 solutions. And why does that work? Because the organisms
12 that we talked about, the sulfur reducing bacteria, they
13 thrive at 120 to 130 degrees, that is their optimum
14 temperature to operate at. So they are called
15 mesothermophylic organisms, they like to live at 120/130
16 degrees, which is where a lot of water tanks today are set
17 for energy conservation and because of scalding.

18 But if you raise is back up to 150 or 160, which
19 is what we used to do not too long ago, maybe ten years
20 ago before the lawsuits started on scaldings, you know,
21 you didn't see this problem as much. Well, the hot water
22 tanks used to be so warm that the bacteria really never
23 grew to high levels. So if you could raise that
24 temperature back to 150 or 160 degrees, oftentimes if
25 solves the problem, that is one way.

1 The other way is you heard a lot of discussions
2 about my plumber or the hot water manufacture told me to
3 change my anode. I don't know how many times we heard
4 that yesterday. Change my anode out. And you saw a guy
5 bring an anode in that was somewhat diminished in size.
6 By the way, they are not a quarter, they are about that
7 (indicating) size initially, but, still, he has got the
8 right point, his was used up. The purpose of an anode in
9 a hot water tank is to protect the tank itself from
10 corrosion. Remember what we said about loss of electrons.
11 Whenever you put water in contact with metallic
12 substances, or metallic surfaces, somebody is going to
13 give up electrons and be corroded. What the manufacturers
14 of hot water tanks have done for years is they put a
15 device inside the hot water tank made of magnesium. And
16 magnesium will give up those electrons a lot faster than
17 the iron will. And what happens is as that corrosion
18 takes place, that magnesium anode gives off electrons.
19 Well, unfortunately the problem with that is this. In
20 order for those sulfur-reducing bacteria to do the job
21 that they do so well, there needs to be an energy source
22 to help them do that. And where they get that energy is
23 directly from those electrons that are spun off from that
24 anode. And that is why Rheem and many of the other
25 manufacturers of hot water tanks will tell you if you are

1 having a problem with hydrogen sulfide, as a matter of
2 fact, it is in DEP's documentation, you can ask them about
3 it, they will tell you to remove that anode, put in an
4 aluminum one. It doesn't work quite as well, but it
5 doesn't give off the same number of electrons and it slows
6 down the growth of those organisms, and we have told
7 people that.

8 So why do some people see it even though they
9 don't have any of the other reasons? That is one. And
10 there is many others. There are many others.

11 COMMISSIONER JABER: What about the -- there
12 were two or three customers that, coincidentally, lived in
13 other parts of Aloha territory and recently moved into
14 Wyndgate or Chelsea Place. They were creatures of habit.
15 I have to assume they had the same kind of hot water
16 heater. I have to assume they had those floating
17 electrons, and electricity and lightning struck there, or
18 the lightning strikes there just as often as it strikes in
19 Wyndgate and Chelsea Place. They didn't experience the
20 black water problem when they went into Wyndgate or
21 Chelsea Place.

22 THE WITNESS: That is a good question. That is
23 a very good question. And if you go back in the record,
24 you are going to find what that gentleman said was this.
25 I have lived in Veteran's Village for years and I never

1 had a problem. The water was good. It was good quality
2 water. Never had a problem. And we said, sir, did you
3 have a home softening unit? No, never had one there.
4 Didn't need it, it was good quality water. When you moved
5 to Chelsea, did you have a water softener? Yes, it was
6 there when I came in. Have you had the problem there?
7 Oh, yes.

8 COMMISSIONER JABER: Mr. Porter, there were also
9 customers, though, that put the water softener unit after
10 they moved in, after they realized they had a black water
11 problem.

12 THE WITNESS: Absolutely.

13 COMMISSIONER JABER: I really want to understand
14 this issue, but there are so many inconsistencies, I need
15 you to help me get my hands around this issue.

16 THE WITNESS: Well, they truly aren't
17 inconsistencies, and I will explain to you why. There are
18 a number of mechanisms that can cause this problem. The
19 one thing that became clear in the study group in which I
20 participated, and, again, so did staff, and so did Mr.
21 LeRoy who will be testifying this afternoon, if I might
22 add, he was a member of this committee, as well. One of
23 the things that became clear was that this is not a
24 one-trick dog. It doesn't happen because one thing
25 happened. There is a whole series of events and mixtures

1 and things that must happen in order for this black
2 problem to happen. And that is why it is so exacerbating
3 to everybody studying it, because there is not one set of
4 conditions that produces the problem. Because I can turn
5 that back to you and say, but there are lots of customers
6 in those subdivisions that don't have the problem. Lots
7 of them. So you have got to ask yourself if that is true,
8 and what you just said is true also, what is it? And,
9 again, I want to bring up one more time, the one thing
10 that is the same for everyone is the water. Never
11 different. Everybody gets the same water.

12 So I can tell you those conditions that change
13 are those things we talked about today. Some people have
14 grounding. Some people don't have grounding problems.
15 Some people have real big hot water tanks and have one
16 little old lady living in the house so it states very,
17 very long. Some don't. Some water tanks are set at
18 higher levels, some aren't. Some have this, some have
19 that. By the time you get done, there is an exhaustive
20 list in here, in this report that I put together of those
21 things that create these problems.

22 If the right selection of things happen, you get
23 the problem. One of those things that exacerbates the
24 problem and makes it more prevalent and makes it more
25 likely to happen, much more likely to happen is in-home

1 manipulation of the water. I mean, let's talk about what
2 really happens. Aloha produces a good quality water, and
3 I can tell you over and over again, five years worth of
4 data has shown that the water going into the homes meets
5 all the standards.

6 Now I can tell you there are people that said
7 yesterday but the standards aren't good enough. Folks,
8 these are the same standards we use all around the United
9 States, everywhere. These standards are extremely tight.
10 You look at other parts of the world, ours are as tight if
11 not tighter than anyone.

12 Now, the problem isn't that the standards are
13 too lax, the problem is there is unique conditions here
14 that have to be met. Now, Aloha, I guess it was a year or
15 so ago, after this report was produced, said, look, folks
16 -- oh, and by the way, let me say one thing, in this
17 report, many people yesterday said Aloha wants to build a
18 \$10 million plant. That is not true. Aloha never said
19 even in this report that is what we want to do.

20 What we said was -- the Commission directed us
21 to do something. They said, tell us with these
22 technologies, and you told us which technologies, and they
23 were the right ones, they were the ones that people
24 traditionally use to solve this problem, tell us what it
25 is going to cost to implement those technologies. And the

1 range of results will be anywhere from about 50 percent
2 removal with a tray aeration system all the way to 99.999
3 percent, which is what you would need according to Sarah
4 Jacobs to make this problem eventually go away.

5 And we gave you a continuum, a big range of
6 things that needed to be done. And if will look in there
7 you will see that we said, we don't recommend you do it
8 because we can't guarantee it is going to happen. That is
9 what we said.

10 Now, about a year ago, I guess it was, Aloha
11 came back in desperation, I think, and frustration and
12 said, look, you want us to build the thing, we will build
13 it. Tell us, we will build it. And while I will tell you
14 that I still have reservations as to whether that is going
15 to solve the people who have the problem nows problem, I
16 have no doubt in my mind that it will produce a far higher
17 quality water. It will produce a water that is of a
18 bottled water nature.

19 COMMISSIONER JABER: Didn't we just establish,
20 though, that if the pipes were already corroded then --

21 THE WITNESS: That is exactly right, that it
22 probably won't help. And that is exactly what I said.

23 COMMISSIONER JABER: So what is your testimony?
24 That the aeration plant would help or would not help?

25 THE WITNESS: I am going to tell you this, that

1 the aeration plants that we talked about in here would
2 definitely solve the odor problems that people are talking
3 about. Because in the process that we proposed, we are
4 going to actually take the sulfur completely out of the
5 system.

6 COMMISSIONER JABER: So it is your opinion they
7 would solve the odor problem. With respect to the black
8 water problem --

9 THE WITNESS: For those folks that have it now,
10 I don't think it is going to help it to any major extent
11 any time soon. And we have said before that we think the
12 solution to that problem is to replace the piping. And
13 that is the solution that has been reported not only by
14 us, but by others. And I think that is the real solution
15 for those people that have the problem.

16 COMMISSIONER JABER: For all those brand new
17 developments that have copper piping, no softener, brand
18 new water heater, on the new development the solution is
19 to change the copper piping?

20 THE WITNESS: Well, They don't have the problem
21 yet, I guess.

22 COMMISSIONER JABER: We heard testimony
23 yesterday with brand new developments --

24 THE WITNESS: Well, if they want to get rid of
25 the black problem for good, the only, the only solution

1 that is available to us right now that will work 100
2 percent cure is to replace it with PVC pipe.

3 COMMISSIONER JABER: Did you talk to the
4 developers in the Aloha territory?

5 THE WITNESS: I have not. But I can tell you
6 that I believe they have had discussions with Aloha, and I
7 believe -- and, also, anyone that is a licensed contractor
8 or has ever talked to the local building officials, they
9 have received that letter from this committee that I told
10 you about that said you better look at this real good.

11 COMMISSIONER JABER: Does Aloha give new
12 customers a disclaimer or notice that there is a black
13 water problem?

14 THE WITNESS: I have no idea. I'm not in
15 operations, ma'am, I don't know. Sir.

16 COMMISSIONER JACOBS: To what extent have you
17 done any look or maybe did your report look to confirm the
18 level of hydrogen sulfides at the point of delivery? I
19 looked through your report, and I saw that at each of your
20 wells, that is where you do the chlorination. And it
21 seems you use basically the same equipment and much the
22 standard process.

23 THE WITNESS: That's correct.

24 COMMISSIONER JACOBS: So my question goes to
25 have you then looked to see if there is any correlation or

1 any variation in the sulfides going to these houses that
2 might in some way explain the varied results in terms of
3 their propensity to have the problem?

4 THE WITNESS: Yes, sir.

5 COMMISSIONER JACOBS: And what did you find?

6 THE WITNESS: We have never found any measurable
7 quantity of reproducible measure of sulfides going into
8 any of the homes in Aloha's service area that amounts to
9 any of them.

10 COMMISSIONER JACOBS: So your testimony is that
11 the chlorination essentially works throughout your
12 distribution system?

13 THE WITNESS: Yes, sir, of course. As a matter
14 of fact, it is required by FDEP rule that the chlorination
15 system works throughout the system. Again, if you like, I
16 can touch on that. When people say, well, I see those
17 people out there flushing all the time, and they tell me
18 so they can get chlorine into my home. First of all, let
19 me tell you, flushing is an absolutely universally
20 accepted and universally used tool to keep distribution
21 systems clean and to make sure that systems that are
22 deadend systems, which Aloha has quite a few of those, and
23 let me define that. When a developer comes in and he
24 builds the system over here, and he runs a water line over
25 here, there is no way that that system now is looped into

1 the next system or looped into the next system. So
2 essentially what he has got is a one-way stream of water
3 going into his subdivision.

4 So if water goes into that subdivision today and
5 it takes 15 or 20 days to use that water all up by the
6 residents in there, that water is going to be 15 or 20
7 days old before those people use it. Now, the longer the
8 water sits in the pipes, the more change takes place to
9 the water. And that is the reason why when you get into
10 reading the study that we proposed three water treatment
11 systems, the way to do that is to get the water quicker to
12 the people and get it out of there quicker. And we also
13 proposed to loop the systems.

14 So if you want a comprehensive way of upgrading
15 the water overall, you really need to do what we said
16 overall. You need to loop the system. You need to move
17 the water plants closer to the folks where they use the
18 water, you need to remove the hydrogen sulfide. You need
19 to use an ultimate disinfectant like ozone. There is a
20 number of things. Because people don't like the taste of
21 chlorine. The way to solve that problem is to use ozone,
22 which is a much stronger disinfectant, and also will
23 inactivate viruses, which is something we are going to
24 have to deal with in the future. You know, you have to be
25 forward looking. I'm sure you people would not be pleased

1 with us if we came up with a fix, and fixed it and then
2 came back to you in two years and said, oh, the rules have
3 changed, we need to undo everything we did and do it all
4 over again.

5 So we need to design, as an engineer, a fix,
6 especially a monumental fix, a big one, you better take
7 into account what is going to come. It is not totally
8 crystal ball. We know what things are out on the plate of
9 the DEP and the EPA right now, it is published, it is in
10 the journals. We know what is coming, we just don't know
11 exactly when we are going to see it, but we know it is
12 coming. So we took those things into account. And you
13 have to get the water to the people and you have to get it
14 out.

15 But in those subdivisions, it is a one-way
16 street. Water goes in, and that is it. When you loop the
17 systems, that changes it. But Aloha isn't responsible for
18 that. We didn't build the subdivisions with a one-way
19 street. And now we are going out spending the money to
20 loop the systems. But when you put that water in a
21 one-way street, that is it, there is just nothing else we
22 can do.

23 COMMISSIONER JACOBS: So the flushing was an
24 attempt to essentially move that water along.

25 THE WITNESS: Absolutely. And what we are

1 trying to do is lessen the likelihood that the changes in
2 the water will be seen by the customers. So we are trying
3 to protect their interests is what we are trying to do.

4 COMMISSIONER JACOBS: And so there was no real
5 connection between the flushing and the levels of hydrogen
6 sulfides that would have been in your system at any point
7 in time.

8 THE WITNESS: Not at all. Because in our
9 distribution system, we don't have them. If you go
10 through the distribution system and they start off at four
11 milligrams per liter or so at the well heads in some
12 cases -- well, some of our wells. By the time you get to
13 the furthest point in our system, I think we found .1
14 milligrams per liter in places which is the same as none.
15 So we found very, very little in the furthest reaches of
16 our system. So when people say, well, you are just trying
17 to hide the odor, that is not true.

18 What we are trying to do is move the water out
19 of the system so it doesn't get changed along the way, and
20 so that the chlorine levels stay up to where they need to
21 be. Because if is not looped and the water isn't used,
22 especially in a subdivision that is under construction --
23 as a matter of fact, if you remember, one of the customers
24 said, geez, you know, I moved out there a long time ago,
25 and there wasn't anybody out there but me, and the water

1 was really bad. But as time went on, you know, it has
2 gotten better. Well, sure. Because now the amount of
3 water that is being used is used more often and it is
4 better quality when it gets to them. And what we are
5 trying to do is say, well, okay, in those neighborhoods
6 and in those places where people have the biggest
7 problems, let's get out there and give the freshest
8 quality water we can all of the time.

9 COMMISSIONER JABER: I thought we are seeing and
10 hearing improvement because of your inhibitors.

11 THE WITNESS: Absolutely. And I'm going to say
12 to you that some folks haven't seen this problem because
13 of the inhibitor. The ones that don't have home treatment
14 systems, that don't complain about copper corrosion can
15 thank that inhibitor system.

16 COMMISSIONER JABER: When did you start the
17 inhibitor system?

18 THE WITNESS: In '96, I believe.

19 COMMISSIONER JABER: Okay. In 1996. So these
20 new developments, then, why then if the inhibitors are
21 working --

22 THE WITNESS: I think if you will look, most of
23 the people, the vast majority say that they started seeing
24 this problem before '96, the vast majority.

25 COMMISSIONER JABER: No, let me finish the

1 question, especially for the record. For the new
2 developments, you had already started the inhibitor
3 program --

4 THE WITNESS: Yes, ma'am.

5 COMMISSIONER JABER: -- but the new
6 developments, customers testified yesterday that they have
7 the black water problem immediately.

8 THE WITNESS: And if you will go back in the
9 record, I think you will look and see the majority of
10 those people who said that also had home treatment systems
11 that inactivate the inhibitor. And there probably was one
12 or two that didn't, but I think the vast majority said,
13 I've got a softener, I've got a softener. Because
14 oftentimes up in those neighborhoods the softeners come
15 with the homes. I mean, they are sold along with the
16 homes. So if they got that, forget our inhibitor system,
17 it is not going to help in the least.

18 COMMISSIONER JACOBS: There were several
19 customers who testified that they had lived or they had
20 taken water from the city, or I think even from the
21 county, and had never experienced this.

22 THE WITNESS: Uh-huh.

23 COMMISSIONER JACOBS: How do you explain that?

24 THE WITNESS: The same way I explained the
25 isolated incidence that other people, you know, people

1 that didn't come in here and said they had the problem in
2 our own service area. There are certainly lots of people
3 in our service area, had they been asked to come in and
4 say I don't have any, if they wanted to do that would say,
5 "I have never seen it." In fact, one or two people that
6 came up here said, "Well, I haven't seen black water, but
7 I have odor." That is how I explained that. Remember, it
8 is the right combination of conditions that create the
9 problem. Now, are you asking me has the other surrounding
10 utilities never seen this problem?

11 COMMISSIONER JACOBS: I guess -- let me ask you.
12 In your experience and in your research did you discover
13 that there was any instance of this problem in the
14 surrounding area?

15 THE WITNESS: Yes, absolutely. As a matter of
16 fact, I know that for a fact. As a matter of fact, Mr.
17 Fasano yesterday said --

18 COMMISSIONER CLARK: Just a minute. Mr. Porter,
19 you keep interrupting when the questions are being asked.
20 I appreciate your wanting to answer the questions, but it
21 is difficult for the court reporter.

22 THE WITNESS: You're absolutely right. I
23 apologize. Go ahead.

24 COMMISSIONER JACOBS: Which was it? And you
25 don't have to give a name of a customer or anything, but I

1 would be interested in knowing if it was the city or the
2 county, and go on and finish your answer.

3 THE WITNESS: Yesterday, as a matter of fact, I
4 saw a bottle of water that came from a customer of the
5 Pasco County system that had severely discolored water.

6 COMMISSIONER JACOBS: And you were mentioning
7 something that Representative Fasano testified to?

8 THE WITNESS: Mr. Fasano yesterday said Pasco
9 County doesn't have near the number of complaints that
10 Aloha does for black water. If my memory serves me, Mr.
11 Fasano in the past has said they don't have any
12 complaints, none. And now he has changed it to say they
13 don't have near the number of complaints. I think that is
14 because he has probably become aware of it, too.

15 COMMISSIONER JACOBS: Is there any work being
16 done to look at the source waters for -- if I'm
17 understanding your testimony, there is no question but
18 that at the source there are hydrogen sulfides in the
19 water, and therefore when you do the chlorination at your
20 well that converts it. Has any work been done to
21 determine if there are varieties in source water?

22 THE WITNESS: Yes, sir.

23 COMMISSIONER JACOBS: And what is the results of
24 that?

25 THE WITNESS: The water that is obtained by

1 Aloha Utilities as source water is essentially the very
2 similar and almost the same type of water, with
3 relationship to the wells, to Pasco County and Pinellas
4 County. And as a matter of fact, when Aloha did its
5 original corrosion control plan, that was reviewed by and
6 approved by the EPA. The EPA had a program that allowed
7 waters of very similar characteristics to piggyback on one
8 another. So if there was a big system in the area likes
9 Pinellas, in this case, that had done a expensive study
10 for their system, and Aloha could show that its water and
11 Pinellas water was very similar and they were located in
12 the same area, we could piggyback on their system, or the
13 same for Pasco.

14 And we piggybacked on those two systems when we
15 did our review so that we could cut the costs to our
16 customers to not have to go do this big study. And what
17 that allowed us to do was do the same thing that they are
18 doing. As a matter of fact, Pinellas County has proposed
19 and has implemented the same plan that is in this book.
20 They came out with their plan about a month after we did,
21 and they have gone ahead and implemented it since. And as
22 a matter of fact, there was an article in one of the local
23 statewide publications that came out, I think, in the last
24 two months that also showed that Orange County, Florida is
25 doing exactly what we are doing, and they are getting all

1 kinds of comments about being new and innovative and
2 different, but it is the same exact process we have
3 proposed here two years ago, three years ago. It is
4 exactly the same. And the answer is yes, and the waters
5 are similar.

6 COMMISSIONER JACOBS: Thank you.

7 THE WITNESS: Okay. I guess I'm ready to finish
8 the summary, if that's okay. I hope that gives you some
9 idea, though, some background. I know the two new
10 Commissioners really didn't have the opportunity to sit
11 through this in the past. I think it will maybe solve a
12 lot of timing problems as we go through this.

13 As I mentioned, I prepared the study that you
14 see in front of you that is Exhibit Number 12, and in that
15 study you will find complete descriptions of a lot of what
16 you just asked, Commissioner Jacobs. The source water in
17 there, all of our waters characteristics are noted. And
18 the reasons for the problem are noted, and the solutions
19 are noted as to why we think the solutions will or won't
20 work and for what reasons. What components will work. So
21 I stand on that study. I think it is a good piece of
22 work, and I think the proof of that is two major
23 municipalities, Pinellas County and Orange County, have
24 implemented that very same system for the very same
25 reasons since we came up with that report.

1 Let's see. To answer one of your questions,
2 H2S, before you ask the question is not present in
3 excessive levels in Aloha's water. It is virtually no
4 different from anybody else's water in this area. Our
5 amount of hydrogen sulfide in the raw water runs anywhere
6 from fractional parts up to three or four parts per
7 million, and that is not unusual, and is typical of the
8 waters in this area.

9 The amount of sulfates naturally occurring in
10 our water, or in our water after treatment is, again,
11 exactly the same or in some cases less than our
12 surrounding neighbors. So those things are similar.

13 I have talked to you about home treatment
14 systems, and I have told you how they effect the water and
15 our corrosion control system, and also how they effect,
16 even without a corrosion control system, the longevity of
17 that pipeline because it removes even the naturally
18 occurring calcium from the system.

19 We talked about how large hot water systems
20 effect the system and how the sulfur reducing bacteria
21 convert the hydrogen sulfide back. And we talked about
22 the changes in water chemistry that occur from the home
23 treatment systems. And, again, Aloha has no control over
24 that. And it is interesting to note that EPA and DEP
25 rules, with the exception of one, which is the lead and

1 copper rule, declare that Aloha's responsibility for the
2 water quality served to our customers, as does your own
3 rules, stops right at that meter. And there is a good
4 reason. We can't control all of those things I just told
5 you about in the home. The one exception to that rule is
6 the lead and copper rule, and Aloha has been fully
7 optimized, fully approved, and now received reduced
8 monitoring so that we don't have to monitor even as much
9 as we used to for that particular contaminant, because
10 they are pleased with our progress.

11 Aloha water is of very high quality. The water
12 going into the customers' homes meets all of the rules,
13 all of the standards, always has. During this entire
14 program for five years it has always met it. The DEP
15 folks have come in here time and time again and so stated
16 and said the water meets the rules. As a matter of fact,
17 testimony -- I don't know if I'm allowed to comment on it,
18 but I understand the prefiled of one of the DEP folks says
19 exactly that this time as well, they meet the rules.

20 Our corrosion control program is effective, it
21 has worked, however it will not work for those folks that
22 have on-site treatment systems. We talked about the
23 factors affecting water quality and affecting the
24 generation of that copper sulfide. There are very many,
25 they are very complicated, and the way they come together

1 and mix together is what determines whether you do or
2 whether you don't have the problem. And there is no way
3 to determine beforehand if it is going to happen.

4 So, in conclusion, Aloha's water meets the
5 rules, it's of high quality, we have implemented a
6 corrosion control system. We have optimized it, we have
7 received reduced monitoring. The water has never been
8 shown, ever going into the customer's home to be anything
9 but clean, clear and odor free going into the homes, ever,
10 by anyone.

11 COMMISSIONER JABER: Mr. Porter, before you are
12 tendered for cross, let me ask you this one final
13 question.

14 THE WITNESS: Yes, ma'am.

15 COMMISSIONER JABER: Were you here last night
16 for Mr. Bouse's testimony, Ronald Bouse?

17 THE WITNESS: Yes, I was.

18 COMMISSIONER JABER: He does not have copper
19 piping in his home, that was his testimony, he does not
20 have copper piping in his home. And he testified, as I
21 recall, that he still has cloudy, gray water and smelly
22 water. Can you explain --

23 THE WITNESS: May I make a moment to look at my
24 notes, please?

25 COMMISSIONER JABER: Sure.

1 THE WITNESS: Here we go, Bouse. My notes show
2 that he said he had smelly water. I thought he said he
3 had no black water, that's what my notes say.

4 COMMISSIONER JABER: Well, I trust my notes --

5 THE WITNESS: I believe you.

6 COMMISSIONER JABER: -- because I was listening
7 to this issue, and I think he was asked the question what
8 is the color of your water, and he said cloudy gray.

9 THE WITNESS: Okay. That is totally
10 inconsistent with everything I have seen. I can only tell
11 you that we have been told that before in other hearings
12 at agenda conference, and we have gone out to each and
13 every customer that has reported that in the past during
14 these hearings, and frequently the folks don't realize
15 that there is copper somewhere in their system. And we
16 have gone out and found it and said, there is copper
17 there.

18 Now, that has happened each and every time. Do
19 I know that for a fact with Mr. Bouse? I don't know. But
20 I can tell you this, Aloha has already directed me to go
21 out to each and every one of these folks, and I will be
22 doing that.

23 COMMISSIONER JABER: All right. So then it is
24 your testimony that if copper exists anywhere in the
25 system, that we might have a problem with gray/black

1 water?

2 THE WITNESS: Sure. As a matter of fact,
3 anecdotally I can only report to you what I have been told
4 by some of the folks that do these repipes. They are very
5 careful to make sure they get all the copper. Because
6 there has been cases where they have repiped the house and
7 didn't realize there was a couple of small copper lines
8 that went to the outside hose bibs, and they, in turn,
9 caused the problems. And once they were gone it was over.

10 COMMISSIONER JABER: The utility has asked you
11 to go to these customers' homes that have testified, is
12 that what I heard you say?

13 THE WITNESS: And try to identify any problems
14 that these folks have and try to assist them, yes.

15 COMMISSIONER JABER: And are you going to be
16 reporting that back to the Commission in that late-filed
17 exhibit responding to the customers' concerns?

18 MR. DETERDING: Yes.

19 THE WITNESS: Yes.

20 COMMISSIONER JABER: Would you make sure this is
21 included? I would like to know why Mr. Bouse has cloudy,
22 gray water, and whether he does have copper piping in his
23 home.

24 MR. DETERDING: Yes. We were planning to
25 investigate those issues at each and every home that

1 complained of that situation. Just for your information,
2 my notes agree with Mr. Porter's that he said I do not
3 have black water. But we are planning to investigate
4 that, and that further investigation and the purpose of
5 that is to be able to report back to you in the
6 late-filed.

7 THE WITNESS: Anything else?

8 COMMISSIONER CLARK: Mr. Deterding.

9 MR. DETERDING: We tender the witness for cross.

10 CROSS EXAMINATION

11 BY MR. McLEAN:

12 Q Mr. Porter, you reference in your direct
13 testimony that the Commission found Aloha's quality of
14 service unsatisfactory in a previous order, is that
15 correct?

16 A Correct.

17 Q Okay. You disagree with order, sir?

18 A I do.

19 Q You disagreed with it then?

20 A I did.

21 Q And now?

22 A I do.

23 Q And you testified before the Commission entered
24 that order, did you not?

25 A I did.

1 Q And is it true that your testimony today is
2 essentially identical to what it was then, except, of
3 course, for the individual customers and so forth?

4 A It is, uh-huh.

5 Q And apparently they weren't persuaded by your
6 testimony then, correct?

7 A I can't say.

8 Q Would you say whether you disagreed that the
9 utility has a poor relationship with its customers?

10 A Well, I can only tell you what I heard
11 yesterday. I heard a number of customers that said they
12 called, they came out, they were pleasant, they did what
13 they wanted to do, but I'm not happy because the problem
14 didn't go away. So I can't tell you that they have a bad
15 relationship with the customers from what I heard
16 yesterday. I can only tell you that the customers weren't
17 happy the problem wasn't immediately repaired.

18 Q Do you agree or disagree with that statement?

19 A I would have to say I disagree.

20 Q Okay. And in another finding of that order the
21 Commission said Aloha appears to have been operating under
22 the assumption that the water quality problems are not as
23 serious as the customers make out.

24 Do you agree with the Commission finding on that
25 issue?

1 A I think the Commission -- I mean, obviously the
2 Commission made the statement, and from their perspective
3 they might have thought that.

4 Q I want to know whether you agree with it, sir.

5 A Read it to me again, please.

6 Q Sure. Aloha appears to have been operating
7 under the assumption that the water quality problems are
8 not as serious as the customers make out.

9 A I can tell you that in my knowledge of that
10 history of the problem that is not true.

11 Q So you agree with all three of those findings
12 that the Commission entered, is that correct?

13 A I agree with the findings?

14 Q You disagree with every one of them, don't you?

15 A I disagree with the findings, yes.

16 Q Great. And those findings came after your
17 testimony?

18 A I believe that is true.

19 Q Now, the gist of your testimony is that Aloha
20 faces similar, or conditions not that dissimilar from the
21 rest of the utilities of the State. For example, the same
22 thing as Hillsborough County, right?

23 A I didn't say that. I said Aloha doesn't face
24 conditions -- or experiences problems that are very
25 similar to a lot of other utilities in the State, and I

1 didn't specifically say anyone.

2 Q You may have even said most of the rest of the
3 State, correct?

4 A No. I believe I said a large portion of the
5 state, or a lot of the state has a problem of this type.

6 Q Okay. And it is also your thesis that
7 complaints arise in the same extent in those other areas
8 that they arise in Aloha's system?

9 A I can't speak to that. Because, again, numbers
10 of complaints are influenced by many factors, and
11 sometimes political factors enter it and create --

12 Q Are you blaming Mr. Fasano for this particular
13 case?

14 A Am I blaming him for it?

15 Q Yes, sir.

16 A No.

17 Q Okay. So you didn't mean to say that Mr. Fasano
18 is the source of these complaints, did you?

19 A No. But I certainly think that any kind of
20 notoriety to a problem certainly increases the number of
21 complaints.

22 Q Sure. Now, if what you say, the various causes
23 that you gave the Commission for this, the black water
24 that is on the floor in front of you there, those are
25 naturally occurring phenomena or people putting copper in,

1 lightning, water softening units?

2 A I feel absolutely confident that the black water
3 problems, dirty water problems, whatever people
4 characterize them as.

5 Q Have you heard of a utility called Florida
6 Cities?

7 A Certainly.

8 Q Where do they serve, do you know?

9 A They serve part of Jacksonville.

10 Q Sarasota?

11 A Uh-huh.

12 Q Lee County?

13 A I don't know their entire service area. I don't
14 serve them, by the way, so I don't know.

15 Q I see. Do you know whether they have pressed
16 cases before the Commission where the Commission has had
17 occasion to listen to customers from that system, Florida
18 Cities, and each of their systems?

19 A I'm vaguely familiar with that, yes.

20 Q Do you know whether the incidence of black water
21 complaints differs in this case from it did in those
22 cases?

23 A I have no idea.

24 Q No Idea at all.

25 A No.

1 Q But if the utilities face similar problems,
2 wouldn't one expect the level of the incidence of
3 complaints to be about the same?

4 A No.

5 Q Why is that?

6 A Again, as I mentioned to you earlier, the
7 likelihood of the problem occurring, and therefore the
8 frequency at which it occurs throughout a particular area
9 is directly related to a whole host of problems and
10 conditions that all either mix or match or do not happen.

11 Again, in Chelsea and Wyndtree, I mean, it is
12 very -- I have been to a lot of these customers' homes.
13 You go to one or two of the customers' homes and the
14 people right next door do not have the problem.

15 Q Do you know whether the black water problem has
16 arisen with any, in any significant measurable quantities
17 in Florida Cities' systems?

18 A I don't know.

19 Q How about United Water, do you know where they
20 serve?

21 A I don't know the entire service area, no. I
22 know who they are and I know what they are.

23 Q Up in Jacksonville?

24 A Part of Jacksonville.

25 Q Duval County and St. Johns County, perhaps

1 Fernandina Beach and Nassau County?

2 A Well, they certainly they don't have all of St.
3 Johns, because Jacksonville serves part of it.

4 Q Do you know whether the Commission has had
5 numerous service hearings with respect to those customers?

6 A Do I know that?

7 Q Yes, sir.

8 A Numerous, no, I don't know about numerous.

9 Q How about some?

10 A I know there has been some.

11 Q Do you know whether the black water problem has
12 arisen there?

13 A I believe they have. Again, my knowledge of
14 that would have come from this copper study group I was
15 on. I believe that was one of those. And it was also one
16 of the ones where the building officials that came from
17 the City of Jacksonville pointed out as to why they now
18 have a residential copper ban.

19 Q Would you be surprised to know that the number
20 of customers who testified here about the black water
21 problem exceeded all of the customers who testified to any
22 issue in the United Water case?

23 A Would I be surprised at that?

24 Q Yes, sir.

25 A No, I wouldn't be surprised at all.

1 Q So you don't know whether the black water
2 problem arose as a significant issue in the United Water
3 case, do you?

4 A No, I'm not privy to that. I don't serve them,
5 either.

6 Q Sure. Do you happen to know whether customers
7 up there sometimes have copper plumbing?

8 A Oh, I'm sure some of them did originally. I can
9 tell you that the new ones do not.

10 Q Great. How about softeners?

11 A Again, I don't know.

12 Q Are there water systems grounded improperly, or
13 the electrical system grounded improperly?

14 A I don't know that for a fact.

15 Q Do you know whether code controls that up there?

16 A Oh, the code controls it here, it controls it
17 everywhere. Do you want me to answer something about the
18 code?

19 Q No, sir.

20 A Okay.

21 Q We will get to it.

22 A Fine.

23 Q Do you know whether lightning occurs in
24 Fernandina Beach and Duval County to about the same
25 extent?

1 A Oh, I'm sure it does. I don't know about that,
2 but I'm sure it does.

3 Q If those things were true, don't you think the
4 black water incidence would arise as an issue as
5 significant there as here?

6 A No.

7 Q Why is that?

8 A Again, the way that the conditions come and mix
9 and match are going to determine the frequency and the
10 severity that you are going to see.

11 Q And those conditions are only coincident in
12 Aloha's area, is that your thesis?

13 A No. As a matter of fact, I just got done
14 telling you that there are severe corrosion problems
15 throughout a major portion of Florida from Jacksonville
16 through the corridor down through Orlando and all the way
17 to the Tampa Bay area.

18 Q If that is true, then why would customers not
19 come and tell the Commission so when it is time for them
20 to do so?

21 A Haven't got a clue.

22 Q But it does happen here?

23 A It certainly does.

24 Q As we saw yesterday?

25 A Uh-huh.

1 Q Let's look at Florida Water Services, Inc.

2 A Okay.

3 Q Their service territory, perhaps you can agree
4 with me, runs from Washington County to Nassau County to
5 Brevard County to Lee County, that pretty much covers the
6 state. It leaves out Monroe.

7 A If you tell me that, I believe it. I don't
8 know.

9 Q It leaves out Southeast Florida. Do you know
10 whether the Commission had an almost intolerable number of
11 service hearings in that particular case?

12 A No, I don't.

13 Q You don't know whether they had any service
14 hearings, do you?

15 A No.

16 Q Do you know whether the black water problem
17 arose as a significant issue in the entirety of Southern
18 States cases from 1990 through their most recent in 1995?

19 A No, and I don't know what the purpose of the
20 hearings were, so maybe it is not appropriate, I don't
21 know.

22 Q If it were not the case, why is it that the
23 black -- if we are all facing similar conditions in all of
24 these counties, as you seem to have testified, why is it
25 that it hasn't arisen as a big deal in Florida Water

1 Services?

2 A I haven't a clue.

3 Q Do you think customers of Florida Water Services
4 were all intimidated or hesitant to bring issues to the
5 Commission?

6 A I have no knowledge of that.

7 Q How about General Development Systems, do you
8 know what counties they either served or used to serve in?

9 A I have no idea.

10 Q Would you accept Hendry, areas down around the
11 Withlacoochee River?

12 A I will accept it if you say so.

13 Q Okay. Now, do you know whether in the rate
14 cases that were -- first of all, do you know whether that
15 utility came to the Commission for more rates
16 occasionally?

17 A I have no idea.

18 Q If everything you say is true about the
19 conditions that Aloha faces, at least in terms of all
20 utilities facing similar questions, wouldn't you expect,
21 wouldn't a reasonable person conclude that the black water
22 issue would have arisen in that case as significant as it
23 is here?

24 A Not necessarily. Again, demographics, use of
25 the home, size of the home, all of those things matter. I

1 don't know that they are similar.

2 Q All of those things coincide in Aloha's service
3 territory, right?

4 A I can only tell you that I don't know what
5 things coincided together, or what things were present, or
6 conditions were present in those other areas. I have no
7 idea. And I don't know that they didn't happen.

8 Q When you mentioned all of those factors, let's
9 see, we have lightning, we have the faulty ground, we have
10 the softener, copper and so forth. There were a number of
11 other variables you mentioned, right?

12 A There were.

13 Q What is the likelihood of all of those things
14 coinciding in this place and not in all those other
15 places?

16 A I never said they all had to coincide, I said it
17 is a certain a mixture of them.

18 Q Well, three?

19 A Could be. In some cases only one.

20 Q And even three don't seem to coincide in those
21 other counties, do they, at least if we are to judge by
22 the number of people who come forward and complain?

23 A I have no idea.

24 Q Great. Let me ask you about this grounding
25 issue. I find it interesting. Is it legal -- first of

1 all, who furnishes electric energy to the people here in
2 southwest Pasco County?

3 A I'm not sure, I think it is Florida Power, but I
4 don't know that.

5 Q Florida Power Corp? Do you know whether Florida
6 Power Corp will even connect a house that is improperly
7 grounded?

8 A I have no idea. I would think not.

9 Q You would think not. Wouldn't that lead you to
10 believe that these houses are legally grounded?

11 A No, because proper grounding from an electrical
12 sense and problems with water are two different issues.
13 And, as a matter of fact, the electric utility industry is
14 looking into this problem. They were at our study group,
15 as well, and they recognized it as a potential problem.

16 Q You mentioned to a question from Commissioner
17 Jaber something about the cable system. The cable system
18 has to be grounded, right?

19 A The cable system is generally grounded.

20 Q What is the current path from the cable system
21 to the plumbing system?

22 A There are times when it is grounded directly to
23 copper piping, if it is available, as well.

24 Q How do you know that is true?

25 A Because it happened in my house.

1 Q Has it happened here?

2 A Not that I am aware of.

3 Q Did it create black water at your house?

4 A No, and I will tell you why. I have CPVC piping
5 now.

6 Q Do you know whether black water is in any part
7 of that area up there, Nassau County, Duval County, St.
8 Johns County?

9 A Well, again --

10 COMMISSIONER CLARK: You know, I have to keep
11 reminding both of you. Finish your question, then answer.
12 After he is through with his answer, ask another question.

13 THE WITNESS: I'm afraid it's the Yankee in me.
14 I'm trying. I will do better.

15 MR. McLEAN: Maybe I have a dose, too.

16 BY MR. McLEAN:

17 Q With respect to --

18 COMMISSIONER CLARK: You just did it again.
19 Please don't talk at the same time.

20 BY MR. McLEAN:

21 Q The cable system. You suggested to Commissioner
22 Jaber that perhaps grounding the cable system is the
23 explanation for some of the water that is on the floor in
24 front of you, didn't you? Isn't that --

25 A I'm waiting. What I said was that when you

1 ground multiple electrical devices at different locations
2 in a house, and the house itself is grounded to the piping
3 system, and the piping system is then run to a PVC pipe in
4 the street; there essentially is no ground as there was
5 previously. And that those different potentials, one is
6 at one voltage and one is at another, those difference in
7 potential is what makes current flow. Current flow does
8 cause corrosion and corrosion is well documented, it is in
9 the literature.

10 Q I understand that. That means that once upon a
11 time you used to be able to, with some confidence, ground
12 your system, perhaps your cable system or even your
13 electrical system to your plumbing system because that
14 connected to the entire distribution system of the
15 utility. That is what you are saying, right? It is no
16 longer true since you use PVC. Now, do you know whether
17 the houses in this area are grounded to the plumbing?

18 A Some are, because I have been to them. But I
19 don't know about all. I can only tell you about the ones
20 that I have seen.

21 Q How about the ones -- the customers that came in
22 yesterday, you can't with any certainty say that they have
23 grounded their electrical systems to the plumbing system,
24 can you?

25 A I will shortly be able to tell you that.

1 Q Do you know whether it is contrary to code to do
2 so?

3 A No, I do not. As a matter --

4 Q Do you know whether Florida Power -- I'm sorry.

5 COMMISSIONER CLARK: I'm going to put those dog
6 collars on them.

7 BY MR. McLEAN:

8 Q Do you know whether -- I may have asked you.
9 This. Do you know whether Florida Power Corp will connect
10 your home if it relies on the plumbing system for its
11 ground?

12 A Okay. I can tell you that I don't believe that
13 any of the homes that I am talking about, I don't have any
14 knowledge that they are improperly grounded. However, I
15 did say to you that we are finding, and things do change
16 with time, that the grounding methods that we are using in
17 the past may not be proper today from being able to
18 protect the piping, or from a longevity standpoint of the
19 piping, or from the effect that the piping will then have
20 on the water.

21 Q Now, all of your observations that the
22 electrical system, improper grounding in the cable system,
23 improper grounding is part of the problem rely on
24 something that you don't know about it seems, because you
25 don't know whether these homes are improperly grounded,

1 isn't that the case?

2 A I said to you -- I speculated there could be a
3 number of potential causes and mixtures and matches that
4 could cause the problem. Which exact mixture and match is
5 taking place in each of the homes, I cannot tell you.

6 Q And all of those utilities that I mentioned,
7 Florida Cities, United Water, North Fort Myers, Palm
8 Coast, General Development, all of Florida Water Services
9 Corporation, do you have any reason to believe that the
10 incidence of improperly grounded homes there is different
11 than it is here?

12 A I can tell you that in the progress of the
13 business of the corrosion study group that was sponsored
14 by the code-making division of the State Department here
15 in the State of Florida, as a matter of fact that is who
16 put the program together because they were concerned about
17 the codes, and they recognized these problems. In that
18 group there were people who said, especially in the City
19 of Orlando, that they had seen significant problems
20 because of grounding, and they have documented it, and
21 there are reports to that effect.

22 Q Did anyone in that study group come forward and
23 say the incidence of improper groundings appears to be
24 greater in Aloha than it does, for example, in Duval
25 County or any other county?

1 A I don't believe so, no.

2 Q In fact, the data that you have lead the
3 Commission to rely on would suggest that there could well
4 be a lesser incidence of improperly grounded homes in all
5 of those service territories that I mentioned as
6 contrasted with Aloha, right?

7 A No, I don't agree with that.

8 Q The thesis of your testimony is that Aloha does
9 nothing wrong, furnishes water which meets all standards,
10 and that all of the problems lie on the customers' side of
11 the meter, right?

12 A No. As a matter of fact, I said Aloha runs a
13 utility in conformance with the rules, produces a water
14 that meets all the standards, and that the customers that
15 have complained about the black water situations that I
16 have visited truly have the problem. But I do not believe
17 there is a direct correlation between what Aloha does and
18 the problem that the customers are seeing, but I
19 acknowledge the problem, and it needs to be corrected. I
20 agree with that.

21 Q So would you agree with that customer that said
22 when you call Aloha, what they will say is, yes, there is
23 a problem, but it is your problem, not our problem?

24 A Would I agree with that? Absolutely not.

25 Q Is that what you are telling the Commission

1 today?

2 A Would you like me to tell you what I can tell
3 you from personal firsthand experience? I have personally
4 been asked by the utility to visit with a number of
5 customers, and I have spent a considerable amount of time
6 meeting with the customers myself.

7 Q Trying to cure their problem?

8 A Trying to investigate the problem first, and
9 trying to assist them in doing the things that I know to
10 this point in time that the literature says may work.

11 Q Whose problem is it, is it Aloha's or their
12 problem?

13 A Is it Aloha's problem?

14 Q Yes.

15 A I don't believe it is caused by Aloha. Is it
16 the customers' problem? It is definitely a problem faced
17 by the customer. Do the customers need assistance in
18 getting it done? Absolutely. But is that Aloha? I don't
19 know. And the reality is Aloha has attempted in its own
20 expense to send me out to do what I could. And they also
21 paid me to sit on these committees so we could try to
22 learn more about it, which we have done.

23 Q I want to read you a statement and see if you
24 agree with it. It says, the statement is, "The presence
25 or absence of water conditioning units in the homes appear

1 to have no effect on the generation of the hydrogen
2 sulfide and the subsequent reaction with the copper
3 pipes."

4 Do you agree with that?

5 A No.

6 Q You have cited the DEP as authority for a number
7 of things. You have relied on the DEP's credibility to
8 say that this utility meets all of the standards, correct?

9 A Absolutely.

10 Q Do you have a copy of Exhibit 3 with you by
11 chance? That is the Pasco County Black Water Study.

12 A I do not. Thank you, Ralph.

13 Q First of all, let me ask if you have ever seen
14 this before?

15 A Yes, I have.

16 Q Do you know whether Aloha participated in it in
17 any way at all?

18 A We never participated in it, however, I will
19 admit freely that during the progression of the copper
20 study group work, this effort was not only discussed by
21 myself and the person who conducted the study, Mike LeRoy,
22 but we whole-heartedly agreed that this was something that
23 probably should be tried.

24 Q Mr. LeRoy is going to testify today, isn't he?

25 A I believe he is.

1 Q And that sentence that I read to you is one of
2 the conclusions which they reached on Page 13 of 99,
3 correct?

4 MR. WHARTON: Objection at this point,
5 Commissioner Clark. We are now saying that DEP has
6 reached conclusions. Those conclusion aren't in evidence.
7 This piece of paper is not in evidence for the truth of
8 the matters asserted therein. It is proper to use this
9 document to see if you can get evidence from this witness,
10 and he has already said he disagrees with the statement.
11 Now we are bootstrapping the evidence in. Opinions of
12 people who aren't here. Again, this has never been moved
13 into evidence. Mr. McLean is saying, well, DEP has
14 concluded -- we have no idea if that is DEP's, quote,
15 unquote, conclusion. This things was never prefiled.

16 And, again, I won't make the whole argument I
17 will make when someone tries to put this into evidence,
18 but we should not be reading in -- you can get the
19 evidence from this witness for a document that is not in
20 evidence. Don't start talking about something that is not
21 in evidence as a conclusion of DEP. That has got to come
22 into evidence.

23 COMMISSIONER CLARK: Mr. McLean, there has been
24 an objection.

25 MR. McLEAN: I am not sure what the objection

1 is. Is the objection authenticity, authentication, is it
2 hearsay?

3 MR. WHARTON: Lack of foundation.

4 MR. McLEAN: Lack of foundation. I haven't had
5 a chance to lay a foundation for it. I asked the witness
6 whether he agrees with the statement in the report.

7 MR. WHARTON: And he said no. Then Mr. McLean
8 suggested that it was DEP's conclusion and everybody is
9 thumbing through Exhibit 3, including the three finders of
10 fact, when is it is not in evidence. It is not part of
11 the record.

12 MR. McLEAN: We will soon discover whether it is
13 a DEP conclusion. Now, if the objection goes to
14 authentication, it is self-authenticated, it is exactly
15 what it purports to be.

16 MR. WHARTON: The objection goes to
17 admissibility. But nobody has tried to admit it.

18 MR. McLEAN: I move it into evidence.

19 COMMISSIONER CLARK: Excuse me?

20 MR. McLEAN: I haven't moved it into evidence,
21 and may not.

22 COMMISSIONER CLARK: What was your question,
23 Mr. McLean?

24 MR. McLEAN: Well, we can back up. I read a
25 statement to the witness, and I think the witness said he

1 didn't agree with it. Then I asked the witness whether he
2 has relied on conclusions of the DEP for credibility of
3 some of the things he had to say himself. And he said
4 yes. My next question is going to be -- to go through the
5 process of determining whether this is a conclusion of the
6 DEP or whether he knows. He may not know. If he doesn't
7 know, I can wait for the DEP witness.

8 MR. WHARTON: I will withdraw the objection.

9 MR. McLEAN: It may take me a moment to reorder
10 my pages. Here we go.

11 BY MR. McLEAN:

12 Q Returning to the Pasco Black Water Study. You
13 told me how you were familiar with it, and I'm afraid in
14 that exchange it slipped my mind.

15 How are you familiar with the study?

16 A Mr. LeRoy was a member of the copper corrosion
17 study group that was set up by the code division of the
18 State, the Department of State.

19 Q By whom -- I'm sorry, go ahead.

20 A Anyway, the group was set up to try to
21 investigate the problems that people are having with
22 copper corrosion in the piping system throughout the
23 State. And it is serious enough problem that the code
24 group felt there may need to be code changes. So they set
25 up a study group of known experts to look into the

1 situation. And I was asked to be one of those experts, as
2 was Mr. LeRoy. Mr. LeRoy has also been relatively
3 familiar with this problem at Aloha because of his
4 position as the person who oversees lead and copper
5 corrosion control programs for Tallahassee.

6 When he came up -- well, I can't testify for
7 him. I can only tell you my understanding. This idea was
8 conceived as a result of a number of recommendations,
9 anecdotal evidence, observations, and things that came out
10 of the study group where people have said contractors,
11 plumbers, people of that sort, water utility people across
12 the State have said, "Well, let me tell you, we had this
13 problem and this is what we did to try to solve it."

14 And what Mr. LeRoy did was effectively try to
15 find a way of determining, or see if he could help the
16 folks in this area with some of that anecdotal evidence or
17 those reported fixes. I whole-heartedly agree that this
18 is worth trying, because I know that some of these things
19 in some cases do seem to work quite well. So he made an
20 effort to try to quantify whether those things worked or
21 did not work.

22 COMMISSIONER JACOBS: Who is Mr. LeRoy?

23 THE WITNESS: Mr. LeRoy is with the Department
24 of Environmental Protection, an engineer.

25 COMMISSIONER JACOBS: And he is the author?

1 THE WITNESS: I don't know -- he has not claimed
2 to be the author here. But he is the person that I am
3 aware of that help to do the study, or did the study.

4 COMMISSIONER JACOBS: Thank you.

5 BY MR. McLEAN:

6 Q So the way you know about it is in discussions
7 as part of that study group with Mr. LeRoy?

8 A And, again, it wasn't detailed, it was vague.
9 But, you know, this is what I think we ought to try, and I
10 am going to try to get some money to do that. And I said,
11 "Go for it."

12 Q Did he mention that he was going to be looking
13 exclusively at Aloha customers?

14 A I don't know that. He did say he was going to
15 call it the Pasco study. So I don't know that.

16 Q Have you reviewed the study itself?

17 A I have seen it.

18 Q Have you reviewed it? You see it from here. My
19 question is have you reviewed it, do you know what is in
20 it?

21 A It depends on what you mean by review. I have
22 read it.

23 Q You've read it. Okay. Thank you.

24 I'm interested to know how -- you don't seem to
25 be sure whether Mr. -- it slipped my mind.

1 A LeRoy.

2 Q LeRoy. Thank you, sir. You don't seem to
3 remember whether -- I'm sorry, I'm unclear as to whether
4 Mr. LeRoy is the author. Are you also unclear?

5 A Yes. And the reason for that is if you look on
6 the front cover, he is not noted as the author.

7 Q I see. Now, did you know -- do you feel
8 independently -- does it surprise you to find that he is
9 not listed as the author?

10 A I have no feelings about it one way or the
11 other.

12 Q Did Mr. LeRoy tell you -- Mr. LeRoy told you
13 that he was considering getting some money for the
14 project, and the discussion did not go beyond that?

15 A I understood he was going to get funding, if he
16 could get it, to try to help the folks here. That's
17 right.

18 Q Did you have any further communication with Mr.
19 LeRoy after that point about this study?

20 A Well, yes. And in some cases it was something
21 we couldn't avoid. See, we are going to start talking
22 about the study, and I don't know if we should talk about
23 study in great detail.

24 Q I think that is pretty much up to the Chairman
25 and to objections which occur. I want to know what you

1 know about the study and I'm entitled to know it.

2 A Well, I can tell you that I received a call
3 while the progression of this work was underway from the
4 Department of Environmental Protection in the Tampa
5 District, as did Aloha Utilities, in a panic one day
6 telling us that one of the technicians that was doing this
7 work out in the field had reported to the Department that
8 there was no chlorine in the distribution system for
9 Aloha. And subsequent --

10 Q Pardon me. Who made that call?

11 A I believe it was Gerald Foster. And it was
12 brought to Aloha's attention at the same time or
13 immediately before or thereafter. Aloha investigated and
14 found that the problem was the technician who was doing
15 the work was pulling the sample after a carbon filter
16 instead of before, and it was an error.

17 So I don't know about the intricate workings of
18 the study. I have never seen any kind of technical
19 documentation that tells me where the data came from, the
20 chain of custody, the results, who the laboratory was. I
21 have no -- and I don't know what the purpose of the study
22 absolutely was. I don't know if this was meant to be a
23 technical study or an emperical study with some data.

24 So if you ask me to comment on the validity of
25 any of the data, I'm going to have to tell you that I have

1 not seen any scientific evidence that will allow me to do
2 that, any chain of custodies, any laboratory results, any
3 of the raw materials, the study quality control plan, none
4 of those things have been provided to me, so I can't
5 comment on them.

6 Q In your lengthy summary to the Commissioners you
7 mentioned several times that the DEP had certified
8 everything as satisfactory.

9 A Uh-huh.

10 Q In those instances, did you know the chain of
11 custody? Did you know the scientific evidence? Did you
12 know the quality control program, et cetera, of DEP?

13 A Again, the majority of those testing that I am
14 talking about are testing results that were done for Aloha
15 by an independent laboratory, and I am very familiar with
16 those, yes.

17 Q Well, what I want to know is when you cited the
18 DEP as authority for what you told the Commissioners, did
19 you know those things that supported that DEP testimony?

20 A In many cases I did because I was there to do
21 them, as well. I was present.

22 Q So you reviewed the chain of custody for each
23 one of those instances?

24 A I can't say that. I can say that I was present
25 there during the progression of the sampling event.

1 Q Did you follow them back to the lab to establish
2 chain of custody and so forth?

3 A No.

4 Q But you are willing to rely on those at least to
5 tell the Commissioners that the water had met all the
6 standards, right?

7 A Of course I wasn't being asked to enter it
8 into -- a written document into evidence that I had to
9 comment on, no.

10 Q Have you been asked that yet, Mr. Porter?

11 A No.

12 Q Now, I asked you what communication you had had
13 with Mr. LeRoy, and you mentioned some call from the
14 field?

15 A Uh-huh.

16 Q Or from DEP. That wasn't Mr. LeRoy, was it?

17 A No, it was not.

18 Q Okay. I'm looking for contact you had with Mr.
19 LeRoy. Was there any contact after the contact you had
20 with him at the conference?

21 A Sure. On a couple of other occasions I have
22 asked him how the study was going. He told me how the
23 study was going.

24 Q Did you call him or did he call you?

25 A We were at the group. Generally it was at the

1 group.

2 Q So there have been several group meetings?

3 A Oh, yes. Quite a few.

4 Q And during this time he has been doing this
5 study?

6 A Well, during part of it he was, that's correct.

7 Q Yes, sir. Are you done?

8 A Uh-huh.

9 Q Good. Was there any communication with Mr.
10 LeRoy that did not take place at those meetings?

11 A I don't know for an absolute fact. There may
12 have been conversations at other hearings we have had here
13 for Aloha. I don't know. I'm trying to remember back if
14 we had a phone conversation. We may have had a phone
15 conversation or two about it, as well, but I can't put my
16 finger on it. I don't have any notes that reflect it.

17 Q Did you review which customers' residences and
18 so forth were the subjects of this particular study?

19 A If I had, to be honest with you right now, I
20 couldn't tell you who they are.

21 Q No, I didn't ask who they were. I just want to
22 know if you had any contact, if you know -- strike all of
23 that.

24 I want to know whether you ever had an occasion
25 to review the names, look at the names, think of who they

1 were, or anything like that?

2 A Absolutely, I read it.

3 Q Did you have any contact with those customers
4 which was prompted by any part of this study?

5 A Not any.

6 Q Did you advise Aloha who those customers were?

7 A No.

8 Q Did you have any input into what parameters,
9 what parameters the study was curious about, looked at?

10 A Did I have input into it?

11 Q Yes, sir.

12 A No. I was told what they were going to be
13 looking at at the study group, but I did not choose them,
14 or have any say in what was to be tested for, or even
15 given an opportunity to decide.

16 Q When did you first get a copy of the report?

17 A After it had been released.

18 Q When was that?

19 A I don't know. Sometime after August 9th.

20 Q Did you take any steps to disagree with it or to
21 express any disagreement you might have had?

22 A I'm trying to remember back whether I had any
23 conversations with anyone after that or not. I don't
24 believe so, no.

25 Q Do you know who Mr. LeRoy reports to?

1 A Yes.

2 Q Who does he report to?

3 A Van Hoofnagle.

4 Q Do you know Mr. Van Hoofnagle?

5 A I do.

6 Q How long have you known him?

7 A I would say several years.

8 Q Has Aloha ever relied on the expertise of
9 Mr. Van Hoofnagle in any proceeding you know of?

10 A Again, I don't remember if he has testified in
11 this case or not, or in any case. I don't know. I don't
12 remember.

13 Q You don't know whether he has ever testified on
14 behalf of Aloha, then, in any case?

15 A I really don't recall.

16 Q How about Mr. LeRoy?

17 A Again, as far as testifying in this case, I
18 don't remember if he has or not, to be honest with you.

19 Q My question actually was not about this case, it
20 was about any case. Would the answer be the same?

21 A I don't know, I don't recall.

22 COMMISSIONER CLARK: Mr. McLean, would this be a
23 good breaking point?

24 MR. McLEAN: Certainly.

25 COMMISSIONER CLARK: The reason we are going to

1 break now is I think the checkout time here is 11:00. We
2 are going to go ahead and take a break until 11:00, and
3 then come back at that time and resume the cross
4 examination.

5 (Recess.)

6 COMMISSIONER CLARK: Go ahead, Mr. McLean.

7 BY MR. McLEAN:

8 Q Mr. Porter, let's refer again to Page 13 of 99
9 of Exhibit 3. Let me know when you have it, if you would.

10 A I'm not sure my pages are numbered. Which is
11 Page 13?

12 Q All the way up in the right-hand corner.

13 A Oh, I see it.

14 Q You have the page?

15 A Yes, I do.

16 Q The second paragraph says, "The water
17 conditioning units did not remove the orthophosphate from
18 the water that was being added by the utility to inhibit
19 copper corrosion. This had been a concern of the
20 utility." Do you agree with that conclusion?

21 A In some cases, yes, in some cases no. It does
22 sometimes, it doesn't in others, has been our experience.

23 Q Thank you, sir. That orthophosphate, what is
24 that intended to do?

25 A As I said earlier, what the orthophosphate does

1 is it will bind or chemically combine with calcium and
2 form a calcium phosphate precipitate that lines the piping
3 walls and protects the piping. Now --

4 Q When did -- I'm sorry. I misunderstood one of
5 your pauses for a more lengthy pause. I'll have to listen
6 more carefully. Go ahead, sir, if you have more to say.

7 A I was going to say that while I would agree that
8 in some cases water conditioning units sometimes do not
9 seem to remove the orthophosphate in our experience,
10 others did in our experience. Now, this is -- I
11 understand the observations here are based on a relatively
12 small number of cases, but the more important question, I
13 think, would be to ask do the water conditioning units
14 remove the calcium. Because it is two components that
15 have to form to make the protective coating, not just the
16 one. And I don't see anything here about that.

17 Q You said that this had a very small number of
18 cases. How many cases was it, do you know?

19 A I think -- was it 30 or 35? I'm not sure.
20 Thirty or 35, something in that nature.

21 Q Do you know what they attempt to do with the
22 study, isn't it true that what they tried to do was
23 change variables to see if they get any change in results,
24 right?

25 A I think you will have to address that question

1 to the person who developed the study, Mr. Leroy.

2 Q Mr. LeRoy did develop the study?

3 A No, I said the person who worked on the study.

4 Q I thought you said developed.

5 A I believe he did develop it.

6 Q Thank you, sir. When did Aloha begin to add
7 orthophosphate to the water?

8 A My best recollection is early '96. I think it
9 was May, or March, or somewhere in that area. April.

10 Q For what reason did they do it, do you know?

11 A Corrosion control.

12 Q Did they do that on their own or were they
13 required to do so?

14 A As probably in the vast majority of facilities
15 here in Florida, they were required to do it because the
16 lead and copper rule specified so.

17 Q Okay. Thank you, sir. Let me show you a piece
18 of paper here.

19 A Okay.

20 Q First of all, will you tell the Commission
21 whether you are familiar with it. Do you know what it is
22 -- strike that. Do you know what that piece of paper is?

23 A I can guess. It is some kind of a notice.

24 Q Can you guess from what it says right on it,
25 notice?

1 A That is what I'm saying. You could guess it is
2 a notice.

3 Q Good guess. Would you read the notice, please,
4 sir?

5 A "Please be advised that Aloha Utilities, Inc.
6 has been found to be in violation of Lead and Copper
7 Rule 40 CFR 141 during the monitoring period July 1st,
8 1992 to July 1st, 1993 for its failure to timely monitor
9 water quality parameters, failure to timely report its
10 findings, and failure to timely notify it its customers
11 and the general public of these violations. Please note
12 that these violations are violations of monitoring,
13 reporting, and public notice rules, and do not mean that
14 there is any problem with the quality of the drinking
15 water. If you have any questions please notice, Aloha
16 Utilities."

17 Q And that was authored by Aloha Utilities, wasn't
18 it?

19 A Yes, as far as I know.

20 MR. McLEAN: Commissioner Clark, I would like to
21 have that marked as an exhibit.

22 COMMISSIONER CLARK: Is that the only copy we
23 have?

24 MR. McLEAN: Yes, ma'am. It was furnished to me
25 by a customer, and I will distribute copies to the

1 parties.

2 I tell you what, Mr. Porter read it in full, so
3 I don't think we need to have it marked after all.

4 COMMISSIONER CLARK: Okay.

5 BY MR. McLEAN:

6 Q Do you happen to know whether Mr. Hoofnagle had
7 any involvement in this report other than just signing it?

8 A I have no idea. You will have to direct that
9 question to Mr. LeRoy.

10 MR. McLEAN: I have no further questions, Mr.
11 Porter. Thank you, sir.

12 COMMISSIONER CLARK: Staff.

13 CROSS EXAMINATION

14 BY MR. FUDGE:

15 Q Mr. Porter, to the best of your knowledge, have
16 there been any confirmed cases of Aloha customers with no
17 copper pipes that have experienced black water?

18 A None.

19 Q Yesterday we heard testimony of a customer who
20 had his home replumbed, I believe Mr. Vinto, and some of
21 the customers testified that he was experiencing yellow,
22 brownish, or reddish water. Can you explain what causes
23 the yellow water that he is now experiencing?

24 A I haven't seen it, so I can't comment on it.
25 I'm not aware of it, either.

1 Q You also stated that not everyone experiences
2 the problem, and that is why they are not here today. But
3 yesterday we heard countless examples of why people are
4 not here because they are fed up, and that they don't have
5 any confidence in Aloha. Could that be why they are not
6 here today, too?

7 A You are asking me to speculate on other persons'
8 desire or lack of desire to come? I can't do that. I can
9 tell you that that certainly could be a reason. The other
10 reason could be that they are satisfied.

11 Q I believe you were questioned at length about
12 other utilities in Florida and whether they had
13 experienced black water problems. Are you familiar with
14 the treatment systems that they use?

15 A Some of them, some of them not.

16 Q All right. Would it surprise you that United
17 Water of Florida went to packed tower aeration to respond
18 to some black water concerns?

19 A Not at all.

20 Q In your study you were told -- ordered by the
21 Commission to study several types of treatment. Can you
22 describe those types of treatments that you studied?

23 A Yes, sir. The Commission asked us to look at
24 primarily -- and I will have to go back to my memory here
25 for a moment, which is not as good as it used to be, but

1 they asked us to look at aeration, which is the generally
2 accepted means of removing hydrogen sulfide in the state.
3 As a matter of fact, I believe there are over 1,200, 1,200
4 permitted aeration facilities in the State of Florida for
5 drinking water treatment. So that was a prudent request,
6 I think, of the utility.

7 We were also asked to look at reverse osmosis,
8 ion exchange. And of the aeration there were two types,
9 tray aeration and packed tower aeration. And the
10 difference, of course, of the two is that tray aeration
11 gives you a lesser removal rate of hydrogen sulfide, and
12 packed tower gives you greater rate.

13 Q Why didn't you examine the use of in-line
14 filters?

15 A Of who?

16 Q In-line filters or pressure filters?

17 A Because a pressure filter is for removing
18 particulate matter and not gases.

19 Q So, in your opinion, would installing a pressure
20 filter remedy the problems experienced by Aloha customers?

21 A Absolutely not.

22 Q In your study you concluded that packed tower
23 aeration was the best method to remedy the hydrogen
24 sulfide problem. How did you reach that conclusion?

25 A Okay. Well, again, it boils down to engineering

1 analysis. There is well-documented parameters that have
2 been established for many, many -- as I mentioned, there
3 is 1,200 of them in Florida alone, cases where efficiency
4 rates of various types of aeration methods have been
5 utilized, and the rates are obviously well known.

6 Tray aeration, as a general rule, will remove
7 about 50 percent of the sulfer compounds. That is total
8 compounds out of the water. And packed tower, depending
9 upon the residence time in the tower, the flow rate of
10 various air components and things can get you anywhere
11 between 80 and 99.9 percent, depending upon how far you
12 want to go and what pretreatment you want to give the
13 water before it goes through packed tower. I will be more
14 than willing to expand on that, if you so desire.

15 Q Well, there was a new article that came out that
16 Orange County Utilities is using, I believe, carbon
17 dioxide injection.

18 A That's right.

19 Q Why did you choose not to use that or examine
20 that method?

21 A I did choose to use it. As a matter of fact, if
22 you look in the report and look at the process flow
23 diagram, we did use carbon dioxide as a pretreatment
24 method to lower the pH of the water to pH 6. However, in
25 addition to that -- which is exactly what Orange County is

1 proposing, by the way. We also, in addition to that,
2 proposed to use hydrochloric acid to lower the pH to 5, in
3 addition to the carbon dioxide.

4 And the reason for that was really very simple.
5 We were asked by the Commission to try to find a solution
6 to the black water problem by aeration. The only study
7 then and to date, and I might add now has been recognized
8 by the American Waterworks Association in their standard
9 handbook this year, that one study as a definitive source
10 on this issue, has determined that the sulfide levels have
11 to be below 0.09 milligrams per liter.

12 In order to achieve those levels, you have to
13 lower the pH to about 5, not 6. What Orange County was
14 trying to do was achieve efficiency levels of about 98 to
15 99 percent, we were looking at virtually 100 percent.
16 And, quite frankly, we can give the customers whatever
17 they want, anywhere between the 50 percent packed tower
18 and the 99.9 percent packed tower with very extensive
19 pretreatment and anywhere in between. You choose it and
20 we will give it to you.

21 Q So if you removed it 100 percent, would that
22 solve the black water problems that people are now
23 experiencing?

24 A I cannot say that. As a matter of fact, in my
25 report I said I doubted very seriously that the people who

1 are now experiencing the problem would see any immediate
2 benefit in the black water area from doing so. I did say
3 I believed it would have a major effect on odor problems
4 that people are experiencing and any other hydrogen
5 sulfide-related problems that they are seeing right now at
6 their homes.

7 Q In the study you cite it states that if the
8 corrosion rate of a sulfide-coated coupons at pH 9.2 were
9 to continue decreasing linearly when plotted against a
10 logarithm of time, it would still take about 400 days
11 before the corrosion rate fell to a rate comparable to
12 that of copper in the absence of sulfide?

13 A That's correct.

14 Q So after 400 days, it would be comparable to
15 sulfide-free water. So would it stop after 400 days?

16 A As a matter of fact, if you go on in that study,
17 they said, "However, we have no way of knowing that." And
18 we don't. I don't know that, either.

19 Q In your report, did you study additional storage
20 facilities for the Aloha water system?

21 A Yes, we did. Absolutely.

22 Q Is that for current customers or future growth?

23 A Yes, its for current customers, as well.

24 Q So it is not for future growth?

25 A When you make it -- was it future growth, as

1 well? Yes, a portion of it would be future growth.

2 COMMISSIONER JABER: Excuse me. Jason, it would
3 help me if you ask the question in its entirety again and
4 let him answer.

5 BY MR. FUDGE:

6 Q In your study you included storage facilities
7 for the water system. Is that to serve current customers
8 now or is the storage system for future growth?

9 A Yes. It is for current customers. It is part
10 of the process of removing the H2S that we have identified
11 here today for current customers, but the size of the
12 storage that we propose was not only for current
13 customers, but some of that size was for future customers,
14 as well.

15 Obviously when you are going to spend a
16 considerable amount of money upgrading systems, it would
17 be very remiss to install a system today that would only
18 need to be duplicated at higher costs in a very short
19 time. So this did include today for the customers, and
20 was required as part of the process, but it also was sized
21 so that it not only handled current customers, but future
22 customers, as well.

23 Q How far out is that customer growth projected?

24 A It was in the study. I think it was 20 -- I
25 will have to look. 2015.

1 Q When you compiled your report, did you consult
2 with DEP --

3 A Yes, I did. Sorry.

4 Q -- about any future upgrades to the Aloha water
5 system that would be required by future regulations?

6 A I did. And, as a matter of fact, DEP
7 peer-reviewed this document before we submitted it.

8 Q Do you know of any future regulations that may
9 affect the need for this system?

10 A Yes.

11 Q What are they?

12 A The disinfection by-products rule may have an
13 effect on Aloha in the short-term, the next three to six
14 years. It certainly will in the second round that is
15 coming up, based on the proposed numbers that are in the
16 DEP, or FDEP and EPA hopper at this time. Virus and
17 activation rules that are being proposed in the new ground
18 water disinfection rule will probably have an effect on
19 it, as well, because they are changing the contact time
20 versus concentration, what is called CT times. And
21 alternative disinfections are looking like they are going
22 to be required, which is why we chose ozone, and that is
23 why Pinellas County chose it, and I believe Orange County
24 is, as well.

25 There are also a whole host of other rules that

1 are, you know, capacity development rules showing we have
2 the capacity for future growth, and things of that nature.
3 Of course, those rules aren't complete yet, they are still
4 under work, are being worked on. So we have no way of
5 knowing today exactly what those are going to be.

6 I can tell you that I sit on DEP committees for
7 some of those rules, and are participating in the writing
8 of some of them. So I think I'm pretty well-versed in
9 them.

10 Q At the hearing in September and October of 1996,
11 you testified that you believed the copper sulfide problem
12 was due to the home treatment units at the customers'
13 residence. Is this still your opinion?

14 A I believe it is one of the causes, yes.

15 Q On Page 3, Line 16 through 17 of your direct
16 testimony you state that there should have been a drop in
17 the number of additional homes reporting copper
18 corrosion-related black water problems due to the success
19 of the corrosion control program. Has this drop in
20 reported cases occurred?

21 A Well, I can only tell you what has happened as
22 far as numbers of complaints to the utility. I have
23 looked at -- I have asked Steve Watford and his staff to
24 prepare a document that shows numbers of registered
25 complaints to the utility regarding this issue, and the

1 number has fallen off dramatically.

2 Q But isn't it also true that not everyone has
3 complained, as we learned yesterday?

4 A So we have been told.

5 Q In the same hearing in September and October of
6 '96, you testified that there were different grades of
7 copper pipes, and you stated that grades L and K were more
8 resistant to corrosion than grade M. And that tests were
9 being performed to determine the grade installed in
10 customers' homes. Do you have those test results?

11 A I can only tell you that I do not have those
12 results, and that analysis at that time was being done by
13 a third party, and the results were never received by
14 Aloha Utilities. In other words, we don't have the
15 results.

16 Q Who was that third party that compiled the
17 results?

18 A We had supplied the only copper samples that we
19 had to Stiles Chem (phonetic), which is the manufacturer
20 of the phosphorous compound that we use as an inhibitor.
21 They had a change of management, and in the meantime --
22 the cost of doing that analysis is rather high. And they
23 originally volunteered to do the analysis for us, and then
24 decided they were going to think about it. And by the
25 time they made the decision, they had literally lost the

1 samples. So, no, it was never done.

2 Q I believe Commissioner Jaber has touched on this
3 point, but I just wasn't clear on it. If the corrosion
4 inhibitor is designed to prevent the corrosion of copper
5 pipes, then why have homes built as early as last year and
6 only weeks later have experienced the black water problem?

7 A Well, again, as I provided in an answer to
8 Commissioner Jaber, I think if you will go back through
9 the record you will find that most of the people yesterday
10 who testified they had homes built post-1996 that
11 complained of the problem had home treatment systems. And
12 as I have said, those with home treatment systems will get
13 no benefit, zero, from this program.

14 Q We heard yesterday of customers who testified
15 that they had homes built as early as last year without
16 home treatment units, and two weeks after they moved in
17 they have had black water.

18 A Yes, and I agree with you. And like I said,
19 there are conditions that can occur that would cause that
20 to happen. Again, grounding and many other factors that
21 can occur. And when copper is brand new -- you are going
22 to have to get into something. If you want me to, I will
23 be glad to do so. When copper is brand new, it is more
24 susceptible at the beginning to corrosion. As time goes
25 on, the copper itself -- and, again, I'm not sure if I

1 know why, but it has been reported in the literature. As
2 time goes on, as copper gets older, its susceptibility to
3 corrosion decreases. And I guess that is because of the
4 natural aging process of the copper pipe itself. However,
5 I don't have absolute specifics as to why that is true. I
6 can point you to literature that says so.

7 When homes are brand new, and this is one of the
8 issues that came up in the copper study group, there is a
9 number of issues that can create corrosion immediately.
10 The type of flux that was used, especially at joints. So
11 we heard yesterday from some customers who said, I've got
12 problems in my pipe, but it is at the joints. It is not
13 in the pipe, it is in the joints.

14 Well, there has been a lot of discussion on
15 that. And the plumbers now have recognized and have come
16 out with additional methodologies to be sure that the way
17 that they sweat the joints, and the way that they flux the
18 joints doesn't provide a corrosion problem at that joint.
19 And the joint themselves can have some serious problems.

20 Now, if the joints have a flux problem or a
21 joint problem, and the corrosion takes place there, no
22 matter what we do you are going to see the problem there.
23 So, while I can't address to you exactly what is going on
24 in that particular home at this time, I will tell you that
25 there are conditions that can occur that will certainly

1 let that happen.

2 And, again, the corrosion inhibitor is not a
3 panacea. It much reduces the problem. If it totally
4 eliminated it, that would be wonderful. It doesn't for
5 us, it doesn't for anyone. And if you look at the DEP
6 rules, we are looking at 90th percentile number, not 100
7 percentile numbers to measure the value of that process or
8 the value of the inhibitor. So it is only meant to work
9 at least 90 percent of the time to the efficiencies
10 required by DEP, because everyone knows it doesn't work
11 all the time. There are other things that can occur.

12 COMMISSIONER JABER: Mr. Fudge, can we interrupt
13 you one second.

14 COMMISSIONER JACOBS: Just a couple. I think
15 you referred to Mr. Fawcett earlier, but Mr. Fawcett, I
16 believe the Hennessys, and I think Ms. Nigels. Ms.
17 Nigels, I think her house was built in '96, or
18 thereabouts. I believe Mr. Fawcett's house was built in
19 '99. And I believe the Hennessys was built -- I'm sorry,
20 I don't have when theirs was built. In each of those --
21 if I'm not mistaken, according to my notes, in each of
22 those instances there was no softener, according to their
23 statements, when they moved in. They experienced both the
24 odor and the discoloration then they put in the softener.

25 THE WITNESS: And, again, the odor, this

1 corrosion program has nothing to do with that. So I'm --

2 COMMISSIONER JACOBS: But I'm saying --

3 THE WITNESS: I'm sorry.

4 COMMISSIONER JACOBS: Go ahead, finish your
5 answer.

6 THE WITNESS: It has nothing to do with the
7 odor, so I will take that one out of it to begin with. As
8 far as why they did or didn't see the corrosion problem at
9 the very beginning, I can only tell you I don't know.
10 There are many factors that could have contributed to it.

11 As I mentioned to you earlier, I plan to go to
12 each and every person on this list. And I will do my
13 utmost to try to determine what I think was the cause of
14 the problem, to the best of my knowledge. And you will
15 get a late-filed on that from me.

16 COMMISSIONER JACOBS: Very well.

17 COMMISSIONER JABER: Mr. Porter, when was the
18 first report of black water in the Aloha territory?

19 THE WITNESS: Boy, I don't know that. Again,
20 the problem with asking that question is black means many
21 things to many people. You are talking about the copper
22 sulfide?

23 COMMISSIONER JABER: Yes.

24 THE WITNESS: The first that I was aware of it
25 was in 1995, I believe, sometime early '95.

1 flushing program. Do you have the specifics of that
2 program, the frequency of the flushing?

3 A No, I don't. It would probably be better
4 addressed to Mr. Watford. That is a day-to-day
5 operational issue.

6 Q Okay. Yesterday we heard testimony from
7 customers complaining about black water. The majority of
8 the complaints came from Chelsea, Trinity Oaks, and
9 Wyndgate and Wyndtree subdivisions. Which wells are in
10 that area?

11 A Well, again, that is a difficult question. The
12 wells nearest those locations by distance, of course, are
13 Wells 8 and 9. However, if you look at the report and
14 look at the modeling that was done, you will see that the
15 water at any given time, depending upon demand in the
16 system, could be coming from anywhere. That system is
17 intermixed in the main loop. Now, it isn't as it goes
18 into their subdivisions, because they don't have loops.
19 But in the main loop around the system, which you can take
20 a look at in there, the water is intermixed. I mean,
21 water doesn't know where it is going to go. If you put it
22 over here, if there is demand over there, that is where it
23 eventually ends up.

24 So it is pretty hard to say all the water goes
25 to their location from Wells 8 and 9. But I will, if you

1 wouldn't mind, I would like to say one thing. As a lot of
2 the customers said yesterday, many of them complained that
3 the problem began long before January 1996, long before
4 those wells were put on-line. Many years before in some
5 cases.

6 Q If the problem lies within the customers'
7 pipes --

8 COMMISSIONER CLARK: Excuse me. When did 8 and
9 9 come on-line?

10 THE WITNESS: 1996.

11 MR. JAEGER: I thought you said the first
12 complaint you had about it was in 1995. I don't describe
13 that as years ahead of time.

14 THE WITNESS: Some customers yesterday reported
15 that they started seeing the problem in the early '90s.

16 COMMISSIONER CLARK: But the time you became --
17 when I say you, I mean the company was notified of it and
18 became aware of it was sometime in '95?

19 THE WITNESS: Yes, ma'am. I'm actually
20 reporting to you what some of the customers said
21 yesterday.

22 COMMISSIONER CLARK: Okay.

23 BY MR. FUDGE:

24 Q If the problem lies within the customers' pipes,
25 then why does the problem clear up whenever the lines are

1 flushed?

2 A I don't know that to be the case. I think that
3 we have heard from various customers that there is a very
4 intermittent nature of the problem. It comes and goes.
5 They said there is no rhyme or reason. It is there one
6 day, it is not there three days. It is there one month,
7 it's not the next month. And certainly Aloha, as you
8 heard yesterday, flushes on a regular basis. It is
9 conceivable that they would be out flushing and an event
10 would occur where the people would not see it for this
11 particular event. I think if we had asked the customers
12 the question, "Have you ever seen the black water problem
13 while Aloha was flushing or immediately thereafter," we
14 might have gotten an answer of yes.

15 Q Some customers testified that the black water
16 problems had some correlation to the activities of Wells 8
17 and 9. Do you see any correlation?

18 A I don't.

19 Q Are the water characteristics of Wells 8 and 9
20 different from Aloha's other wells in the Seven Springs
21 area?

22 A No, they are essentially the same as the other
23 wells. Of course, there is variability between all the
24 wells, but they are characteristic of the wells that we
25 have now.

1 Q Do you have any idea why some customers may have
2 believed that the black water problem is somehow tied to
3 Wells 8 and 9?

4 A Yes, I do. And that was an unfortunate turn of
5 events, because what happened was when Aloha was putting
6 those new wells on-line, largely at my request I suggested
7 because of client or customer relations that I thought it
8 was a good idea to notify all customers in the system,
9 both by newspaper and by written document, that it was
10 important to note that they may see discolored water.
11 When we first turned on Wells 8 and 9, we actually changed
12 the flow of water in that area. Where water had all been
13 coming from other wells into this area, now we are putting
14 a set of wells on that, as I mentioned before, flow not
15 only to this area, but out to the system, as well.

16 So when you do that you create turbulence in the
17 pipelines. And when you create turbulence in the
18 pipelines, you invariably remove any silt that is in the
19 system. When you pump water out of wells, it's out of the
20 ground, there is always some silt and dirt that gets in
21 the system. That is why you flush the lines from the fire
22 hydrants.

23 And I knew from my past experience that when we
24 put those wells on-line, we were going to have dirty
25 water. Now there is two ways to handle that. You can

1 either do it and react to the complaints, and hope it goes
2 away quickly, which I think is the wrong way to do it, or
3 you can do what I think is correct, and that is to tell
4 people it is coming. And say, "Let me tell you. We are
5 starting up some new wells, they are here for your use.
6 But in the meantime, we are going to be reversing the
7 flow, and we are going to see some dirty water. So please
8 call us and tell us if you see it so we can go out and
9 flush the system."

10 In addition, we had people flushing the lines
11 day and night trying to minimize that problem. Well, what
12 that did is that then finely-tuned people to be looking
13 for dirty water problems, and I guess largely at my
14 request. It is also no small coincidence that there was a
15 rate case going on at the same time.

16 And I think that when you put all of those
17 things together, where you have told people they are going
18 to expect the problem, they did get a problem, the water
19 did get muddy and dirty and we had to flush it, and you
20 had a rate case going with people that are unhappy about a
21 rate increase, and I would be, too, that you end up
22 with -- you end up with people more critical about their
23 water than they have previously. However, I will tell
24 you, again, that my position and that of the utility, as
25 far as I know, is there is a reason to be critical about

1 that.

2 COMMISSIONER JABER: Mr. Porter, it is not your
3 testimony that people tolerated the black water until
4 Aloha filed a rate case, correct?

5 THE WITNESS: Well, I can tell you that some
6 people today tell us, or yesterday told us that they had
7 the problem as early as 1991 and never said anything to
8 the utility about it. So I don't know what to tell you
9 about that.

10 COMMISSIONER JABER: Did Aloha file a rate case
11 prior to 1995?

12 THE WITNESS: Not that I am aware of. As a
13 matter of fact, I think that was the first one in quite
14 some time, many years.

15 BY MR. FUDGE:

16 Q If the black water problem can be tied to Wells
17 8 and 9, would it be feasible to install the packed tower
18 aeration only at this site and forgo the other
19 installations?

20 A Yes. I mean -- but, you have to understand
21 that, first of all, there is no case that is the case.
22 And, secondly, if you were to install treatment at one
23 system, given the fact that the entire system is
24 intermixed, that all you are really going to do is put
25 some water that has been treated in with water -- that

1 that doesn't necessarily mean that you are going to get
2 the higher quality water only at Wyndtree and Chelsea and
3 whatever, you are going to get intermixed water. And the
4 wells in our other areas are so similar to the water at
5 Wells 8 and 9, I can't imagine why that would have any
6 effect. That is my answer.

7 Q I don't see in any of your exhibits a diagram of
8 the wells and the subdivisions. It doesn't have the
9 subdivisions labeled. Can we get that as a late-filed
10 exhibit?

11 A I think we can give you a map that shows the
12 subdivisions. I don't know if we have got an overall
13 system map in one location of all of the water system. I
14 think we can show you a system map, it shows the
15 subdivisions and where the wells are.

16 Q All we want is the wells and the subdivisions.

17 A Let me take a look. I'm not sure that that
18 isn't in here. This was a long time ago. It is in here,
19 you have that. Let me rephrase that. You don't have the
20 names of the subdivisions on it. So you want us to add
21 subdivision names?

22 Q Yes, please.

23 A We can do that.

24 Q Does Aloha have --

25 COMMISSIONER CLARK: Mr. Fudge, let's get a

1 number. We will make that Exhibit 14. And are we going
2 to -- what are we going to title it?

3 THE WITNESS: System map with names of
4 subdivisions.

5 MR. JAEGER: And well numbers.

6 THE WITNESS: They are already on here.

7 COMMISSIONER CLARK: All right. That will be
8 Exhibit 14.

9 (Late-Filed Exhibit 14 identified.)

10 COMMISSIONER CLARK: Okay.

11 BY MR. FUDGE:

12 Q Does Aloha have backflow prevention devices
13 installed in their system?

14 A For those customers that require it, yes.

15 Q Do you know how frequently they are installed
16 and who gets them?

17 A I'm sorry, repeat that, please.

18 Q Do you know how frequently the backflow
19 prevention devices are installed?

20 A Are installed?

21 Q Yes.

22 A Only when a customer comes in and require --
23 where it is required that he provide one.

24 COMMISSIONER CLARK: Under what circumstances is
25 it required?

1 THE WITNESS: If there is the potential for
2 cross-connect contamination of the system. If they are a
3 commercial customer, industrial customer, someone who has
4 an industrial process that may have chemicals of some sort
5 that he is mixing up with water from our system. Anywhere
6 where a customer might be able to get materials that
7 shouldn't be in the drinking water supplied back into our
8 system from our line.

9 COMMISSIONER CLARK: Can you give us an example
10 of residential customers that have to have it?

11 THE WITNESS: Some residential customers will.
12 I don't think any do now. Some day in the future perhaps,
13 if we get into reuse in the residential setting,
14 residential customers with reuse will have backflow
15 preventers on their irrigation system.

16 COMMISSIONER CLARK: Is it required for people
17 with pools?

18 THE WITNESS: I don't know. See, in some cases
19 we have to have an air brake. In that case they don't
20 need a backflow preventer. In some cases, if they have a
21 direct connect, and I don't know if we allow them. You
22 would have to ask Mr. Watford about that, that is an
23 operational question.

24 COMMISSIONER JABER: While staff is doing that,
25 Mr. Corelli testified yesterday that he has a concern that

1 perhaps the backflow prevention devices can actually help
2 with the black water situation. Just to close up that
3 record, can you testify to that?

4 THE WITNESS: Yes. There are no users of water
5 on Aloha's system that I am aware of that could be
6 providing anything to the distribution system that would
7 be causing this black water problem.

8 BY MR. FUDGE:

9 Q Earlier you testified that the disinfectant
10 by-product rule would be lowered I think in about 2003 to
11 .80?

12 A As far as we know, yes, that is correct.

13 Q Would Aloha's system meet that requirement now?

14 A Well, it depends on how you look at the answer.
15 The answer is Aloha's level of trihalomethanes at this
16 time is consistently below the 80 parts per billion that
17 may be required 2003 to 2006, somewhere in there. But the
18 level of THMs in the system vary with the temperature of
19 the water itself, so it varies with season. There are
20 times when Aloha has seen 60 and 70 parts per billion, and
21 that is getting very close to the 80.

22 Given the fact that the penalties are relatively
23 severe for exceeding the THM limits, as an engineer, when
24 the time comes for us to make that decision, even if Aloha
25 is consistently meeting it but very close to the number,

1 and I know that it can vary tremendously with time, I'm
2 not sure that I'm not going to recommend that we document
3 that we require that as a part of our reasonable assurance
4 requirement with the DEP.

5 MR. FUDGE: No further questions.

6 COMMISSIONER CLARK: Commissioners.

7 COMMISSIONER JACOBS: On several occasions
8 yesterday we had consumers who brought in the filters.

9 THE WITNESS: Yes, sir.

10 COMMISSIONER JACOBS: Now, let's walk through
11 how, in the typical installation, how that would be. You
12 are going to have -- according to your testimony you have
13 no metal piping up to the meter.

14 THE WITNESS: That's right, we have PVC.

15 COMMISSIONER JACOBS: And then from the meter to
16 the house is going to be copper?

17 THE WITNESS: In some cases, yes, in some cases
18 no. Some builders for some reason seem to use PVC up to
19 the house itself from the meter and then go copper. There
20 is no rhyme or reason to that.

21 COMMISSIONER JACOBS: Let's say that there was
22 copper.

23 THE WITNESS: Yes, sir.

24 COMMISSIONER JACOBS: That's about, on average,
25 50 feet?

1 THE WITNESS: Yes, 50 to 100 feet, it depends on
2 the house.

3 COMMISSIONER JACOBS: And then you are going to
4 go into the softener or the filter first?

5 THE WITNESS: Again, no rhyme or reason. It
6 depends on the company that sold the customer the water
7 treatment system. If I may tell you, I have been to some
8 of the customers' homes, and the level of treatment that
9 has been sold to customers varies tremendously. I went
10 into one customer's house who, and some of them mentioned
11 it yesterday, have what is called the NASA-approved
12 system. What that means, I don't know. I just can tell
13 you what they call it. It is called the NASA-approved or
14 NASA-developed system. And it has got one of about
15 everything. It is amazing. It has a cabinet, and it is
16 huge, and has one of everything.

17 Frequently those are mounted somewhere in the
18 garage. Now, you have to keep in mind that when the
19 piping comes up from the meter to the house, depending
20 upon the location of the garage relative to the street and
21 to the house, there are oftentimes a long part, a long
22 section of copper tubing that goes around and then comes
23 back into this treatment unit. So you can have the length
24 of piping that comes from the street plus quite a bit of
25 tubing in the house before it ever gets to this treatment

1 unit. Which could include first a filter, as they
2 reported yesterday, or a softener, or an RO unit, or an
3 ion exchange unit, or some other kind of thing.

4 I have even seen some of these units have ozone
5 generators in the homes, as well. So the answer is it
6 could come to a filter first, it may not. And the length
7 of piping may be quite extensive before it gets there.

8 COMMISSIONER JACOBS: Okay. Specifically, I
9 believe it was Mr. and Mrs. King, they brought in -- they
10 brought in the filter that had just been removed, I
11 believe, and they said it had been three months. And if I
12 recall, traditionally those are supposed to last six
13 months to a year. And that filter was very dark and they
14 contrasted it --

15 THE WITNESS: I would absolutely agree with you.

16 COMMISSIONER JACOBS: I'm sorry.

17 THE WITNESS: I absolutely would agree with you.

18 COMMISSIONER JACOBS: And then they contrasted
19 it with a newer one, which was clean and whatnot. In your
20 opinion, what caused that filter to discolor?

21 THE WITNESS: Again, in my late-filed I will be
22 more specific, because I will see where the filter is and
23 can give you more detail. My initial reaction is, if I
24 have to guess at this point, and not seeing it, that they
25 have a long section of copper tubing prior to that filter,

1 and that the corrosion is taking place in that tubing, so
2 therefore it is getting into the filter. It wouldn't
3 surprise me at all.

4 COMMISSIONER JACOBS: So then it would be the
5 hydrogen sulfide from the copper line up to that filter --

6 THE WITNESS: Uh-huh.

7 COMMISSIONER JACOBS: -- that is resulting in
8 that discoloration?

9 THE WITNESS: Uh-huh. And I don't remember,
10 were those folks the folks that said they were here six
11 months of the year and gone the other six months.

12 COMMISSIONER JACOBS: I don't recall.

13 THE WITNESS: I don't know. Again, for lack of
14 a better term, I guess I will call it the snowbird
15 syndrome. There is another factor that enters into all of
16 this. Before we talked about what happens, and several
17 people demonstrated it very well yesterday, they said,
18 "When I come back from being gone, it's awful. I've got
19 to flush the whole house. It smells like heck for a long
20 time. And it is just a lot of wasted water. And it is
21 worse than it ever is when I come back."

22 Absolutely. I agree with them 100 percent. I
23 guarantee you they are telling you the truth. And the
24 reason for that is exactly what we said before, and the
25 same reason why it seems to be worst in the back bedrooms

1 than it does in the front bedrooms for the other folks.
2 The longer the water sits stagnant in the piping that has
3 hydrogen sulfide in it, the more its going to attack the
4 copper and the more that copper sulfide is going to form.

5 And when you read the Sarah Jacobs report, you
6 are going to see that it is its own catalyst once it forms
7 and, therefore, it is going to keep regenerating,
8 regenerating. And since they are not pulling this black
9 material off regularly, like people do when they open
10 their tubs now, they say, well, I will get it for a second
11 or two. That is because yesterday's accumulation of this
12 stuff or the last three days' accumulation got taken away.

13 But when it sits there for six months, and they
14 come back and they turn this thing on, they have got six
15 month's worth of accumulation. That pipe has got a lot of
16 it in there. I witnessed it myself at one customer's
17 home, I can't remember his name. He said, "I want you
18 here when I start this thing up." And, boy, it was bad.
19 It was serious.

20 COMMISSIONER JACOBS: Here is my question. If I
21 understand, the water would have been chlorinated at your
22 well.

23 THE WITNESS: Yes, sir.

24 COMMISSIONER JACOBS: Which should have
25 dissipated most of the hydrogen sulfide.

1 THE WITNESS: It would have converted it.

2 COMMISSIONER JACOBS: And it goes through your
3 system?

4 THE WITNESS: Uh-huh.

5 COMMISSIONER JACOBS: Up to this customer's
6 house?

7 THE WITNESS: Yes, sir.

8 COMMISSIONER JACOBS: So for that section of,
9 copper pipes that goes to the softener or the filter,
10 whichever, that should be a lessening of that process that
11 you just described, shouldn't it not be?

12 THE WITNESS: A lessening of the process.

13 COMMISSIONER JACOBS: Because now in that water
14 the corrosiveness has been reduced because you chlorinated
15 it, is that a correct statement?

16 THE WITNESS: Partially. When we chlorinated
17 the water at the well site, what we have done is we have
18 taken one form of sulfur that is called hydrogen sulfide,
19 it is a gas, that smelly rotten egg stuff, and what we did
20 is we then chemically changed it to sulfate.

21 So instead of being sulfide, which is a form of
22 sulfur that is corrosive and is smelly, to sulfate which
23 is one that isn't smelly and isn't corrosive. But when
24 you put it in a customer's home, and the length of tubing
25 is long, or the residence time, the amount of time that it

1 spends in that line is long enough to allow the sulfur
2 reducing bacteria to work on that. And it can be very
3 rapid, it is not like it takes days, it can take literally
4 minutes once they are in contact with each other, then
5 hydrogen sulfide will form. And when it does, because
6 they convert it back is what they do. They undo what we
7 just did is what they do. And when that happens, then you
8 get the problem.

9 COMMISSIONER JACOBS: But it is my understanding
10 that reversal doesn't occur until it goes through the
11 softener, is that correct?

12 THE WITNESS: No, sir. If I gave you that
13 impression, I'm sorry. What happens is as the water sits
14 in the copper piping in a customer's home for any length
15 of time that the sulfur reducing bacteria -- and they are
16 naturally found in the water. They are there. They are
17 in everybody's water. But they are in very small numbers,
18 normally.

19 But if you put them in a piece of piping where
20 it is warm and where there is not a lot of water moving
21 for whatever reason, they only use their water
22 sporadically through the day, or if they are gone working
23 all day long, there is nobody using water in the home, or
24 whatever, what will happen is over time the numbers of
25 microorganisms will grow. They will cell divide.

1 And as you provide them this source of
2 sustenance, which is the sulfur in their case, they grow.
3 They get more of them. And once you get enough of them
4 and you reach this peak where you have enough of them, as
5 you pass the water through, you can think of it as an
6 assembly line. They see the sulfur coming through in the
7 form of sulfate, and they go, good, you know, and there is
8 a lot of them.

9 When there is only a few of these organisms like
10 there are in our distribution system because we have a lot
11 of chlorine in there to get rid of them, then what happens
12 is they get in the system, and the chlorine dissipates
13 with time, and they can grow now. And the water is warn,
14 so they are happy. And they get a lot of them. Well,
15 before as the sulfur went by, a lot of it went by and
16 there wasn't enough workers to convert very much of it,
17 that is why you don't see it in our distribution system.

18 But you put it in the home where the water sits
19 for quite a while in a piece of piping, and what will
20 happen, especially going out to those back bedrooms, what
21 will happen is a lot of the hydrogen sulfide will be
22 converted back because there is a lot of workers. And
23 when that happens that sulfide will destroy that piping.

24 COMMISSIONER JACOBS: Okay. So I want to go
25 back now to -- and let me get to my question. You agree

1 that the process which caused those filters to discolor
2 was their interacting with hydrogen sulfide coming through
3 that piece of equipment. Do you agree?

4 THE WITNESS: I would agree. Apparently that is
5 what it was. I haven't analyzed that black material to
6 make sure that is what it was. It sure looked like it to
7 me. So the answer as far as I know is yes.

8 COMMISSIONER JACOBS: Which is before it goes
9 into the house and whatever copper plumbing is in the
10 house?

11 THE WITNESS: Well, no. See, that is what I'm
12 saying to you. There are many cases, and I may find this
13 at that residence, I don't know, where the copper comes up
14 to the house, and then it goes through the wall, and then
15 this treatment unit that we are talking about or the
16 filters are on that back wall over there in the garage.
17 So what happens is the piping runs, it runs to the
18 ceiling, and then down, and then over to the filters. So
19 there could be quite a bit of piping between the point
20 where it enters or leaves the meter and gets over into the
21 filter.

22 COMMISSIONER JACOBS: So we don't belabor this,
23 I would like to specifically have that documented for at
24 least the Kings and the others who gave that testimony.
25 And here is the point I want to try to get to. If there

1 is what arguably, and I will state that, arguably
2 premature discoloration of those filters, which one might
3 want to determine whether or not that is coming from the
4 piping in advance of the filter or the softener, it would
5 be very interesting to understand why it happens so fast.

6 THE WITNESS: Exactly. And I will detail that
7 in more detail, if you would like, in my late-filed, how
8 that mechanism works. And I will specifically look at it
9 in those homes.

10 COMMISSIONER CLARK: Mr. Porter, you are going
11 to make that as part of Exhibit 13, is that correct?

12 THE WITNESS: Yes, ma'am, I will.

13 COMMISSIONER JACOBS: I have one other brief
14 question.

15 Well, you indicated you weren't very familiar
16 with the EPA study and how it was done, so we will hold
17 this for Mr. LeRoy.

18 Wouldn't you have -- if you were going to do
19 that kind of a study -- now you did a similar process.
20 But why not look at and compare the water from both your
21 other -- let me digress for a moment.

22 When you did your testing, did you look at, did
23 you track changes in effects from water across all of
24 Aloha's wells?

25 THE WITNESS: Yes, sir.

1 COMMISSIONER JACOBS: So you look at every well,
2 and then as changes occurred with regard to black water,
3 you looked at all of the wells?

4 THE WITNESS: We didn't do any specific special
5 testing, let me make sure that is true, just for this
6 report. Aloha does extensive testing throughout the year
7 every year. So that data is readily available all of the
8 time.

9 COMMISSIONER JACOBS: As to what might be
10 happening with raw water and finished water.

11 THE WITNESS: Yes, sir.

12 COMMISSIONER JACOBS: And you have tracked that
13 and contrasted that to what you found here.

14 THE WITNESS: Yes, sir.

15 COMMISSIONER JACOBS: Do you do that as opposed
16 to surrounding systems?

17 THE WITNESS: Well, we certainly looked at the
18 surrounding system, and some of that data is in the
19 record, sir. Where we looked at your quantities of
20 hydrogen sulfides and sulfates, which are the key
21 ingredients here, and those of Pasco. And I don't know if
22 we looked at Pinellas or not, but we talked about others
23 in this report, yes, sir.

24 COMMISSIONER JACOBS: Thank you.

25 COMMISSIONER CLARK: Redirect.

REDIRECT EXAMINATION

1
2 BY MR. DETERDING:

3 Q Mr. Porter, at the beginning of your cross
4 examination by Mr. McLean you were asked about the
5 Commission's finding of unsatisfactory service by Aloha.
6 Was it clear to you whether that was related to customer
7 relations, recordkeeping, the level of customer complaints
8 or what exactly that was related to?

9 A I was speaking relative to the quality of the
10 water itself.

11 Q And was it clear to you that that finding of
12 unsatisfactory service was directly related to the quality
13 of water delivered by Aloha?

14 MR. McLEAN: I'm going to object because the
15 question leads the witness to an answer.

16 BY MR. DETERDING:

17 Q What could you tell that that finding of
18 unsatisfactory quality of service was related to?

19 A For me I felt that the quality of service issue
20 that I addressed, that I did not agree with, was whether
21 the water was satisfactory as it was delivered to the
22 customer.

23 Q Was there a finding to that effect that that was
24 unsatisfactory in that order?

25 A No, I do not believe it was.

1 Q Can copper corrosion manifest itself in ways
2 other than black water?

3 A Absolutely.

4 Q Can it manifest itself in colors of water other
5 than black water?

6 A Absolutely. And it is very common to see it as
7 blues or blue-greens, greens, and other colors of that
8 sort, yes, copper.

9 Q We saw some red in here?

10 A I don't know what that is. I am going to be
11 taking a look at it.

12 Q You were asked about the issues related to this
13 DEP study in Pasco, I believe it is called the Pasco
14 County Black Water Study, and the chain of custody, and
15 other issues related to documentation of that. And at the
16 same time asked about Aloha's testing and your reliance on
17 DEP's finding of compliance. Let me ask you a couple of
18 questions about that relationship.

19 Have you seen -- in those tests of Aloha that
20 you have seen, that DEP has relied on in determining
21 compliance, have you seen the chain of custody documents
22 in those that you have reviewed?

23 A For those tests that DEP relied upon for
24 compliance, yes.

25 Q And does DEP require chain of custody

1 documentation?

2 A Absolutely.

3 Q Does DEP require in those testing in order to
4 approve them that the information about preservation of
5 samples?

6 A Yes. As chain of custody, sure.

7 Q Do they require information about the methods of
8 testing utilized?

9 A Absolutely. The entire testing process from
10 start to finish, including the results, are required,
11 especially as backup material for any defensible or any
12 piece of information that is going to be used for any
13 purpose with the regulatory agencies.

14 In my opinion as a professional engineer, I
15 wouldn't rely upon any information to determine compliance
16 of a water system that didn't have that information.

17 Q So in those documents that Aloha submits, those
18 testing results that Aloha submits to DEP, that ultimately
19 lead to DEP's finding of compliance?

20 A Uh-huh.

21 Q Do you feel comfortable that those documents
22 exist?

23 A Oh, absolutely.

24 Q In this Pasco County Black Water Study, have you
25 seen anything that relates to chain of custody --

1 A No.

2 Q -- type of test utilized, whether it complies
3 with the standards in the industry or preservation of
4 those samples?

5 A No, I have not. But I would like to say that I
6 don't know what the purpose, the ultimate purpose of the
7 study was. So it may not be for this purpose that it is
8 being used at this moment, I don't know. But I have not
9 seen it.

10 Q Now, Mr. McLean referred you, I believe, to the
11 conclusion in this study?

12 A Yes, sir.

13 Q I apologize, I didn't catch whether he had you
14 read the conclusion, or just excerpts from the conclusion?

15 A Actually I believe Mr. McLean read me the
16 very -- well, in the beginning I think he read me, I think
17 this is where it came from, he read me, I think, the
18 second line in that second paragraph. And then I think
19 later he read the last two lines of the paragraph and
20 asked me to comment.

21 Q Will you read the entire conclusion, please?

22 A Yes, I will. The results of the study are
23 inconclusive and mixed. None of the potential remedies
24 seem to have any lasting effect on the black water and
25 odor problem. The presence or absence of water

1 conditioning units in the homes appeared to have no effect
2 on the generation of hydrogen sulfide and the subsequent
3 reaction with copper, with copper pipes, excuse me. The
4 water conditioning units did not remove the orthophosphate
5 from the water that was being added by the utility to
6 inhibit copper corrosion. This had been a concern of the
7 utility.

8 Q Okay. Now, back up to the one about the
9 generation of hydrogen sulfide?

10 A Uh-huh.

11 Q Water conditioning units in the home appeared to
12 have no effect on the generation of hydrogen sulfide.

13 Is hydrogen sulfide generated? Is there an
14 allegation that hydrogen sulfide is generated by those
15 home conditioning units?

16 A I've got to be honest with you, I haven't a
17 clue. Again taking --

18 Q Well, I apologize for cutting you off, Mr.
19 Porter. I'm not asking you what they meant by that, but
20 what would you interpret that to mean?

21 A My interpretation of that is, again, I will have
22 to be confirmed by Mr. LeRoy or whoever wrote this
23 paragraph, and I don't know who wrote this paragraph, that
24 in this study or this paper, the person writing this
25 paragraph was not able to, from an engineering certainty

1 position, show that whether a conditioner was there or not
2 didn't seem to have a lot of effect on the hydrogen
3 sulfide generation itself.

4 Now, I think that further section was kind of an
5 engineering follow-up in his head that said, well, if this
6 didn't generate hydrogen sulfide, this unit, or didn't
7 cause the generation of hydrogen sulfide, then it wouldn't
8 have had a direct effect on the presence or absence of
9 copper corrosion because of hydrogen sulfide generation of
10 the unit.

11 Now, the fine line distinction, if I can just go
12 on for a moment, but the reality is, if you remember what
13 I told you earlier, the softening units don't generate the
14 hydrogen sulfide, the softening units remove the calcium
15 such that the orthophosphate can't make the coating on the
16 pipe that it needs to make. So, therefore, the problem
17 with the softening unit is that it does that.

18 Now, I think that the engineer or whoever wrote
19 this was just making the comment that he didn't see that
20 the softening units themselves had an effect on the
21 hydrogen sulfide, which was probably quite correct.

22 But, now, does that mean that the hydrogen
23 sulfide wasn't being generated in the piping or the hot
24 water tank, or wherever else? Of course not. This
25 doesn't address that. It only addresses the softener.

1 Q So, in other words, if you go to the presence or
2 absence of water conditioning units in the home, this does
3 not mean that the presence or absence of water
4 conditioning in the homes have any, have no effect on
5 reaction with copper pipes?

6 A Of course no.

7 MR. McLEAN: Objection.

8 COMMISSIONER CLARK: Sustained. Rephrase your
9 question.

10 MR. DETERDING: I will.

11 BY MR. DETERDING:

12 Q If you are trying to read this to make sense in
13 your mind, do you see that there is an allegation that --
14 well, I'm getting to be leading again. Hold on a second.

15 Try and rephrase in your mind what that person
16 was trying to say and what they were not trying to say
17 about copper corrosion in the pipes.

18 A My interpretation of it is that they were saying
19 that the water conditioning units were not responsible for
20 generating hydrogen sulfide and that they, in that case,
21 then, had no effect on the corrosion itself. They did not
22 say and did not address whether the softening units had
23 an effect on the copper corrosion as a whole, because they
24 did not discuss what other effects the softeners had,
25 which is removing one of the necessary ingredients to make

1 the inhibitor work.

2 So I don't think this was a condemnation of the
3 theory at all that the softeners have a major effect on
4 the generation of the copper sulfide. It doesn't say that
5 to me in the least.

6 COMMISSIONER CLARK: Let's go off the record for
7 a moment.

8 (Off the record briefly.)

9 COMMISSIONER CLARK: Go ahead, Mr. Deterding.

10 BY MR. DETERDING:

11 Q Let's see if we can do this without going
12 through each individual one of these data sheets. I want
13 to refer you to the information that shows the analysis on
14 these data sheets that are attached to the -- related to
15 the individual customer homes by DEP and their review of
16 those?

17 A You are talking about the tables.

18 Q Yes, the test results and so forth?

19 A Okay.

20 MR. McLEAN: I would like to interject a
21 question. I asked the witness probably five or six
22 questions about that report, and he disagreed with every
23 conclusion of the report, as I recall. I asked him a few
24 questions about the authorship of it. He didn't seem to
25 be too sure who authored it. But I think this is well

1 beyond the scope of cross. I asked him nothing about
2 those details sheets. I didn't ask him any of that stuff,
3 why he wouldn't care to rely on it. I asked him a limited
4 question with respect to comparing his reliance on the DEP
5 and his reliance here, and he said there was no, there was
6 an issue of chain of custody, and we simply let that drop.
7 So I think as Mr. Porter pointed out numerous times, that
8 the better person to ask about this report is its author,
9 and we are going to hear from him today.

10 COMMISSIONER CLARK: Mr. Deterding.

11 MR. DETERDING: Well, I believe that Mr. McLean
12 opened up discussion of the findings of this report
13 through his questioning of Mr. Porter. I'm only going to
14 ask him a few questions about general, overall. And
15 hopefully we can short-circuit my going through every
16 single --

17 COMMISSIONER CLARK: I said go ahead.

18 MR. DETERDING: Thank you.

19 BY MR. DETERDING:

20 Q As I understand it. This report, this analysis
21 includes people with and without softeners, correct?

22 A To the best of my knowledge, yes.

23 Q And in some of the cases where there are
24 softeners, they were disconnected for the analysis, is
25 that correct?

1 A That is my understanding.

2 Q In your review of those test results, is the,
3 does either the absence of a softener or presence of a
4 softener exhibit itself somewhere in those results?

5 A Sometimes yes, sometimes no.

6 Q In looking at the calcium levels that I believe
7 you discussed as a by-product of softening --

8 A Uh-huh.

9 Q -- do the calcium levels in every case reduce
10 substantially as a result of the presence of a softener?

11 A I don't believe they always do, no. Not in
12 every case.

13 Q Would you look and find me one where they don't?

14 A Oh, boy, okay. I need to look at the study
15 definition again. (Pause.) I'm looking. I'm looking.

16 Well, there is one that I see here for Mr. Hamet
17 (phonetic) or Mrs. Hamet, Kay Hamet.

18 Q What page is that?

19 A 43 of 99.

20 Q Okay.

21 A Where the documentation in the front indicates
22 they had a softener, but the calcium levels are the same
23 on what they call the point of entry, which means the
24 place they call the point of entry going into the home.
25 And the cold water in the home, it doesn't show any

1 reduction in calcium.

2 Q What group does that suggest they are in in the
3 upper left-hand corner?

4 A Upper left-hand corner. Mine is stapled. Let
5 me look. One.

6 Q And what does it say on Page 12 concerning the
7 second to the full paragraph about Group 1?

8 A Page 12?

9 Q Page 12 of 99.

10 A In five homes designated as Group 1, the plumber
11 disconnected the home water conditioning unit for the
12 duration of the test, and replaced the magnesium anode in
13 the hot water heater with an aluminum one, disinfected the
14 water heater using chlorine bleach, and raised the
15 temperature to 160 degrees.

16 That being the case, I would expect this not to
17 come down, because they are saying they did disconnect the
18 softener, even though up here it said it had a softener.
19 So, like I said, I'm not real familiar with this study.

20 Q So are there any in here where they have a
21 softener on-line and the calcium content did not come down
22 substantially?

23 A When I reviewed it, I believe there was. I'd
24 have to look.

25 Q Mr. Deterding, do you have any more questions

1 for him?

2 MR. DETERDING: Yes.

3 COMMISSIONER CLARK: Why don't we go to those
4 questions, and let him look at it in a break and let him
5 answer it then.

6 MR. DETERDING: Okay. Let me go to a different
7 subject.

8 THE WITNESS: I found the one you are looking
9 for, I think.

10 BY MR. DETERDING:

11 Q During Mr. McLean's questioning of you, he asked
12 you about why or about when Aloha started adding the
13 orthopolyphosphate, the corrosion inhibitor. And I
14 believe you stated that they were required to start adding
15 that?

16 A That's correct.

17 Q Who chose the method for corrosion control?

18 A I did.

19 Q So was it DEP that told you what method to
20 utilize?

21 A Well, there are approved methods that you could
22 choose from. And there were several you could pick from.
23 The reason that we chose the method that we did is because
24 we were able to utilize the surrounding counties' studies,
25 in this case Pinellas County, to piggyback on so that we

1 didn't have to spend humongous sums of money to do the
2 study ourself. Since our water and Pinellas County's
3 water was very similar, we were able to utilize the same
4 treatment they did, and that is what we did.

5 Q As far as the implementation, did Aloha take any
6 steps to implement -- work with DEP and implement this
7 corrosion control system prior to the plan?

8 A Yes. As a matter of fact, when the problem
9 started to come up with the black water situation, Aloha
10 accelerated the time table over what they had available to
11 them. And I can't remember how many months ahead we put
12 the thing on line, but we actually installed the system
13 and got to running before we were required to do so.

14 Q You mentioned that you doubted whether customers
15 with black water would see improvement with the proposal,
16 or at least the packed tower aeration system.

17 A Uh-huh.

18 Q What is that based on?

19 A Well, first of all, I didn't say the customers
20 wouldn't. I said the customers now experiencing the
21 problem. And that is based on, more than anything else, a
22 study done by the University of Colorado which staff had
23 questioned me about as well which seemed to indicate it
24 would take a very long time, even after you reduced the
25 sulfides, to see any measurable effect at the homes that

1 now experience it.

2 Q Do you know of any other studies that might
3 impact your answer to that question?

4 A Not at this time I don't.

5 Q Do you know whether everyone who had black water
6 in '96 complained at the hearing?

7 A No.

8 Q What is the source of the water, the raw water
9 at Wells 8 and 9.

10 A The Floridan aquifer.

11 Q And what is the source of the water at the other
12 wells utilized by Aloha?

13 A Floridan aquifer.

14 Q Do you know the source of the water at Pasco
15 County's wells?

16 A Florida aquifer. And before you ask, Pinellas
17 County is Floridan aquifer.

18 Q Did changes in THM standards require changes in
19 chlorine dosage at about the time 8 and 9 came on-line?

20 A Slightly before, actually. We were starting to
21 make those modifications. Aloha had not come under the
22 THM rules until the early '90s. And prior to that time,
23 of course, it wasn't monitored and there was no action
24 taken to maintain THMs below the action level, which is
25 now 100 parts per billion.

1 But at that time, and then culminating around
2 the mid-'90s, '93, '94, '95, actually, somewhere in that
3 area, Aloha was required, as were other systems of their
4 size, to reduce THM levels below 100. In order to do
5 that, the only solution to that problem is to minimize the
6 injection of chlorine to absolute lowest levels possible
7 while still protecting the disinfection qualities of the
8 water, or disinfected quality of the water and maintain
9 the residuals required by DEP rule, which they did.

10 And do you want the answer why? When you add
11 chlorine to water, it mixes with any organics in the
12 water, and there is always some, to form a compound or a
13 group of compounds called trihalomethanes. And
14 trihalomethanes have been a concern for quite some time.
15 But the rules for the control of trihalomethanes are a
16 stepped set of rules, where your size determines when you
17 become required to comply. And there are certain dates
18 and things required for different sized systems to comply.

19 And it was rather recent history that Aloha had
20 to be complying with that rule. So if you -- you can only
21 lower one of the two constituents. You can either lower
22 the chlorine or you can lower what is naturally occurring
23 in the water that forms with chlorine to form
24 trihalomethanes. And Aloha has no way to control what is
25 in the wells. So the only solution was to lower the

1 chlorine, which they did. But while still maintaining
2 full disinfection and chlorine residuals required by DEP,
3 which they did.

4 Q And I'm not sure I understood if you commented
5 on the timing of that reduced dosage of chlorine. I'm not
6 looking for an exact date. Was it somewhere relatively
7 close to the addition of Wells 8 and 9?

8 A Yes. I mean, it was '94, '95, '96. So, yes.

9 Q Could that have contributed -- that reduced
10 chlorine have contributed to the formation of copper
11 sulfide?

12 A The lack of chlorine itself, or the presence of
13 chlorine itself does not contribute to the generation of
14 copper sulfide. However, the lack of chlorine in the
15 system will lower the disinfecting quality of the water to
16 its minimal acceptable level in the pipelines of the home
17 of the consumer.

18 And when that happens, the ability of Aloha to
19 control the sulfur-reducing bacteria, or provide water
20 that helps to control the sulfur-reducing bacteria is
21 lessened. Again, water companies for many, many years
22 have overcome some problems with home piping systems, both
23 copper and otherwise, for many years by adding more
24 chlorine to help keep sulfur reducing bacteria levels
25 down, by increasing pH and doing things of that sort that

1 would keep the coatings on the inside of the pipes before
2 inhibitors were available.

3 There were a number of things they did in the
4 past. And I hope this is not misunderstood, but to cover
5 the sins of the basket we put our water in. And I don't
6 know how else to explain except to give an analogy. If
7 you had a lead pail and you took some good quality milk
8 and put it in the lead pail and tested the milk, you would
9 certainly see that the milk had lead in it, and you would
10 say, "Oh, my God, it has got lead in it."

11 You wouldn't blame the milk, you would say, "Oh,
12 it is in a lead container." Well, in the past what is
13 happening is Aloha has been putting it's perfectly good
14 water in copper piping, but it has been able to offset the
15 deleterious effect of that bag, or that container, by
16 keeping the pH and the chlorine levels and the calcium
17 levels and things of that sort such that it helped to mask
18 the problems that could happen with the copper pipe or the
19 bag it lived in, it provided the water in.

20 Unfortunately, with the advent of a number of
21 new rules that have happened over the last 15 years, or 10
22 years, each one of those things the water companies have
23 done in the past to mask that problem have had to be
24 removed. Because in order to meet water quality
25 requirements and rules, we can't do those things anymore.

1 We have to fine-tune our operations.

2 So when that happens, now the possibility exists
3 that the real nature of the bag or the container shows
4 through. And I'm afraid that is what is happening. The
5 utilities are oftentimes being blamed now for not covering
6 up the mistakes of the past, whereas before they did. And
7 they weren't their mistakes.

8 Q Could the reduction in chlorine, at
9 approximately the time of those wells, contributed to the
10 perception that the wells contributed or caused the
11 problem?

12 A Possibly. But also I think, as I mentioned
13 before, that could have an effect. But the fact that we
14 noticed everyone and told everyone to expect problems, I
15 mean, I think that had something to do with it, too.

16 Q Did the addition of the corrosion inhibitor have
17 a scouring effect on the pipe?

18 A Absolutely. And we noticed everyone on that.
19 When Aloha began the corrosion control program by adding
20 an inhibitor, initially, and still do, the inhibitor that
21 we add really has two components. It has orthophosphate
22 and polyphosphate.

23 The purpose of the polyphosphate is to remove or
24 cleanse the pipelines themselves. And we sent out
25 multiple notices and newspaper articles and notices to

1 customers saying, "When we start this thing up, you are
2 going to see dirty water again. And this time you are
3 going to probably see it in your home. Because we are
4 going to clean the pipelines. Not only in our system but
5 this material is going to clean your pipelines, too. And
6 you say see some. If you see it, run your water and clean
7 it out, and notify the utility. We will send somebody to
8 check it out and help you out." And that is what we did.
9 And then the protecting nature of the orthophosphate then
10 can bind directly to the copper and protect the copper
11 pipe.

12 It is like painting a house. If you have got
13 problems all over the house and you paint over them, all
14 you have done is paint over the problem and it continues
15 to grow. You need to clean everything and then put the
16 protectant on, and that is exactly what the two components
17 do.

18 So the answer is, yes, when you first start up
19 an inhibitor control system, you generally see any
20 residual dirt in the system come out. It is a cleansing
21 process at first.

22 Q And could that have contributed to the
23 perception that the new wells contributed or caused the
24 existence of it?

25 A Sure. Because all of those happened about the

1 same time.

2 MR. DETERDING: Commissioner, my other questions
3 are back related to this. Do you want to give him a few
4 minutes?

5 THE WITNESS: I have my finger stuck in one.

6 COMMISSIONER CLARK: Let's go back. Do you have
7 more questions on that? I thought it was the only one.

8 MR. DETERDING: No, I have a few more.

9 COMMISSIONER CLARK: Let's try and see if we can
10 get it done.

11 THE WITNESS: Again, and I hope I'm not going to
12 get blindsided here again. I guess Group 3 -- okay, Group
13 3 was a group where the heater was disinfected and the
14 temperature only was raised. If you look on -- where was
15 it, just a moment. Group 2, I believe, also, is that
16 correct? Is this the one? No. Where was one here. I
17 shouldn't have pulled my finger out of there.

18 Okay. Group 2 was disinfect the water heater,
19 turn up the temperature and replace the anode. If you
20 turn to Page 53 of 99, and look at the Magnosen (phonetic)
21 address, they were in Group 2, and I believe Group 2, is
22 that correct, or are we back where we were before? Group
23 2 was the plumber replaced anode, disinfected the heater
24 and raised the temperature. That is all that he did. So
25 the softener was still on-line.

1 If you look at that residence, that is one of
2 the residences where the calcium was 165 coming in and 160
3 going out, so that doesn't illustrate any softening to
4 have taken place. However, the softener was on-line.

5 COMMISSIONER JABER: So clarify for me what
6 exactly that means to you.

7 THE WITNESS: Well, that is a good question. It
8 means something funny with the data, or there was
9 something funny with the softener when these samples were
10 taken. I don't know which. Generally, you know, and the
11 problem with this data here is that earlier, these are
12 different test dates and results. Earlier at that same
13 location they showed 140 calcium going in and none going
14 out. So at least at one point in time they got a result
15 from this same location that showed that the calcium was
16 reduced.

17 And then sometime later, just a couple of weeks,
18 six months later, it showed that the calcium going in was
19 the same as the calcium going out. So that could mean
20 either that the data is flawed, or it could mean that the
21 softener had reached its potential and hadn't been
22 regenerated. I don't know which.

23 BY MR. DETERDING:

24 Q Do you see any others in here that indicate
25 where there is a softener connected that didn't

1 substantially reduce the calcium?

2 A Yes. The next one, I believe, is the same
3 things, that is Group 2, that is Sharon Mazunek,
4 M-A-Z-U-N-E-K, and that one on all the test dates it looks
5 like the calcium was the same, going in/going out. So I
6 don't know how to interpret that data.

7 Q Other than those two, do you see any where the
8 softener appears to not be operating?

9 A Let me look. There is another one here.

10 COMMISSIONER CLARK: Mr. Deterding.

11 MR. DETERDING: Let me cut you short.

12 COMMISSIONER CLARK: Ask another question
13 related to that report.

14 BY MR. DETERDING:

15 Q In the majority of these cases, doesn't the
16 softener appear to remove the great majority of the
17 calcium?

18 A Yes.

19 Q Did you see -- recognizing, I guess, that the
20 copper levels shown in here are not at, necessarily at
21 places that are appropriate for analyzing copper --

22 A No.

23 Q -- did you see any that showed exceedences above
24 what would be if they did qualify?

25 A No. Not off the top of my head, no. I mean, I

1 have looked at it briefly. I didn't see any. Of the
2 eight or ten I just looked at now, no.

3 Q What is the action level for copper?

4 A Well, it depends on what, again, you are talking
5 about. If you are talking about the lead and copper rule,
6 the action level is 1.3 milligrams per liter. And what
7 the action level means is this: If you test a number of
8 homes, the number of homes that you test are dictated by
9 the size of the utility for lead and copper, and then you
10 rank those results, those test results at the 90th
11 percentile value.

12 If the number is greater than 1.3, then you must
13 implement a corrosion control system. It doesn't mean
14 that you are in anybody's violation of any sort. It means
15 that you have been told that you need to take appropriate
16 action to implement a corrosion control program. That is
17 all that it means. It is not an indicator of a violation
18 of any sort. And that is why it is called an action
19 level, instead of a MCL. Which when you exceed that, that
20 is a violation.

21 But there are specific locations where those
22 samples can be taken. You can't just take them anywhere.
23 And the sampling program has to be approved prior to the
24 beginning of the program by the DEP. And there are very
25 specific requirements as to age of home, type of use of

1 water, you know, whether there are home treatment systems.
2 If there are home treatment systems, the house cannot be
3 used for sampling and testing. And there is a reason for
4 that.

5 There is a long discussion of that in the
6 manual. And the reason is they recognize there is going
7 to be corrosion in there and it is not representative. So
8 they tell you not to use it. So you are not allowed to
9 use a home that has a home softening unit. But there are
10 a lot -- there is a number of criteria that must be met
11 when you develop your sampling pool. Anyway, that is what
12 it means and that is how you arrive at it.

13 Q All right. Mr. Porter, I want you to look at
14 Page 41 of 99?

15 A Okay.

16 Q And specifically the analysis done on 7/8/98?

17 A Yes.

18 Q Copper level?

19 A Yes. Well, if you look at what they call the
20 point of entry, which is the water coming into the home,
21 they are 0.05 milligrams per liter of copper, which within
22 the confidence intervals of the test, I mean, I don't know
23 what test they use or what kind of method they use. But,
24 generally, if you look at the standard deviation in the
25 confidence intervals, it could be zero.

1 And then on the hot water, of course that is not
2 an approved testing site and actually it is absolutely in
3 all cases not an approved testing site for the lead and
4 copper rule, it's showing 10.8. Hot water is not used for
5 determining whether you meet the action level or not in
6 the lead and copper program. Hot water is specifically
7 bad for use. But it is 10.8.

8 Q And then on Page 57?

9 A Okay. The same date, 7/8.

10 Q Similar situation there?

11 A Yes, very similar; 0.14 copper coming into the
12 home. Again, depending upon the test method, which I
13 don't know, and depending on the accuracy and precision of
14 the test, it could be anything, it would be even less,
15 much less. And 3.03 in the hot water. Again, showing
16 exactly what one would expect, much higher levels in the
17 hot water side.

18 Q And on 61 to a lesser extent, similar situation?

19 A Absolutely. Same date, 0.04, which again for
20 all practical purposes is probably zero, and 1.58.

21 Q And the same on Page 68?

22 A Same thing; 0.04 and 3.56.

23 Q In the hot only?

24 A In the hot only. I really don't see anything
25 any different.

1 Q Is hot water considered potable water by the
2 DEP?

3 A No, nor is it by the EPA. As a matter of fact,
4 most -- I believe there are direct recommendations that
5 you do you not drink or make drinking products with hot
6 water directly from a hot water system.

7 Q Is a hot water tap ever, regardless of whether
8 there is a home treatment system, an appropriate testing
9 site for compliance with the lead and copper rule?

10 MR. McLEAN: Objection as beyond the scope
11 unless that is a question which is directed to this
12 report.

13 MR. DETERDING: Well, it is, because he was
14 talking about the copper level on the hot water side.

15 MR. McLEAN: If it has to do with this report, I
16 withdraw the level.

17 THE WITNESS: As far as the lead and copper
18 program, it is never allowed.

19 MR. DETERDING: That is all I have.

20 MR. McLEAN: Commissioner, I want to move
21 Exhibit 3 in evidence.

22 MR. WHARTON: And we strenuously object.

23 MR. McLEAN: And I object to Mr. Wharton being
24 heard on the issue. I'm not going to be double-teamed.
25 This is Mr. Deterding's witness, and I don't believe Mr.

1 Wharton is entitled to be heard on this issue.

2 MR. WHARTON: May I speak to that, Commissioner
3 Clark?

4 COMMISSIONER CLARK: No. Just a minute.
5 What about Exhibit 12?

6 MR. DETERDING: Yes, we will move Exhibit 12.

7 COMMISSIONER CLARK: 13 is a late-filed, as is
8 14.

9 And you have moved Exhibit 3, and there is an
10 objection.

11 MR. McLEAN: That's correct.

12 MR. WHARTON: May I address that, Commission
13 Clark?

14 COMMISSIONER CLARK: Yes.

15 MR. WHARTON: There was no way to know when or
16 how it was going to be moved in, in terms of the
17 double-team, I haven't spoken up on this witness.
18 Commissioner Clark, it cannot come in on two bases.

19 COMMISSIONER CLARK: Wait a minute. I am
20 inclined to agree with Mr. McLean, that this is the
21 attorney handling this witness, and allow Mr. Deterding to
22 respond to the objection.

23 MR. DETERDING: Well, Commissioner, let me
24 address that point. I have not prepared related to this,
25 because this is an exhibit that we didn't know when it

1 would come in or under whose testimony it would be
2 proposed for putting into the record.

3 So Mr. Wharton is the person who is prepared for
4 that issue. And I have never addressed the issue at all,
5 throughout this discussion, concerning the admissibility
6 of that document.

7 MR. McLEAN: Well, Mr. Deterding has crossed on
8 the document for the better part of 20 minutes.

9 MR. DETERDING: I have. And I don't think that
10 has anything to do with the question of its admissibility
11 or who would sponsor it in when it was proposed for
12 admissibility.

13 MR. McLEAN: Well, there are two arguments afoot
14 here. Number one, whether I'm to be faced with the
15 arguments from two lawyers respecting the admissibility;
16 Mr. Deterding, I believe, addressed that to some extent
17 when they crossed the witness. Then there is the second
18 issue of whether it is admissible at this point. That,
19 too, may be answered by Mr. Deterding -- I said cross, and
20 I should say redirect, because it is, in fact, redirect.

21 But, I don't think I have to face argument from
22 both of those lawyers on the admissibility of the
23 document. Whichever one is going to argue it, I'm
24 reasonably happy with. My impression is that Mr.
25 Deterding spoke to that issue a bit earlier, and he is the

1 one who crossed on the document. And I have no objection
2 to taking a break and allowing Mr. Deterding to come up to
3 speed. What I do object to is having to answer the
4 argument of two lawyers on a single issue.

5 COMMISSIONER CLARK: It is clear that this
6 exhibit came, at least was identified prior to Mr. Porter
7 being put on the stand. And I think it would be
8 reasonable to assume that it may have been a different
9 lawyer representing this party that might have prepared
10 for that.

11 What I'm going to do -- we will take a break,
12 and I will hear argument after that. I will allow one
13 lawyer from the utility side to make that argument.

14 MR. McLEAN: Thank you, Commissioner.

15 COMMISSIONER CLARK: I think we will go ahead
16 and take a brief lunch break. By that I mean a half hour.

17 THE WITNESS: Am I released?

18 COMMISSIONER CLARK: Just a minute. We will
19 take half an hour.

20 I would like to hear now about the possibility
21 of taking Mr. LeRoy up first. Would there be an objection
22 to that?

23 MR. JAEGER: No objection from staff.

24 MR. DETERDING: None.

25 MR. McLEAN: Commission, I apologize, I didn't

1 hear you.

2 COMMISSIONER CLARK: I would like to know if
3 there is an objection to taking up Mr. LeRoy before we
4 take up Mr. Watford.

5 MR. McLEAN: Certainly not.

6 COMMISSIONER CLARK: Mr. Porter, you are excused
7 for now.

8 You have rebuttal testimony, so you are not
9 entirely excused.

10 THE WITNESS: I understand.

11 COMMISSIONER CLARK: We will come back at ten
12 after 1:00. And I would like to ask for everyone to be
13 prompt.

14 (Lunch recess.)

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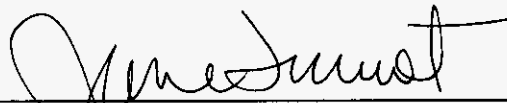
COUNTY OF LEON)

I, JANE FAUROT, RPR, Chief, FPSC Bureau of Reporting Official Commission Reporter, do hereby certify that the Hearing in Docket No. 960545-WS was heard by the Florida Public Service Commission at the time and place herein stated.

It is further certified that I stenographically reported the said proceedings; that the same has been transcribed under my direct supervision; and that this transcript, consisting of 168 pages, Volume 5, constitutes a true transcription of my notes of said proceedings and the insertion of the prescribed prefiled testimony of the witness(s).

I FURTHER CERTIFY that I am not a relative, employee, attorney or counsel of any of the parties, nor am I a relative or employee of any of the parties' attorneys or counsel connected with the action, nor am I financially interested in the action.

DATED THIS 19TH DAY OF APRIL, 2000.



JANE FAUROT, RPR
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