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UNITED STATES OF AMERICA

NUCLEAR REGULATORY COMMISSION

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ATOMIC SAFETY AND LICENSING BOARD PANEL

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HEARING

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In the Matter of: : Docket Nos. 52-040-COL
FLORIDA POWER & LIGHT : and 52-041-COL
COMPANY : ASLBP No. 10-903-02-
(Turkey Point Units 6 and 7): COL-BD01

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Wednesday, May 3, 2017

Council Chambers
Homestead City Hall
100 Civic Court
Homestead, Florida

BEFORE:

E. ROY HAWKENS, Chair
DR. MICHAEL F. KENNEDY, Administrative Judge
DR. WILLIAM C. BURNETT, Administrative Judge

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9:01 a.m.

CHAIRMAN HAWKENS: Good morning. We're here in the case, the second day of the evidentiary hearing in Florida Power & Light Company, Turkey Point Units Six and Seven, Docket Number 52-040 COL and 52-041 COL.

Those who were not with us yesterday, my name is Roy Hawkens. I'm the Chairman of this Licensing Board. I'm legally trained.

I'm joined on my right by Judge Mike Kennedy, who has his Doctorate in nuclear engineering. On my left, Judge Bill Burnett, who has his Doctorate in environmental science.

Yesterday during the evidentiary we completed questioning three of the technical panels. We completed a substantial portion of our questioning for the fourth panel.

And we're here today to complete the question of that panel. And then to question the fifth and final panel that we'll be questioning in this hearing.

Contemplate that finishing up with panel four will take probably not longer than 15 or 20 minutes maximum. Gave our assurance yesterday the

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1 questioning for panel five would not exceed an hour
2 and a half. And we will adhere to that
3 representation.

4 After we're completed with panel five, we
5 contemplate taking a break to give the -- everybody a
6 break that they may need. And also to give counsel
7 the opportunity, if they wish, to provide a list of
8 questions that may have arisen from yesterday's
9 questioning and today's questioning.

10 I understand that our law clerks have
11 coordinated with counsel. And the counsel will
12 provide to our law clerks by email so they can print
13 it out. I would remind you to ensure on your list,
14 you identify the source of the questions and who you
15 wish the questions to be addressed to.

16 During the break the Licensing Board will
17 take a look at the questions. We'll then return and
18 if there are any further questions to be asked, we'll
19 ask them. And then we will proceed directly to
20 closing statements.

21 I anticipate we should be finished -- we
22 will finish before any lunch break. So we will be
23 done before lunch, and hopefully it will be done
24 expeditiously.

25 Returning now to the questioning of panel

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1 four. To the benefit again of the audience members
2 who were not here yesterday, we will be exploring with
3 this panel the impact of the four contaminants on the
4 human health if the wastewater were to reach the upper
5 Florida aquifer at the concentration values reported
6 in Table 3-5.

7 Would the witnesses on panel four please
8 reintroduce themselves for the record?

9 MR. QUARLES: Good morning. My name is
10 Mark Quarles.

11 DR. TEAF: Christopher Teaf.

12 DR. MIRACLE: Ann Miracle.

13 CHAIRMAN HAWKENS: Yesterday when we
14 finished we were discussing tetrachloroethylene.
15 Andy, can you put on the screen the FPL Exhibit 64 we
16 were looking at yesterday, please? Thank you.

17 Dr. Teaf, the concentration of
18 tetrachloroethylene in Table 3-5, which is the
19 concentration everyone here agrees is both reliable
20 and conservative, it will be injected into the bolder
21 zone as .00359 milligrams per liter, which is less
22 than the EPA MCL of .005, but slightly exceeds the
23 Florida MCL, which is .003.

24 Can you point to any study in the record
25 where tetrachloroethylene in a concentration of .00359

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1 or less was found to have had adverse health
2 consequences?

3 DR. TEAF: No, sir. I cannot.

4 CHAIRMAN HAWKENS: Dr. Miracle, are you
5 aware of any evidence in the record that would reveal
6 that the concentration at this level or less had
7 health consequences, adverse health consequences?

8 DR. MIRACLE: No. I am not.

9 CHAIRMAN HAWKENS: And Mr. Quarles, are
10 you aware of any events in the record where it has had
11 adverse health consequences for a concentration of
12 this or less?

13 MR. QUARLES: I do not.

14 CHAIRMAN HAWKENS: Thank you. Dr. Teaf,
15 in your direct, prefiled testimony, I believe you said
16 you were familiar with the study that found that
17 negative impacts were seen in an infant exposed to
18 tetrachloroethylene at a concentration of nearly 28
19 thousand times the concentration at issue in this
20 case. Is that correct?

21 DR. TEAF: Well, without being to direct
22 about it, I believe it was 28 hundred, sir.

23 CHAIRMAN HAWKENS: Thank you for
24 correcting me. That's what I have in my notes as
25 well. I misread, 28 hundred.

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1 DR. TEAF: So is the question, is that
2 accurate?

3 CHAIRMAN HAWKENS: Correct.

4 DR. TEAF: Yes, sir.

5 CHAIRMAN HAWKENS: My memory of your
6 testimony was correct. Are you aware of any other
7 study that shows health effects attributable to
8 tetrachloroethylene at a concentration lower than in
9 that study?

10 DR. TEAF: No. I'm not. No, I'm not
11 aware of that.

12 CHAIRMAN HAWKENS: Thank you. Are you Dr.
13 Miracle?

14 DR. MIRACLE: No. I'm not.

15 CHAIRMAN HAWKENS: And Mr. Quarles, are
16 you?

17 MR. QUARLES: I am not.

18 CHAIRMAN HAWKENS: Thank you. Mr.
19 Quarles, you cited to a document in the record, INT-
20 016, which is the ATSR ToxFAQ document. And you
21 testified that "even at minute concentrations,
22 tetrachloroethylene can cause nausea, liver damage,
23 impair heart functions and death."

24 Is that correct? That was your testimony?

25 MR. QUARLES: It was.

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1 CHAIRMAN HAWKENS: You need not put that
2 up right now, Andy. But I'm -- unless Mr. Quarles
3 needs this information. But as I read this document,
4 at page three it actually says that certain adverse
5 health consequences can come from exposure to "very
6 high concentrations of tetrachloroethylene."

7 Do you recall the document saying that?

8 MR. QUARLES: I do.

9 CHAIRMAN HAWKENS: And it does not in fact
10 say that adverse health consequences can come from
11 minute concentrations. Is that correct?

12 MR. QUARLES: So, I consider many find --

13 CHAIRMAN HAWKENS: Can you answer that
14 question, please?

15 MR. QUARLES: That is correct.

16 CHAIRMAN HAWKENS: You may follow up now
17 if you like.

18 MR. QUARLES: So I -- when I discuss
19 adverse health affects at minute concentrations, it's
20 really based upon the fact that there's an MCLG. And
21 it's a probable, possible carcinogen.

22 CHAIRMAN HAWKENS: All right. Thank you.
23 Dr. Teaf, yesterday you did testify that the EPA MCL
24 takes into consideration the potential carcinogenic
25 nature of chemicals such as tetrachloroethylene. Is

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1 that correct?

2 DR. TEAF: Yes, sir.

3 CHAIRMAN HAWKENS: And Mr. Quarles, you
4 don't disagree with that, do you?

5 MR. QUARLES: I do not disagree.

6 CHAIRMAN HAWKENS: Thank you. Dr.
7 Miracle, are you aware of any injection well system in
8 the United States where MCLGs have been used as the
9 regulatory standard rather than the MCL?

10 DR. MIRACLE: I am not.

11 CHAIRMAN HAWKENS: Dr. Teaf, are you
12 familiar with any?

13 DR. TEAF: I am not.

14 CHAIRMAN HAWKENS: And Mr. Quarles, are
15 you aware of any?

16 MR. QUARLES: I am not.

17 CHAIRMAN HAWKENS: Thank you. Dr. Teaf,
18 returning to the definition of maximum contaminant
19 level goal, it's defined as the maximum level of
20 contaminant in drinking water which no known or
21 anticipated adverse effect on the health of a person
22 would occur, and which allows an adequate margin of
23 safety. Is that correct?

24 DR. TEAF: Yes, sir. That's the
25 definition. And it's based on the fact that with the

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1 number being zero as an aspirational goal, you can't
2 be more conservative than that.

3 CHAIRMAN HAWKENS: Can you explain how
4 that margin of safety is calculated? And how that
5 margin compares to the MCL value? And the MCL value
6 is not equal to the MCLG value?

7 DR. TEAF: Yes, sir. First of all by
8 setting the MCL at zero they established before that
9 it couldn't be lower than that. The MCL is
10 established based on, as I mentioned yesterday, risk
11 ranges, EPA is 10 to the minus 4, which is one in ten
12 thousand, to 10 to the minus 6, which is one in one
13 million, is their risk range.

14 The old MCL established in the middle
15 1980s does fit that criteria, that set of criteria.
16 Also it's worth noting as we talked about yesterday
17 that the toxicologically-based guidance that is for
18 perchlorethylene or tetrachloroethylene has been
19 revised recently in 2012.

20 When you take that into consideration,
21 both the Florida drinking water standard and the
22 federal drinking water standard both fit the 10 to the
23 minus 6 or the de minimis level for risk.

24 So, the basis is, it can be detection
25 limits. It can be risk levels. But those are always

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1 established based on an understanding that if we had
2 the ability to go to zero, we would.

3 But in the case of perchlorethylene the
4 risk levels are such that that's not necessary.

5 CHAIRMAN HAWKENS: Thank you. Do you have
6 anything to add to that Dr. Miracle?

7 DR. MIRACLE: No. I do not. I think that
8 summarizes it fairly well.

9 CHAIRMAN HAWKENS: Thank you. Mr.
10 Quarles, any response to that?

11 MR. QUARLES: I don't have anything in
12 response to that.

13 CHAIRMAN HAWKENS: Dr. Teaf, this is an
14 elementary question. And so please help me out with
15 it. Tetrachloroethylene is injected at this reliable
16 conservative level into the bolder zone at .00359.
17 The bolder zone is permeable but it must have some
18 impediment to flow.

19 And with the nature of the bolder zone
20 with the impediment to flow, if all 13 pumps were
21 going at once, is there a possibility that
22 concentration would ever exceed .00359?

23 DR. TEAF: The short answer is, no, it
24 can't. And the longer answer is that it's a mass
25 balance question.

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1 You have a certain amount of water at a
2 certain concentration, it doesn't matter whether you
3 inject it in one big well or 12 or 13 smaller wells.
4 The mass is the mass.

5 CHAIRMAN HAWKENS: Thank you. I want to
6 make sure we have no disagreements from the other
7 witnesses to Dr. Teaf's response?

8 DR. MIRACLE: No. I do not.

9 MR. QUARLES: No. I do not.

10 CHAIRMAN HAWKENS: Dr. Miracle, can you
11 cite to any record evidence that states that the
12 concentration of either heptachlor or
13 tetrachloroethylene it's above zero but below the EPA
14 MCL will pose a health risk from a drinking water
15 perspective?

16 DR. MIRACLE: No. I do not know of any
17 studies that point this out.

18 CHAIRMAN HAWKENS: Dr. Teaf, are you aware
19 of any studies?

20 DR. TEAF: No, sir.

21 CHAIRMAN HAWKENS: Mr. Quarles?

22 MR. QUARLES: No, Your Honor.

23 CHAIRMAN HAWKENS: Dr. Miracle, can you
24 cite to any record evidence that states that a
25 concentration of heptachlor or tetrachloroethylene

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1 that's above zero but below the EPA MCL will have an
2 environmental impact that's greater then small?

3 DR. MIRACLE: No. I do not.

4 CHAIRMAN HAWKENS: Dr. Teaf, are you aware
5 of any such study?

6 DR. TEAF: No, sir.

7 CHAIRMAN HAWKENS: Mr. Quarles?

8 MR. QUARLES: No, sir.

9 DR. BURNETT: Dr. Miracle, I'd like to ask
10 you about the high level disinfection procedure that
11 has now been established. You had stated in your
12 prefiled testimony that the water quality would be
13 much better and would pose no danger to an underground
14 source of drinking water.

15 I assume that that means that as long as
16 the wastewater treatment plant is operating under
17 sound conditions. But I can imagine that sometimes
18 perhaps things go wrong. And they have more water
19 then they can process in a certain amount of time.

20 Would that pose any danger to the water
21 quality coming out of the plant?

22 DR. MIRACLE: In regard to these four
23 constituents, even without the high level of
24 disinfection, all the concentrations are below the EPA
25 MCL. So I would answer no to that.

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1 However, when high level disinfection and
2 the other treatment technologies are in place, all
3 four of these constituents were not detected. So I
4 would say the answer might be somewhere in between to
5 answer your question.

6 But they would also be below EPA MCL
7 levels. And therefore would pose no human health
8 threat.

9 DR. BURNETT: So, you know, I did notice
10 that the water samplings and analysis in 2013 and '14,
11 the four constituents in every case were below the
12 detection limit, the method detection limit. Do you
13 think that that's because of this high level
14 disinfection? Or that these constituents are just not
15 present any longer?

16 DR. MIRACLE: I don't think I can really
17 answer that question except to say that, as we're
18 going to hear probably in the next panel, the process
19 of going through additional treatment, probably has
20 something to do with further reduction of
21 concentrations of the awful compounds in this case.

22 Also that treatment level also renewed --
23 removes other things from the treated wastewater which
24 may have been a binding factor. Or if for instance
25 for heptachlor or for some of these other compounds.

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1 But I really defer to my colleagues in the
2 next panel to address that more fully.

3 DR. BURNETT: Okay. Thank you. Mr.
4 Quarles, do you agree?

5 MR. QUARLES: I guess I would respond to
6 your question, you were talking about kind of like
7 plant upsets and more flow/less flow changes. I would
8 add that Dr. Walsh in her dissertation talked about
9 the variability wastewater flow coming from the
10 wastewater treatment plant.

11 And variability would be, you know, any
12 variability relative to, in my experience in this
13 wastewater, flow monitoring, which has been associated
14 with millions, millions of feet of flow monitoring
15 entering the wastewater treatment plant.

16 Is that the flow does vary during the day,
17 the time of day that the type of industry is that, you
18 know, were up and running at the time. The amount of
19 rainfall infiltration inflow that would be associated
20 with flow into the wastewater plant.

21 So, you would expect some variability.
22 And you know, EPA under UIC rule changes, they rely on
23 the pretreatment program to address industrial waste.

24 And so their ability would rely upon
25 effectiveness of the industrial pretreatment program

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1 on any given day.

2 DR. BURNETT: Okay. Thank you.

3 CHAIRMAN HAWKENS: That concludes our
4 questioning for Panel Four. Would witnesses on Panel
5 Five please come forward?

6 With this fifth and final panel, we will
7 be discussing the derivation concentration levels of
8 the four contaminants in Table 3-5 of the FEIS.
9 Whether the concentrations, if any, could be less than
10 discharged into the bolder zone. The effect of
11 horizontal and vertical migration on concentrations.
12 And any other factors that could impact concentration
13 levels after being discharged.

14 Would the witnesses on Panel Five please
15 introduce themselves?

16 MR. QUARLES: Mark Quarles.

17 MR. JACOBS: Paul Jacobs.

18 DR. MALIVA: Robert Maliva.

19 DR. TEAF: Christopher Teaf.

20 MR. THORNE: Paul Thorne.

21 MR. BARNHURST: Dan Barnhurst.

22 CHAIRMAN HAWKENS: Good morning.

23 DR. BURNETT: I'd like to display part two
24 of Table 3-5 NRC 008-A, page 341. So these are the
25 same numbers we've just been talking about.

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1 And so far we haven't really described how
2 these numbers originated. And so I'd like to pose
3 some questions to the panel on my left, we can start
4 with Mr. Jacobs. And if you would like to defer to
5 one of your colleagues, that's fine.

6 So, can you tell us how you determined
7 that these are the conservative numbers that were used
8 for constructing this table 3-5?

9 MR. JACOBS: If I can. The genesis of the
10 numbers were derived from the samples that were taken
11 at the South District Wastewater Treatment Plant
12 between 2007 and 2011. And we evaluated and selected
13 the highest part of each one of these constituents
14 that we wanted to use as the basis for doing the
15 calculations.

16 In the process -- in the plant process, as
17 was discussed previously, we used a term called cycles
18 of concentration. Which is the number of cycles that
19 will run the circulating water system through the
20 plant before we remove some of the built up
21 constituents.

22 And we used for reclaimed water, four
23 cycles of concentration. So, when you take the values
24 that were selected, the maximum values in that four-
25 year period, we multiply it by four, you get the basic

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1 concen -- new concentration after the plant process.

2 However, when we take that material out of
3 the circulating water system, we put it in a sump
4 before we inject it into the wells. There are other
5 sources of water that are -- that come into that sump
6 which were not coming from reclaimed water. They were
7 coming from portable water sources.

8 So they created dilution of that material
9 that's sitting in the sump. So the net calculation
10 showed that the constituents of interest should be
11 multiplied not by four, but by 3.3 for to get to the
12 number of cycles of concentration and then reduced by
13 the dilution from these other water sources.

14 So those numbers represent the numbers in
15 the 2007 to 2011 time frame, multiplied by 3.3.

16 DR. BURNETT: So, if I understand you
17 correctly, you took the highest concentration from the
18 analytical results between, was it 2007 to 2011?

19 MR. JACOBS: 2007 to 2011, yes.

20 DR. BURNETT: Yes. And because you cycle
21 the water through your cooling process, your -- it
22 sounds like you're assuming that only the water
23 evaporates and constituents are therefore
24 concentrated.

25 MR. JACOBS: In that calculation, yes. So

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1 you develop the numbers in Table 3-5, that's the way
2 it was done. There was no volatilization taken into
3 consideration in that calculation.

4 DR. BURNETT: All right. That's a factor
5 of four. So, but then you have a dilution because you
6 have other process water in your plant that's being
7 mixed in the sump before injection.

8 MR. JACOBS: Yes, sir.

9 DR. BURNETT: And so that lowers the
10 concentration a little bit.

11 MR. JACOBS: Yes.

12 DR. BURNETT: So the net factor turns out
13 to be 3.3.

14 MR. JACOBS: Yes, sir.

15 DR. BURNETT: Okay. Andy, could I have
16 the NRC-070, page seven? Which is another table.
17 This is a table of analytical data.

18 You could -- okay, that's -- so there's a
19 lot of things on this table that we're not discussing.
20 But if I could draw your attention starting -- if you
21 look at the bottom and you go up eight rows. You'll
22 see toluene. And then right above it is
23 tetrachloroethylene. And then three more rows above
24 that, you can see ethylbenzene.

25 So, this summarizes the results between

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1 2007 and 2011. And if I -- again, if I understand
2 correctly, you took the highest result in order to be
3 conservative.

4 So looking at tetrachloroethylene, the
5 highest result shown in this Table is 1.1. Right?

6 MR. JACOBS: Yes.

7 DR. BURNETT: So, and then if we multiply
8 1.1 times 3.3, we should get the results in the table.
9 Is that right?

10 MR. JACOBS: Yes.

11 DR. BURNETT: It looks like it's close.
12 It's 3.6. Not exactly right. Okay. But it's close.

13 MR. JACOBS: It's close.

14 DR. BURNETT: All right. Let's try the
15 same thing --

16 MR. JACOBS: But it -- I'm sorry. But the
17 1.1 was a rounding from the chemical test results.

18 DR. BURNETT: I'm sorry, what was? Oh,
19 the 1.1.

20 MR. JACOBS: The 1.1 was a rounding.

21 DR. BURNETT: Okay. So if we had shown
22 more significant figures, you'd probably get exactly
23 the same result.

24 But I don't think it works when we do
25 toluene. The highest number I found on this table is

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1 .271. Right. And if you multiply that by 3.3 --
2 anybody have a calculator? It looks like it's going
3 to be over six.

4 No. Excuse me. It's not going to be over
5 six. It's -- it does not appear -- now by the way,
6 the units are different. Okay. So the units in the
7 table are in micrograms per liter. And the Table 3-5
8 are milligrams per liter. So it's different by, you
9 know, it's just three orders of magnitude. So you
10 just have to make that adjustment.

11 But it looks like the toluene -- thank
12 you. If we take -- okay, .271. Thank you Andy. So
13 it's .8943. But the Table -- the toluene results in
14 the Table is .00174.

15 So, what are we doing wrong here? Were
16 the different constituents treated differently? Or
17 were they all treated the same?

18 MR. JACOBS: I believe they were all
19 treated the same. And I don't -- without looking at
20 the Tables again in more detail, I can't tell you why
21 that apparent discrepancy occurred.

22 DR. BURNETT: The only other constituent
23 that's on this Table is the ethylbenzene. But that
24 was below detection in every event. So, we can't do
25 the calculation.

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1 In looking back at the description that we
2 have on how these numbers were adjusted, you mentioned
3 two factors. One was a concentrating factor by
4 evaporation. And the other was a dilution factor.

5 But it was also mentioned in the record
6 that there were chemical changes expected to be caused
7 by the Florida Power & Light's reclaimed water
8 treatment facility.

9 MR. JACOBS: Yes.

10 DR. BURNETT: And I wonder perhaps, you
11 know, that adjustment has to do with this apparent
12 discrepancy.

13 MR. JACOBS: The reclaimed water treatment
14 facility was not designed to have any effect on any of
15 these constituents that we're talking about. Whether
16 they would perhaps have some impact, it was not
17 determined.

18 But the reclaimed water treatment facility
19 was specifically designed for removing some
20 constituents from the reclaimed water system from the
21 South District Plant that were detrimental to the heat
22 transfer characteristics that we need for the cooling
23 towers.

24 DR. BURNETT: Um-hum.

25 MR. JACOBS: So there may have been some

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1 -- there maybe some impact on the reclaimed water
2 treatment system. But they were not, as far as I
3 know, were not impacted on this calculation.

4 DR. BURNETT: It was also mentioned the
5 circulating and service water systems would. Did that
6 have any impact on the concentration?

7 MR. JACOBS: The service water system is
8 -- it would be one of the dilution factors. That
9 service water system uses portable water as it --

10 DR. BURNETT: So that was included in your
11 dilution factor? Where we went from four to 3.3.

12 MR. JACOBS: Yes.

13 DR. BURNETT: Okay. Can anyone else on
14 the panel add something to this? Mr. Barnhurst?

15 MR. BARNHURST: Yes, sir. Thank you. I
16 would just like to add in reference to how the
17 concentrations for Table 3-5 and the body of the Table
18 were calculated. Personally I went through and
19 verified that myself.

20 But I don't have that spreadsheet with me
21 today to talk specifically to it. But I can tell you
22 that I did look at that.

23 And for all the constituents in this
24 Table, when applying the factor that the applicant
25 described that I was able to recreate that

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1 concentration in Table 3-5. With the exception of
2 tetrachloroethylene, and this was, I think, discussed
3 in the oral arguments in April of last year.

4 Where tetrachloroethylene was -- and our
5 understanding was it was selected as a value that came
6 from, a representative value from a treatment process
7 that was felt to be more representative water that
8 would be received at the Turkey Point site.

9 And I think that it was a site they were
10 testing out of a side stream plant to reduce nitrogen
11 and phosphorous. If I remember right.

12 But, I did look at that. And I just
13 wanted to make the point that I did verify that.

14 DR. BURNETT: Well, the
15 tetrachloroethylene calculation, the rough calculation
16 we just did, seemed to work. I put it to you for
17 comment.

18 So, I just received a note saying that the
19 tetrachloroethylene is not from the results that are
20 shown in this Table.

21 MR. BARNHURST: That's correct. That's
22 what I was just referring to.

23 DR. BURNETT: However, the calculation
24 worked. But it didn't because I --

25 DR. TEAF: Could I maybe clarify?

1 DR. BURNETT: Yes. Dr. Teaf?

2 DR. TEAF: I think familiarity with the
3 data is causing us to leave a piece of the puzzle out.
4 Mr. Barnhurst mentioned the fact that there were data
5 in a different set of analytical procedures that had
6 slightly higher numbers for tetrachloroethylene.

7 That was prior to tertiary treatment.
8 Tertiary treatment at wastewater plants are -- is a
9 much more effective way to get rid of some
10 contaminants.

11 That 1.1 value which is on that Table,
12 shows to the calculation that we got to 0.00259. That
13 value of 1.1 or was it 2.6 that was prior to tertiary
14 treatment. And I think that's what this was referring
15 to.

16 But I think that was also discussed
17 previously in another hearing.

18 DR. BURNETT: So the -- okay. So the
19 discrepancy for toluene then is because the number I
20 picked from this Table, .271, is not the actual number
21 that was used, right? Is that correct?

22 DR. TEAF: I don't think you have much
23 hearing to find out that answer for the few. But if
24 you want to keep talking for a little bit, I think I
25 can answer it.

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1 DR. BURNETT: Okay.

2 DR. TEAF: I believe it's because there's
3 another data point. And I believe that Mr. Barnhurst
4 is correct that when you do the calculations with that
5 number, you reach 0.00174.

6 DR. BURNETT: It's a number from the other
7 sample in the analysis.

8 DR. TEAF: And it could be that it's from
9 a duplicate sample in the same. And we always took
10 the higher value.

11 DR. BURNETT: Okay. Good. All right. So
12 we'll continue. If you should find it, let us know.

13 Mr. Barnhurst, I had another question for
14 you.

15 MR. BARNHURST: Yes, sir.

16 DR. BURNETT: Could you summarize the flow
17 path of the treated wastewater after it's release from
18 the water treatment plant and up to the point where
19 it's injected? And just in a qualitative way, tell us
20 what process along that flow path would either
21 increase the concentration or decrease it.

22 MR. BARNHURST: Yes. So, as it leaves the
23 South District Wastewater Treatment Plant it would
24 travel via pipeline the nine, roughly ten miles to the
25 Turkey Point site. As part of our evaluation, one of

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1 the things that we considered was mainly what would
2 happen in the cooling towers at the Turkey Point site.

3 As part of the mechanical draft cooling
4 the water, my understanding is the water is sprayed.
5 There's a fine spray through nozzles. And fans are
6 blowing in order to reject the heat in that water part
7 of the cooling process.

8 DR. BURNETT: And what -- would that have
9 any impact on the concentration?

10 MR. BARNHURST: In my opinion it would.
11 And I think that we cited some papers that reference
12 a process called air stripping. Which induces
13 volatilization of volatile organic compounds. Of
14 which three of the constituents, ethylbenzene, toluene
15 and tetrachloroethylene are.

16 And basically what happens in that process
17 is that the chemicals in the water would be moved from
18 an aqueous state to a gaseous state due to two
19 different factors. Due to temperature and also
20 basically turbulence or agitation of the water. It
21 induces those chemicals to change states.

22 And so the overall effect is that you
23 would get a reduction in concentration.

24 DR. BURNETT: So even though the
25 concentration might become lower because of that

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1 volatilizization that was not accounted for in computing
2 values in Table 3-5?

3 MR. BARNHURST: It was not. It's not
4 accounted for the values in the body of the Table.
5 Nor is it -- would it have been accounted for in the
6 discussion of the footnote. Which mentions it after
7 high level disinfection was implemented at the plant.

8 That all the values were undetect -- so
9 this would be in addition to any of that. And I
10 believe that NRC 29 was a reference that we provided
11 that discussed air stripping and percent efficiencies.

12 And while this isn't -- a cooling tower is
13 not an air stripper. The process, in my opinion,
14 would be similar enough. In an actual air stripper,
15 the amount of reduction you would expect to see of a
16 VOC is about 98 percent. So, they're quite efficient.

17 And so we didn't rely on this as part of
18 our evaluation. But we did consider it. And
19 recognized that the already running concentrations
20 entering that process would be further reduced by a
21 significant amount.

22 DR. BURNETT: Um-hum. Okay. So where are
23 we in the local now?

24 MR. BARNHURST: Oh. So we're in the
25 cooling towers. And I guess I should mention that

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1 there was one other process that in my research as
2 part of developing the final environmental impact
3 statement and the testimony since then, heptachlor is
4 not a VOC. It's not a volatile organic compound.

5 However, there are things that help to
6 breakdown heptachlor. Chemical hydrolysis, which is
7 just simply a breakdown chemically in the water. It's
8 not a change of states.

9 And that is influenced by photo
10 degradation. Which is an exposure to sunlight.

11 DR. BURNETT: Um-hum.

12 MR. BARNHURST: And which in my opinion
13 would also happen in the cooling towers. And so that
14 was the main thing that we considered. Is the process
15 that would happen as it's cycled four times as Mr.
16 Jacobs was talking about, through the cooling towers.

17 And then diluted before it's injected at
18 the -- in the injection water.

19 DR. BURNETT: Um-hum. Okay. Thank you.
20 Mr. Quarles, do you have anything to add?

21 MR. QUARLES: I would just like to
22 reinforce that the cooling towers are not designed as
23 an air stripper.

24 DR. BURNETT: Thank you.

25 MR. JACOBS: Dr. Burnett, if I may again

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1 make a point?

2 DR. BURNETT: Yes.

3 MR. JACOBS: When the water leaves out of
4 the reclaimed water treatment facility, there's an
5 interim step that water is essentially in a makeup
6 reservoir. Which is a storage facility that we're
7 going to build.

8 Which will contain approximately 350
9 million gallons of water. And so the reclaimed water
10 will sit in that reservoir before it's removed from
11 the reservoir and then pumped into the cooling tower
12 system for makeup to the plant.

13 So you have this large body of water,
14 which is subject to precipitation. And that could be
15 a diluting factor as well when it rains. As well as
16 when the blowdown from the cooling tower goes to --
17 make up to the blowdown sump, that's also an open
18 chamber.

19 And therefore there is another opportunity
20 for precipitation to dilute.

21 DR. BURNETT: What is the average
22 residence time of the water in that reservoir?

23 MR. JACOBS: Well we need to make up
24 approximately 30 thousand gallons of water per minute.
25 And we're talking about 350 million gallons. So the

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1 residence time is pretty high.

2 But the purpose of the makeup reservoir is
3 in the event that there is some upset condition either
4 at the South District plant or at our facility, that
5 we have the ability if that water is not up to the
6 preferred quality and quantity, we have the ability to
7 shut down that system to evaluate what is taking
8 place. And use the makeup reservoir to continue plant
9 operations.

10 So, I just wanted to add that these are
11 opp -- another opportunity for dilution in addition to
12 the agitation that takes place when the water is
13 removed from the makeup reservoir and put to the
14 towers. And likewise when it's from the blowdown
15 sump, when you move it to the rejection water.

16 DR. BURNETT: Could you repeat two numbers
17 for me? The rate of flow into the reservoir?

18 MR. JACOBS: That would be --

19 DR. BURNETT: You mentioned it a few
20 minutes ago.

21 MR. JACOBS: Well, there's a difference.
22 Because what we blow down is just a small portion of
23 the water that is actually used for makeup. Because
24 the other water is evaporating.

25 It's about 28,800 GPM is evaporated. And

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1 we blow down 12,000 GPM. So you're in the 40 thousand
2 GPM range of makeup.

3 DR. BURNETT: And the capacity of the
4 reservoir?

5 MR. JACOBS: Approximately 350 million
6 gallons.

7 DR. BURNETT: 350 million?

8 MR. JACOBS: Yes.

9 DR. BURNETT: Okay.

10 MR. JACOBS: It represents approximately
11 five days worth of cooling water in the event that we
12 have some kind of an event.

13 That quantity in the tap, in the basin may
14 vary. Because the cooling towers sit inside the
15 reservoir. They're on piers. They'll sit inside the
16 reservoir.

17 So, depending upon the final design of the
18 cooling tower system that number of -- that volume of
19 water available may vary.

20 DR. BURNETT: Thank you. Mr. Quarles, in
21 more recent analytical results, 2013 to 2014 from Pace
22 and another book indicate that the four constituents
23 are a low detection. Which is about .5 micrograms per
24 liter.

25 Do you still think there's a concern?

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1 MR. QUARLES: I think it's worth bringing
2 up as a concern that the VOC samples were grab
3 samples. And a VOC grab sample is 40 milliliters.
4 All right, so if you've got an outfall or a discharge
5 with millions of gallons of water flowing through it,
6 the time that it would take you to fill a 40
7 milliliter vile would just be a matter of a second or
8 two.

9 And so those four sample results are grab
10 samples that were indicative of the quality of that 40
11 milliliter sample that blew by in -- during that one
12 or two second time to fill up the vile.

13 So, and they were generally, they were
14 collected during the week. And they were generally in
15 the morning. If I remember correctly, 9:00 or 10:00,
16 something like that.

17 So, when you look at the flow of
18 wastewater coming into the plant, it varies by day.
19 If you look at the permit, the effluent discharge
20 would vary by day based on, you know, what day of the
21 week it is, and if it rained. That sort of thing.

22 So there would be some natural variability
23 in flow during that time. So, I guess my concerns
24 would be that again, it's representative of that 40
25 milliliters that was sampled in that.

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1 DR. BURNETT: Okay. Does storm water get
2 mixed together with the wastewater? You mentioned
3 rain. So, if you have storm water, does it wind up
4 going through the treatment plant?

5 MR. QUARLES: I don't know the particulars
6 of this. But infiltration inflow is always a
7 component of total wastewater flow into a treatment
8 plant. It can get some water variability into the
9 millions of gallons of discharge.

10 DR. BURNETT: I'd also like to ask you
11 about, you have mentioned in your testimony that for
12 some of these components there were possible
13 carcinogenics that any amount above zero could be a
14 concern. However, you can't measure zero.

15 So, it seems like on the one hand it's an
16 unreasonable proposition.

17 MR. QUARLES: That's a very valid point.
18 You can't measure zero. But as a comparison, the
19 State of California, they have a public health goal
20 for tetrachloroethylene which is -- it's actually a
21 numeric value. And it's 0.00006 milligrams per liter.

22 So the bottom line is, I understand that,
23 you know, you have to be able to detect an amount.
24 And there's MDLs, PQLs, all of these things that are
25 associated with an analytical result.

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1 But the bottom line is that EPA has
2 determined that any value above zero is a concern.

3 DR. BURNETT: Mr. Quarles, we had talked
4 to the other panel about the processes that increased,
5 that may increase, or may decrease the concentrations
6 of these constituents in Table 3-5. Are there any
7 processes that may increase the concentrations above
8 the levels in Table 3-5?

9 MR. QUARLES: Are you talking within the
10 plant itself?

11 DR. BURNETT: No. Not only within the
12 plant, but what could happen even after injection. Is
13 there any way either at the plant that things could be
14 increased? Or even underground?

15 Can you imagine any process that would be
16 a higher concentration?

17 MR. QUARLES: What I can imagine is that
18 again, the affluent flow into the wastewater treatment
19 plant is they're relying upon their industrial
20 pretreatment program to be an effective mechanism of
21 removing these four constituents prior to reaching the
22 wastewater treatment plant.

23 So, that assumes that the pretreatment
24 program is compliant. And the people who would
25 discharge these four constituents are compliant every

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1 day.

2 And so the variability coming into the
3 wastewater treatment plant, just the fact that the old
4 data clearly shows that these constituents exist shows
5 that the primary secondary treatment did not
6 completely remove those constituents.

7 So then you're assuming that there's no
8 variability every day during the day, or every day
9 during the week of those four constituents when you
10 rely upon those four grab samples.

11 DR. BURNETT: Dr. Teaf, the
12 tetrachloroethylene level reported in Table 3-5,
13 .00359 milligrams per liter does slightly exceed the
14 Florida DEP MCL, which is .003.

15 Do you happen to know what the uncertainty
16 of this result is? And by this result, meaning the
17 one tetrachloroethylene result in Table 3-5.

18 DR. TEAF: I don't think there's been a
19 specific analysis of the uncertainty. But we do have
20 a pretty good feel for it based on the information
21 that was collected in 2007 through 2011. As well as
22 the 2013 and 2014 data.

23 By using the highest number that was
24 detected following tertiary treatment, we know that
25 1.1 micrograms per liter was the maximum value

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1 detected. It was detected very early on in the
2 process in 2007.

3 Subsequent to that, the values were either
4 non-detect or were I values between the Eq/L and the
5 Mg/L. Meaning that they themselves were uncertain
6 numerically. But certainly were below the practical
7 quantitation limit.

8 And we also know that in 2013 and the
9 beginning part of 2014 approximately 20 samples were
10 collected on six different dates. And those values
11 were all non-detect.

12 So, I think the argument about that the
13 concern about the variability is rendered much less
14 persuasive by the complete consistency of non-detects
15 for 2013 in those different samples that were
16 collected. So I think there is certainly some
17 uncertainty there.

18 I think the judgement was made to treat
19 that in a conservative way. And I might be able to
20 fill in the interlude with the answer to the question
21 that you raised a couple of moments ago.

22 DR. BURNETT: Yes. Fine. Thank you.

23 DR. TEAF: On February 18, 2011, there's
24 an I value of 0.534 for toluene.

25 DR. BURNETT: 0.5 --

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1 DR. TEAF: 534.

2 DR. BURNETT: 34.

3 DR. TEAF: Microgram per liter. I don't
4 know why it doesn't appear on the Table that was
5 shown. But it's in the analytical data that I
6 reviewed.

7 And it's cited in my initial prefiled
8 testimony. Not that, but the pure value with all the
9 analytical data.

10 DR. BURNETT: Yes. And that's within a
11 different sampling. It's not included on the Table
12 that's shown.

13 MR. TEAF: But there's other data
14 collected on the February 18, 2011. So honestly, I
15 can't explain why it's not on that Table. But I've
16 seen the analytical results for it.

17 DR. BURNETT: Okay.

18 MR. LEPRE: Your Honor, may I just speak
19 to this issue quickly?

20 DR. BURNETT: Yes.

21 MR. LEPRE: If you turn to page 15 of NRC
22 070, the .0534 number it says here in Exhibit there,
23 that would show -- (off mic)

24 DR. BURNETT: So you're saying that the
25 correct number for toluene shows up?

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1 MR. LEPRE: Correct. Well, the .534 on
2 the very last column.

3 DR. BURNET: .534. Yes, I see it.

4 MR. LEPRE: I'm certainly not a math
5 major. But we did some calculations. If you multiply
6 that by 3.3 you get very close to the .00057.

7 DR. BURNETT: Okay. So that's a sampling
8 on February 18, 2011.

9 DR. TEAF: Yes, sir.

10 DR. BURNETT: And for some reason that
11 sampling is not included. It has all blanks. NT, not
12 determined. Yes. Thank you.

13 MR. LEPRE: And if you do the math, if you
14 do the multiplication of 3.3 concept, you're going to
15 get very close to the one that there is.

16 DR. BURNETT: It's being done as we speak.
17 1.76. So that's in micrograms per liter, right?

18 DR. TEAF: Yes.

19 DR. BURNETT: And so that would be .00174.
20 Yes. Okay. In the Table it's 00174. This would be
21 00176. So I think that's within a reasonable degree
22 of uncertainty.

23 DR. TEAF: Yes.

24 DR. BURNETT: Thank you for pointing that
25 out.

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1 MR. LEPRE: You're welcome.

2 DR. BURNETT: Mr. Jacobs, could you give
3 us an overview of what's required in order to receive
4 a permit for a Class I injection well from Florida
5 DEP?

6 MR. JACOBS: I can give you a high level
7 summary. But I can't give you -- Mr. McNabb would be
8 the individual that could give you the details of how
9 that process proceeds.

10 DR. BURNETT: For some reason Mr. McNabb
11 is not on this panel. Dr. Maliva?

12 DR. MALIVA: Okay. First and foremost for
13 a Class I injection well in Florida, there is no
14 standard for the chemical other than it not be so high
15 that the injected water would constitute a hazardous
16 waste.

17 So the MCLs are irrelevant as far as a
18 Class I injection well. You're allowed to exceed the
19 drinking water standards. You just cannot be so high
20 as to be a hazardous waste.

21 There's a number of other requirements,
22 you need to provide a drilling testing plan to show
23 that we got -- the well will be properly constructed
24 in accordance to all requirements.

25 An important part of the project is to do

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1 an area review investigation. Where you looked at
2 just a geographic study and identify any receptors
3 that could be impacted by the well. Or any feature
4 that could be present nearby that could influence
5 performance of the well.

6 You know, the important part is to
7 identify already what nearby deep wells to your
8 injection well site. Are there any evidence or
9 records of abandoned wells that could be conduits for
10 vertical fluid migration.

11 And so then it's a very detailed study.
12 Part of that is a geologic analysis where you need to
13 show where the face of the USCW is likely present.
14 And show that there likely will be confinement at the
15 site.

16 Those are the main requirements. Normally
17 the application also provides some plans for
18 operational testing and parameters, et cetera. But
19 those are the main components of the permitting
20 process.

21 DR. BURNETT: Did you mention monitor
22 wells?

23 DR. MALIVA: Normally for an injection
24 well project, you have the dual zone monitor well that
25 is going to be constructed. Plans for that are also

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1 incorporated into the Class I injection well
2 construction permit application requirement.

3 So it shows where the well is going to be
4 located. Exactly how far from the injection well, and
5 tentatively proposed injection mine free zones. But
6 that's going to be subject to change during the
7 testing program.

8 DR. BURNETT: Does DEP -- Florida DEP, do
9 they require that the monitor wells -- I know that
10 they have to be within a certain distance. But do
11 they have to have some kind of arrangement that's --
12 that they approve of?

13 Or can the applicant simply say that there
14 will be a dual zone monitor well within 75 feet of the
15 injection well?

16 DR. MALIVA: You need to provide a site
17 plan of just showing exactly where it's going to be.
18 You know, along with the coordinates site plan. So
19 it's -- the exact location is --

20 DR. BURNETT: So the applicant shows a
21 site plan. And the DEP approves it then?

22 DR. MALIVA: Yes. That is correct.

23 DR. BURNETT: Did they -- is it your
24 experience that in some cases say revised, they would
25 want a revision of the site plan? Especially

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1 concerning the location of the monitor wells?

2 DR. MALIVA: I've never run into that
3 situation. I think, you know, the professionals all
4 that was involved in the permitting process fully
5 understand the rules. Where the injection well needs
6 to be located.

7 So as long as it's the proper distance
8 from the injection well, they've always approved it.
9 There would be no reason not to approve it as long as
10 it meets regulations.

11 DR. BURNETT: Okay. Thank you. Mr.
12 Barnhurst, you had mentioned that before injection, it
13 will be combined with other plant effluence in the
14 blowdown sump.

15 Could you tell us what the other plant
16 effluence are? What they contain and just in general,
17 what makes up these other effluence?

18 MR. BARNHURST: You know, I reviewed that,
19 Your Honor, whenever I wrote that. And I'm not sure
20 it's right with my time right now.

21 But I believe it's the plant effluence,
22 the radiological effluence and things like that that
23 are normally combined with blowdown water and at other
24 plants that would be then released. And so it would
25 be from that system.

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1 DR. BURNETT: Um-hum. Perhaps Mr. Jacobs
2 can add to that.

3 MR. JACOBS: Yes. I can. There are four
4 sources of water which were used in the dilution
5 capture like sanitary -- we're going to put in a
6 sanitary treatment system. Which will process all the
7 sanitary wastes for the entire site. Including the
8 other units on the site. That's one source.

9 Service water power blowdown, which I
10 mentioned previously. That will be second.

11 There's a wastewater retention basin which
12 collects water from processes within the plant itself.
13 So the demineralizers, some of the other process in
14 the facility, those wastewaters will go to the
15 wastewater retention basin. That's the third source.

16 The fourth source, as I mentioned, is the
17 actual radioactive waste that will be released in
18 other place. But that's a minute one and a half GPM.
19 On a batch basis, it's a very small quantity for that.

20 But the other ones are significant enough
21 to create that dilution which gives you the terminal
22 3.3 value.

23 DR. BURNETT: Thank you.

24 DR. KENNEDY: Just a follow up question to
25 this sump is, before discharge, is there any testing

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1 of the constituents on that sump? And if so, what is
2 the frequency of testing? Upon release? Or monthly
3 or weekly? Mr. Jacobs?

4 MR. JACOBS: Before we get to the sump,
5 there is a continuing -- a continuous sampling process
6 that we will use both in the reclaim water treatment
7 facility or when the water then gets transferred to
8 the makeup reservoir, and when it gets into the sump.

9 And the reason we do that is because we
10 continually treat that water once it leaves the
11 treatment facility to make sure that, as I mentioned
12 previously, that there's no biofouling or other
13 constituents that may impede the heat transfer
14 characteristics of the plant.

15 So there's continuous monitoring and
16 chemical treatment of that water. And prior to the
17 release into the injection wells, the water will be
18 sampled in the blowdown sump.

19 And we haven't determined the frequency
20 yet. It's premature. But, that will be sampled
21 before we release it into the wells.

22 DR. KENNEDY: What sort of constituents
23 are you looking for in these grab samples or in the
24 continuous monitoring testing?

25 MR. JACOBS: Well, the ones that are of

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1 primary concern for us in terms of heat transfer had
2 to do with magnesium, ammonia, nitrogen, some of the
3 nutrients, some of the iron or metals. So there's a
4 sweep that we've developed that we will be looking at.

5 And we could add or delete constituents as
6 necessary. But it's pretty fairly comprehensive
7 testing of the water.

8 If I could take another minute. I just
9 want to read the kind of redefine that was -- on how
10 we use the wells, before we get to the details of the
11 wells.

12 But, when we're using reclaimed water, the
13 amount of water that we're injecting would be around
14 12 thousand GPM. Which is 17 million gallons a day.

15 For us to inject 17 million gallons, we
16 would only need two wells of 12 or 13. However, you
17 want to count that flow to the well.

18 The only time we'll use more than that
19 would be when we're on service water. If there's some
20 problem that develops and we need to convert to make
21 up water from the reclaimed water from the facility to
22 the radio-collector wells, which is sea water.

23 That's when the quantity of water that we
24 need to blowdown gets substantially higher. And
25 that's when we'll use more wells.

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1 But we won't need all 12. That will be
2 about 85 million gallons per day. And that will be
3 probably nine, eight or nine wells will be used.

4 And all of this gives a limitation on how
5 much -- how often we will use the reclaim, I mean, the
6 radio-collector wells. And it's limited by the site
7 certification to 60 days per year.

8 DR. KENNEDY: Thank you.

9 CHAIRMAN HAWKENS: Just to be clear, is
10 that two wells per reactor? Or two wells for both
11 reactors?

12 MR. JACOBS: Two wells total.

13 CHAIR HAWKENS: Total.

14 MR. JACOBS: That blowdown I mentioned, 12
15 thousand UPM is for both plants.

16 CHAIRMAN HAWKENS: Dr. Maliva, I have a
17 question for you. In paragraph 33 of your rebuttal,
18 you state that dilution of wastewater that would occur
19 once it reaches the pump production well located miles
20 from the conduit would be enormous, because a pumped
21 well draws in water from all directions.

22 What would happen if it reached a well
23 very proximate -- or it reached a pumped production
24 very close to the waste injection well itself? Does
25 that make a difference for the dilution factor?

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1 DR. MALIVA: Yes. It would. If you have
2 a production well that was located right next to the
3 injection well, then certainly a larger fraction of
4 the water would be derived from the leaking well. Or
5 it's not too far then the production well right next
6 to the injection well then there's leakage right at
7 the injection well.

8 Certainly if the well is located right
9 next to it, most of the water -- a very large fraction
10 of the water -- a larger fraction of the water would
11 be derived from that area.

12 But again, there's still the basic just
13 geometry of the situation. You have again, a
14 production well that pulls the water from a 360-degree
15 radius. The amount of water from any one geographic
16 area is going to be a small fraction of that. Which
17 is basic geometry of the process.

18 CHAIRMAN HAWKENS: Thank you. That
19 concludes our questioning for Panel Five. At this
20 time we propose that we take a recess.

21 And counsel can provide any questions, if
22 they wish to provide questions. They need not. But
23 if there are additional questions that they think we
24 should consider asking, if you could please provide
25 them to our law clerks.

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1 But let me ask, I contemplate it will
2 probably take us five to ten minutes once we receive
3 your lists to review them. How long do you think it
4 will take for you to submit them to our law clerks?

5 MS. CURRAN: We'd like to ask for 20
6 minutes.

7 CHAIRMAN HAWKENS: Will that be sufficient
8 for FPL?

9 MR. LEPRE: Yes.

10 CHAIRMAN HAWKENS: NRC?

11 MS. WRIGHT: Yes.

12 CHAIRMAN HAWKENS: All right. Let's take
13 a 20 minute break and return at 27 after.

14 DR. BURNETT: Would that include our time?

15 CHAIRMAN HAWKENS: Oh, excuse me. Ms.
16 Curran, you would require 20 minutes to prepare the
17 questions? All right. Let's make that a 25 minute
18 break then. And we will return at 32 after.

19 MS. CURRAN: Thank you.

20 CHAIRMAN HAWKENS: We're at recess.

21 (Whereupon, the above-entitled matter went
22 off the record at 10:07 a.m. and resumed at 10:46
23 a.m.)

24 CHAIRMAN HAWKENS: Please be seated. We
25 apologize for the ten minute delay.

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1 There are several questions that you would
2 like to follow up with, based on the submissions from
3 counsel. And Judge Burnett will begin.

4 DR. BURNETT: So Andy, could we have that
5 displayed? Mr. Jacobs, so we're going to get back to
6 the question concerning the derivation of the
7 constituent values in Table 3-5.

8 So getting back to the derivation of the
9 values in Table 3-5, the -- this is from the final
10 EIS. And it still seems that we're not completely
11 clear on how these values were derived.

12 It seems that in the text at the final DIS
13 it appears that there are four changes where
14 adjustments are made for the constituents in 3-5. One
15 is the chemical changes expected to be caused by the
16 Florida Power & Light reclaimed water treatment
17 facility.

18 Mr. Jacobs, earlier today you stated that
19 there were only two adjustments made. One was for
20 evaporation, which is a concentrating factor. And one
21 is for dilution.

22 So the chemical changes expected to be
23 caused by the water treatment process at Florida Power
24 & Light were not included, or they were? Or is it
25 because Table 3-5 does not only include these four

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1 constituents, it also includes a long list of more
2 common parameters?

3 MR. JACOBS: I think that is in fact the
4 answer. The treatment facility itself is not
5 designed to deal with those constituents.

6 However, the other constituents in Table
7 3-5 are being processed in the reclaimed water
8 treatment facility. So, without studying exactly
9 which constituents we're talking about, I think it
10 appears that the ones that will get impacted are not
11 the ones we're talking about in this contention.

12 DR. BURNETT: Yes. Well, Table 3-5
13 beneath -- the first page of it is a long table --

14 MR. JACOBS: Yes.

15 DR. BURNETT: With things like sodium,
16 chloride, sulfate, constituents that are often found
17 in seawater for example, as well as wastewater.

18 So, is it your testimony then as well as
19 in the final BIS that the first part of Table 3-5 has
20 had four adjustments made for four different
21 processes. But the four constituents had only two
22 adjustments made, like for concentration and one for
23 dilution.

24 MR. JACOBS: For the items of the
25 contention, my statement stands. That there was two

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1 known changes to that. One for the concentration and
2 one for the dilution.

3 DR. BURNETT: Um-hum.

4 MR. JACOBS: Now if I may ask you again,
5 before that Table, because I don't have the document
6 in front of me, but -- difficult screen.

7 DR. BURNETT: Are you able to read the
8 text on the screen?

9 MR. JACOBS: I can't see specifically
10 where it's mentioned yet. If you move --

11 DR. BURNETT: Thank you Andy. Can you see
12 the highlighted parts?

13 MR. JACOBS: Yes.

14 DR. BURNETT: Okay.

15 MR. JACOBS: Okay. Now I understand the
16 context. That is correct. But what is stated there
17 is correct.

18 That the combination of what is being done
19 in the reclaimed water treatment system is a function
20 of four different adjustments that would be made to
21 that water. And only two to the constituent in
22 question.

23 DR. BURNETT: Okay. Good. Thank you.

24 DR. KENNEDY: Mr. Jacobs, this is a follow
25 up question from your discussion on Panel Five. You

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1 introduced -- during your testimony on Panel Five, you
2 alluded to the large reservoir in which the mechanical
3 draft cooling towers sit, a 350 million gallon
4 reservoir, where the wastewater would go before being
5 injected.

6 And you indicated that --

7 MR. JACOBS: Um, I'm sorry. That's not
8 quite correct.

9 DR. KENNEDY: Yes. And you're right. I
10 did misspeak.

11 MR. JACOBS: Okay.

12 DR. KENNEDY: It's the source of make up
13 water for the cooling towers.

14 MR. JACOBS: Yes.

15 DR. KENNEDY: Okay. And then from the
16 sump of the cooling towers that goes to -- some
17 fraction of that goes to the sump.

18 MR. JACOBS: The blowdown from the cooling
19 towers, yes, the recycling through this -- through the
20 cold water system. Then gets blown down into the
21 wastewater sump, the blowdown sump.

22 DR. KENNEDY: Right. And you had indicted
23 in discussing this reservoir that the concentrations
24 of chemicals within that reservoir could be diluted by
25 rainwater.

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1 And I think the question we're asking is,
2 if that's true, could the converse be true? That they
3 could also be reconcentrated by evaporation that
4 redevelops?

5 MR. JACOBS: There is some offsetting
6 features between the evaporation from the make up
7 reservoir and offset by the precipitation. So it's a
8 possibility that may occur that it gets rainwater.

9 It also may occur that it gets a lack of
10 rainwater that it may concentrate slightly. But that
11 calculation was not performed.

12 DR. KENNEDY: Right. You don't -- do you
13 feel that it would have any significant impact on the
14 concentrations that we've been discussing throughout
15 this testimony under contention?

16 MR. JACOBS: I don't believe so. And as
17 well as the issue that develops an issue, the
18 combination of it.

19 Even if you saw some evaporation and
20 precipitation and the volatilization of the chemicals,
21 I don't think it's going to make an impact on it.
22 That probably will reduce the values, the
23 concentration values on the Table.

24 DR. KENNEDY: And as we just went through,
25 no credit was taken for this rainwater pollution, and

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1 consequently nor for the evaporation in establishing
2 the concentration levels of Table 3-5?

3 MR. JACOBS: That's correct.

4 DR. KENNEDY: All right. Thank you.

5 CHAIRMAN HAWKENS: That concludes the
6 Licensing Board's questioning for the witnesses. We
7 thank the counsel for the list of questions that they
8 provided.

9 And pursuant to our regulations, we will
10 hold them in confidence as we will the other lists
11 that you provided earlier until we issue the decision.
12 At which time, we'll put those proposed questions into
13 the record.

14 At this time we'll hear closing statements
15 from counsel. We'll hear it in the same order that we
16 heard opening statements. Which is to say first Joint
17 Intervenors, Village of Pinecrest, City of Miami, NRC
18 Staff and FPL.

19 Counsel is reminded that closing
20 statements won't exceed ten minutes. And once again,
21 to help you keep track of time, Ms. Scro is ready with
22 her amber sign, which indicates two minutes are left,
23 and her red sign which indicates your time is up. And
24 at that point we would ask that you wrap up your
25 closing statement as quickly as possible.

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1 Joint Intervenors?

2 MS. REISER: May it please the Court. I'm
3 Caroline Reiser in behalf of Joint Intervenors. Thank
4 you for the opportunity over the last two days to
5 speak with you. I want to leave you with a final few
6 thoughts.

7 NEPA is about science and facts. It is
8 not about outdated technology and incomplete
9 assessments. It is meant to ensure that decision
10 makers take a hard look at the impacts of their
11 actions and fully understand those impacts.

12 NEPA requires decision makers to take the
13 blinders off. And to grapple with the environmental
14 and public health implications of their decision.

15 Of course NEPA does not dictate a
16 particular result. Decision makers are welcome to
17 decide that they are going to move forward despite
18 significant environmental impacts of their actions.

19 But to reach that decision they must be
20 fully informed and that information must be disclosed.
21 We do not bear the burden of investigating NRC Staff's
22 decisions.

23 The public, the ones who ultimately suffer
24 the impacts must have access to that information.
25 This is the reason that NEPA exists.

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1 Today NRC Staff again refused to do the
2 necessary work. They've refused to use scientifically
3 defensible methodologies. And instead rely on luck.
4 And they've refused -- and they've asked the public to
5 blindly follow their lead.

6 First NRC Staff have not conducted the
7 necessary studies to conclude that upward migration is
8 extremely unlikely to occur. But everybody knows that
9 upward migration occurs in South Florida.

10 EPA knows that upward migration occurs.
11 That's why they tried to find a safer way to inject
12 wastewater underground by adding an additional
13 treatment requirement before wastewater could be
14 injected.

15 The USGS knows it. That's why Cunningham
16 has concluded that there is an immediate need to use
17 seismic reflection to figure out how and where upward
18 migration is occurring.

19 And the Miami-Dade Water and Sewer
20 Department know it. That's why the Chief of their
21 Hydrogeology Section, Dr. Virginia Walsh, recommends
22 that seismic reflection be used for any future
23 injection sites.

24 These groups are grappling with what they
25 know is a significant environmental and public health

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1 issue, the potential contamination of designated
2 sources of drinking water. NRC Staff must follow
3 their lead.

4 Acknowledge the uncertainty by saying that
5 there are significant environmental impacts or justify
6 the finding of no significance. By doing the seismic
7 reflection study that is necessary to support that
8 finding.

9 Second, if upward migration occurs
10 bringing chemical constituents into a designated
11 underground source of drinking water, the NRC Staff
12 have failed to consider the impact on vulnerable
13 populations, the elderly, the young, the sick, the
14 expectant mothers. The populations are who the MCLGs
15 are meant to protect.

16 In contrast the MCLs reflect EPA's
17 balancing assessment. Their determination of the
18 health risks of exposure weighed against the cost and
19 feasibility of limiting this exposure.

20 In the determination of significance NEPA
21 does not allow this type of discounting at the outset.
22 It requires instead that NRC take a -- NRC Staff take
23 a hard look at the harm.

24 A look like NEPA took in setting the
25 MCLGs. A look at the significant effect on certain

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1 populations who maybe exposed to carcinogens. Only
2 after that hard look has been taken can the agency
3 conclude that notwithstanding the harm it still
4 intends to proceed with its actions because it
5 believes that the benefits outweigh these significant
6 costs.

7 Tetrachloroethylene and heptachlor
8 indicators of the range of contaminants in industrial
9 municipal wastewater exceed the MCLGs.
10 Tetrachloroethylene even exceeds Florida's MCL, which
11 as we stand here today remains the State of Florida's
12 considered determination with the acceptable limit of
13 exposure when both the risk to human health and cost
14 are balanced.

15 The impacts of these exceedances cannot be
16 waived aside. Instead the impacts must be disclosed
17 to the public, considered, and fully explored.

18 Only then can NRC Staff make a reasoned
19 determination about the significance for these
20 environmental impacts. Thank you.

21 CHAIRMAN HAWKENS: Thank you. Village of
22 Pinecrest? No statement from Village of Pinecrest?
23 Is counsel here for Village of Pinecrest or no?

24 MS. SCRO: No.

25 CHAIRMAN HAWKENS: Is not. All right.

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1 We'll hear from the City of Miami then, please.

2 MR. ALBAN: Good afternoon. My name is
3 Xavier Alban, Assistant City Attorney with the City of
4 Miami. And I thank you for giving the City the
5 opportunity to participate in these proceedings as an
6 interested local governmental party.

7 As was noted in the beginning of these
8 proceedings, the City of Miami has serious concerns
9 with respect to FPL's application. And the sanctity
10 and protection of a designated underground source of
11 drinking water in the upper Floridan aquifer.

12 Now that this hearing has concluded, the
13 City continues to remain concerned about this
14 application and the effect that these 13 deep
15 injection wells will have on the environment, our
16 drinking water, and ultimately our health.

17 The first issue that the City raised at
18 the commencement of these proceedings was that the
19 upper Floridan aquifer is an underground source of
20 drinking water that is currently being used by
21 municipalities to provide water to its residents.

22 The City understands that the water is
23 brackish and needs to be treated prior to human
24 consumption. However, the City is deeply concerned
25 that FPL throughout this -- its testimony continuously

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1 stated that even if injected wastewater reached the
2 upper Floridan aquifer, the water was brackish and
3 needed to be treated prior to human consumption.

4 Just because the water needs to be treated
5 prior to consumption does not mean that the water can
6 be polluted or contaminated. Or that it's acceptable
7 that that's a potential possibility.

8 We are talking about a source of drinking
9 water that is currently being used and used to
10 provided drinking water to the residents of south
11 Florida. We should not be so cavalier about this
12 wastewater reaching the upper Floridan aquifer and
13 then saying a solution to contamination is already in
14 place because the water needs to be treated.

15 This is not how this issue should be
16 considered. That does not constitute the requisite
17 hard look required by NEPA.

18 Another issue that remains unclear is the
19 flow of water in the bolder zone. It is not clear the
20 water -- what direction the water will flow once
21 injected into the bolder zone based on groundwater
22 flow, the flow rate and operation of up to 13 wells.

23 And the impact that the operation of
24 extraction wells and deep injection wells to the west
25 of the proposed Turkey Point Unit Six and Seven will

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1 have on this groundwater flow.

2 NRC Staff and FPL need to address and
3 provide a definitive statement identifying how all
4 these factors will affect the horizontal migration of
5 the injected wastewater, including the rate of travel
6 and the potential distance it will travel.

7 These questions are important to answer to
8 determine the probability of wastewater migrating
9 horizontally up to the maximum amount of 13 miles,
10 allowing this wastewater to find a vertical pathway.

11 Finally, I would like to touch upon a
12 statement made by Dr. Maliva. During his testimony,
13 Dr. Maliva discussed a project north of here where
14 there was a fault in the ground and there were six
15 injection wells built around this fault, and a seventh
16 well was going to be built in this area.

17 Further Dr. Maliva noted that the
18 injection -- the injected wastewater was found
19 approximately six hundred feet below a USDW. This
20 seventh well was built around this -- was still built
21 around this fault despite all this upward migration of
22 water and the presence of a fault.

23 According to Dr. Maliva, this well was
24 installed successfully. However, this is an example
25 of what the City wants to avoid, gambles with USDWs.

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1 Despite the presence of a fault and a
2 known upward migration of water, this risky well was
3 still built. FPL and the NRC Staff have not
4 demonstrated the heterogeneity of the geological
5 structures in the area.

6 Additionally the horizontal migration is
7 still unclear, but can be up to 13 miles. And
8 although they claim that the heterogeneity of the area
9 is within a few miles, 13 miles is more than just a
10 few miles.

11 This is a gamble the City cannot accept.
12 As such, a seismic reflection study should be
13 conducted. The requisite hard look under NEPA should
14 require that these seismic studies be conducted to
15 confirm that there are no faults, karst collapse
16 structures, or other vertical pathways that could
17 allow the injected wastewater to contaminate the upper
18 Floridan aquifer.

19 Despite these two days of testimony, the
20 City still believes that there are outstanding issues
21 and unanswered questions that need to be addressed
22 before this application can be approved. First, FPL
23 and NRC Staff need to confirm what the actual
24 horizontal migration of the injected wastewater will
25 be.

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1 Secondly, seismic reflection studies need
2 to be conducted to ensure that an adequate geologic
3 confining layer exists. And finally, the City cannot
4 accept that any concentrations of possible carcinogens
5 introduced into the upper Floridan aquifer would have
6 a small impact.

7 Therefore the City submits that the hard
8 look required under NEPA has not been completed. FPL
9 and NRC Staff have not adequately demonstrated the
10 direct effects, indirect effects and the cumulative
11 impacts the proposed actions will have or will not
12 have an adverse impact on the natural physical
13 environment.

14 And as such, the final environmental
15 impact statement is deficient and needs to be updated
16 to address these issues and concerns. Thank you very
17 much.

18 CHAIRMAN HAWKENS: Thank you Mr. Alban.
19 NRC Staff?

20 MS. WRIGHT: Good morning. I think it's
21 still morning. I'm Megan Wright, counsel for NRC
22 Staff. I'm going to be brief.

23 I just want to highlight some points that
24 have been made during the questioning of the
25 witnesses. And then sum up NRC Staff's position one

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1 last time.

2 First, much was made of the use of seismic
3 reflection studies during Panel One yesterday. Mr.
4 Quarles testified that seismic reflection studies
5 provide a widespread observation of the subsurface
6 characteristics of an area, including the presence of
7 faults and fractures.

8 This fact isn't disputed. This is true.
9 However, the seismic reflection studies provide no
10 information on whether or not water is likely to move
11 through those identified faults and fractures. And
12 this is information that the NRC Staff needs for its
13 impact determination in the FEIS.

14 The Cunningham study, which was referenced
15 multiple times by all the parties, states that other
16 data such as bore holes, sonic velocity logs, can be
17 used instead of seismic studies. Staff used data such
18 as this to assess the likelihood of upward migration.

19 And this data, together with all the
20 information required for the State for the underground
21 injection control program provided more than an
22 adequate picture for the Staff to reach its conclusion
23 in the FEIS.

24 Secondly, witnesses were questioned on
25 well construction and monitoring. While it is

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1 possible that the upwelling at the South District
2 Wastewater Treatment Plant was caused by natural
3 pathways, many of the studies in the record conclude
4 that it is most likely that the cause of upwelling was
5 well construction issues. Most likely.

6 With modern well construction techniques
7 and regulatory monitoring requirements, these issues
8 should be largely obviated. Furthermore, as Mr.
9 Quarles stated yesterday, where he does not think the
10 mechanical integrity tests for the wells are
11 inadequate.

12 He does not think that the Florida
13 Department of Environmental Protection Regulations are
14 inadequate. And he doesn't think that the industry
15 best practices are inadequate.

16 So this demonstrates that Mr. Quarles
17 doesn't have an issue with the oversight and integrity
18 of the wells. That will ensure protection of against
19 leakage and upwelling.

20 Third, let's talk about constituent
21 concentrations. Mr. Quarles would not concede
22 yesterday after questioning from Judge Hawkens that
23 the impact from the groundwater from ethylbenzene and
24 toluene would be small. But he did agree that the
25 MCLGs or the goals are a health-based standard.

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1 He also agreed that the goal was not for
2 ethylbenzene and toluene. Most importantly he agreed
3 that there would be no adverse effects from
4 ethylbenzene and toluene at the levels in the
5 wastewater.

6 So those constituents aren't in dispute
7 anymore. Mr. Quarles admitted yesterday that he could
8 not point to any studies in the record that support
9 his claim that heptachlor has an adverse effect on
10 human health at low levels, and the same goes for
11 tetrachloroethylene.

12 There has been no showing, and indeed no
13 solid claim at this hearing that the constituents
14 would be at a level that is not safe for human
15 consumption. This is extremely important. Because
16 let's look at the worst case scenario.

17 NEPA doesn't require us to do that. But
18 let's look at it here and just see how it plays out.
19 Let's say that high level disinfection isn't applied
20 to the wastewater prior to injection.

21 And let's say that the wastewater finds
22 faults and fractures that the studies reviewed by the
23 NRC Staff did not identify. And let's say that there
24 was substantial migration.

25 Let's also say that the wells fail to

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1 detect this. And even if all this happens, and this
2 is the worst case scenario, and the wastewater does
3 end up in the upper Floridan aquifer, the water still
4 meets federal drinking water standards with regard to
5 all four of those constituents.

6 The groundwater research resource will
7 neither be destabilized or noticeably altered. In
8 this support, Staff's conclusion of the impact of deep
9 well injection on groundwater quality will be small.

10 I'd like to sum up Staff's position. The
11 NRC Staff met its requirements under NEPA by taking a
12 hard look at the impacts of deep well injection on
13 groundwater quality.

14 The Staff reviewed studied, conducted
15 confirmatory analyses, and drew conclusions based on
16 a vast amount of data. Wastewater sampling data has
17 confirmed that the four chemical constituents named in
18 this contention will be present at levels below EPA's
19 safe drinking water standards.

20 Furthermore, after high level disinfection
21 of the wastewater, which is required by the Florida
22 Department of Environmental Protection, the chemical
23 constituents cannot even be detected in the
24 wastewater.

25 Contrary to Joint Intervenors' claim, the

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1 mere presence of chemical constituents in the
2 wastewater is not harmful to human health. Joint
3 Intervenors have not shown that the levels of chemical
4 constituents that will actually be found in the
5 wastewater will have an adverse impact on the quality
6 of the groundwater in the upper Floridan aquifer.

7 Finally, Staff concluded based on a vast
8 array of information that it is extremely unlikely
9 that the wastewater will vertically migrate through
10 the well-confined unit and into the upper Floridan
11 aquifer. This conclusion is supported by numerous
12 geological studies, well data, and modeling scenarios.

13 NRC Staff has considered all relevant
14 information. And has a sound basis for its
15 conclusions about the potential for vertical
16 migration.

17 In light of the rule of reason, the Staff
18 has demonstrated that the impact of the four chemicals
19 named in contention to point one is small. And the
20 Board should find that the FEIS is adequate in that
21 regard. Thank you.

22 CHAIRMAN HAWKENS: Thank you. Mr. Lepre?

23 MR. LEPRE: Judge Hawkens, Judge Burnett,
24 Judge Kennedy, thank you again for the opportunity to
25 appear before you. I'd like to emphasize just a few

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1 points.

2 As I said yesterday, there's simply no
3 evidence that the reasonably foreseeable environmental
4 impacts at issue in this case will be greater than
5 small. Or that the NRC failed to satisfy its
6 obligations under NEPA.

7 Mr. Quarles has testified to various
8 extremely remote possibilities. But they're just
9 matters of speculation, not facts based on hard
10 evidence.

11 And NEPA doesn't require the NRC to
12 analyze extremely remote possibilities and matters of
13 speculation. NEPA requires the NRC to analyze
14 reasonably foreseeable environmental impacts. And
15 that's a requirement which the NRC has met.

16 We've heard NRC witnesses, Dr. Maliva and
17 Mr. McNabb, testify that there almost certainly will
18 be confinement below the upper Floridan aquifer. As
19 they testified yesterday, in reaching their
20 conclusions they relied on sophisticated modeling and
21 data accumulated using industry standards. They
22 adopted best practices and complied with regulatory
23 requirements.

24 We've heard Dr. Teaf and Dr. Miracle
25 testify that the constituents in their Table 3-5

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1 concentrations will not be harmful to the public
2 health. They're well below federal drinking water
3 standards.

4 And we heard some compelling testimony a
5 few minutes ago as to why the concentrations will
6 almost certainly be significantly less than in Table
7 3-5, if they were to somehow migrate into the drinking
8 water.

9 With all this in mind, there's no reason
10 for the Staff to conduct additional, unprecedented
11 studies that would be of no apparent value. And FEIS
12 is not an exercise in gathering unlimited amounts of
13 data. It's not a research project.

14 Dr. Kennedy, you said that the subject --
15 I think you said yesterday that the subject of seismic
16 reflection surveys is the most contested topic in this
17 case. But as Dr. Maliva and the NRC experts have
18 testified, it's not a contested topic in the
19 wastewater injection industry.

20 Dr. Burnett, you mentioned language in the
21 summary of Walsh's dissertation. Indicating that
22 seismic reflection surveys could be of some value.
23 That is from July 2012, nearly five years ago.

24 Of course the FDEP has continued
25 permitting wells since 2012. And the uncontroverted

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1 testimony yesterday was that the FDEP still doesn't
2 require seismic reflection surveys.

3 The FDEP has never said they were
4 necessary or useful for injection well permitting.
5 And the FDEP has never even indicated that its
6 contemplating revising its regulations to require
7 them.

8 Now I understand that the NRC Staff has to
9 perform an independent analysis. And the NRC Staff
10 has. But the FDEP's practice with respect to not
11 requiring a seismic reflection survey is entitled to
12 considerable deference.

13 The FDEP after all is the agency that
14 specializes in Florida injection well permitting. It
15 permits the wells, and it also protects the customers
16 who would be impacted by any mistake.

17 In any event, geologic considerations are
18 only one piece of the puzzle. In order for there to
19 be greater than small adverse impacts there are a
20 great many stars would have to align.

21 There would have to be some type of well
22 leak. Which has never happened since new construction
23 techniques were implemented.

24 That leak for a wastewater to inject into
25 the bolder zone would have to avoid State required

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1 monitoring, find a previously unknown conduit to the
2 UFA, escape dilution, locate a probable water well
3 that's no where near Turkey Point, and in the opposite
4 direction of groundwater flow, survive desalination,
5 and if all -- if it does all that, cause greater than
6 small adverse human health impacts, despite the fact
7 that the concentrations are well below the federal
8 drinking water standards at the outset.

9 Applicants submit that all that cannot
10 possibly be reasonably foreseeable. After a day and
11 a half of testimony, the bottom line is still quite
12 clear.

13 The NRC has done its job under NEPA. And
14 it's properly determined that the environmental
15 impacts at issue in this case will be small. Thank
16 you.

17 CHAIRMAN HAWKENS: Thank you Mr. Lepre.
18 The record on Contention 2.1 is closed subject to
19 transcript corrections. And let's talk about when you
20 will be receiving a joint motion for transcript
21 corrections.

22 I believe it was two weeks from today.
23 And by my calculation, that would be Wednesday, May
24 17. And at this point I'd like to ask for a volunteer
25 who will be the crew chief for the joint motion.

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1 And if not, I'm happy to appoint a
2 volunteer.

3 MS. WRIGHT: I volunteer Bob Weisman to be
4 that.

5 CHAIRMAN HAWKENS: Thank you Mr. Weisman.
6 We accept.

7 (Laughter)

8 MS. CURRAN: Judge Hawken, --

9 CHAIRMAN HAWKENS: Yes.

10 MS. CURRAN: I have a question. How soon
11 do you think the transcript will be available on that?

12 CHAIRMAN HAWKENS: It should be available
13 within three days.

14 MS. CURRAN: Well, that's great. Thank
15 you.

16 CHAIRMAN HAWKENS: And when I get back to
17 headquarters, we'll do what we can to expedite it.

18 MS. CURRAN: Great. Thank you.

19 CHAIRMAN HAWKENS: If there is any delay
20 in the transcript coming out, we will certainly be
21 happy to work with counsel if an extension is needed
22 for that.

23 MS. CURRAN: Thank you.

24 CHAIRMAN HAWKENS: I'd like to stress the
25 motion for transcript correction is for the very

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1 limited purpose of correcting what the court reporter
2 transcribed to make it coincide with exactly what we
3 said at the hearing. This transcript correction is
4 not a transcript enhancement.

5 MS. CURRAN: Judge Hawkens, just a
6 question of clarification about that. I think that in
7 some of the testimony there were references to
8 Exhibits by just the name of the author.

9 And I'm wondering if would be helpful if
10 the transcript corrections included the Exhibit Number
11 say in parentheses after that name. That we can all
12 agree on what Exhibit is being referred to.

13 CHAIRMAN HAWKENS: If the parties can work
14 together to come to a joint agreement, the Licensing
15 Board would have no objection to that.

16 MS. CURRAN: Thanks.

17 CHAIRMAN HAWKENS: The scheduling order
18 also addressed proposed findings of fact and
19 conclusions of law, which are scheduled to be due 24
20 days from today. And by my calculation that would be
21 Tuesday, May 30, taking into account the weekend and
22 the fact that Monday is Memorial Day.

23 MS. CURRAN: Judge Hawkens, the Joint
24 Intervenors would like to request a two-week extension
25 of that deadline, until June 15th. We've consulted

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1 with FP&L and the NRC Staff, and they do not object.

2 CHAIRMAN HAWKENS: The Licensing Board has
3 no objection to that. And we will grant the joint
4 motion for an extension of time to June 15 for the
5 filing of the proposed findings of fact and
6 conclusions of law.

7 MS. CURRAN: Thank you. And I'd just like
8 to add that I don't anticipate this will be necessary,
9 but we'd like to reserve the right if we think it's
10 necessary, to seek leave to file required findings.
11 But only in the event that we think that's necessary.

12 CHAIRMAN HAWKENS: You certainly may seek
13 leave to do that.

14 MS. CURRAN: Thank you.

15 CHAIRMAN HAWKENS: You're welcome. The
16 interested local government bodies also are authorized
17 under our regulations to file proposed findings of
18 fact and conclusions of law. And the extension of the
19 time for filing applies as well to the City of Miami
20 and the Village of Pinecrest.

21 MR. ALBAN: Thank you.

22 CHAIRMAN HAWKENS: In accordance with NRC
23 regulations, the Board will endeavor to issue our
24 written decision on Contention 2.1 within 90 days
25 after the record on this matter is fully closed.

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1 Which will occur when we issue our order on the
2 parties' joint motion for transcript corrections.

3 I will note that on April 18 the Board did
4 receive a newly proffered contention and a Petition to
5 Intervene of the Village of Pinecrest and the City of
6 Miami and the City of South Miami. That filing is
7 scheduled to be fully briefed I believed May 22.

8 And once it's fully briefed, we will take
9 that matter under consideration. But it's a matter
10 that is separate and distinct from Contention 2.1,
11 which we're dealing with here.

12 Before we adjourn, on behalf of the Board,
13 I'd like to thank the witnesses for their
14 contributions throughout the proceeding. And in
15 particular yesterday and today for coming and
16 answering our questions. The Board has benefitted
17 from your input. And we thank you very much.

18 And likewise, we're grateful for the
19 advocacy from counsel. That will go far in assisting
20 us in making our decision in this case. So thank you
21 very much.

22 And finally, I'd like to acknowledge the
23 City of Homestead, their officials and employees who
24 have provided support for us today. And who allowed
25 us to use this facility.

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1 I'd like to identify several of them by
2 name. George Gretsas, the City Manager, Elizabeth
3 Sewell, Patty Sullivan, and Julisa Chavez. As well as
4 the Sheriff and Police Department, Detective Simmons,
5 Officer Guerrero, and Lieutenant Rodriguez.

6 With that, let me ask, does counsel have
7 any other matters that they wish to address before we
8 adjourn?

9 MS. CURRAN: Not from the Joint
10 Intervenors. Thank you.

11 DR. BURNETT: Mr. Alban?

12 MR. ALBAN: Not from the City of Miami.
13 Thank you.

14 MR. LEPRE: Not from the Applicant.
15 Thanks.

16 MS. WRIGHT: We have nothing further.

17 CHAIRMAN HAWKENS: Thank you very much.
18 We stand adjourned.

19 (Whereupon, the above-entitled matter went
20 off the record at 11:23 a.m.)

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