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Title: 10 CFR 2.206 Petition Review Board
RE Turkey Point Nuclear Power Plant

Docket Number: (n/a)

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UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

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10 CFR 2.206 PETITION REVIEW BOARD (PRB)

CONFERENCE CALL

RE

TURKEY POINT NUCLEAR POWER PLANT

+ + + + +

TUESDAY

MAY 10, 2016

+ + + + +

The conference call was held, Jane Marshall, Deputy Director of the Division of Licensee Renewal, presiding.

PETITIONER: THOMAS SAPORITO

NRC HEADQUARTERS STAFF:

JANE MARSHALL, Deputy Director, Division of
Licensee Renewal

AUDREY KLETT, Project Manager, Office of
Nuclear Reactor Regulation

STEVEN GARRY, Senior Health Physicist, Office
of Nuclear Reactor Regulation

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WILLIAM FORD, Groundwater Hydrologist,

Division of Licensee Renewal

MICHAEL SMITH, Health Physicist, Office of

Nuclear Reactor Regulation

SHELBIE LEWMAN, Attorney, Office of the General

Counsel

LEE BANIC, 2.206 Petition Coordinator, Office

of Nuclear Reactor Regulation

BRIANA GRANGE, Biologist, Division of Licensee

Renewal

NRC REGION II STAFF

LADONNA SUGGS, Branch Chief for Turkey Point

ADAM WILSON, Project Engineer, Project Branch

III

ALSO PRESENT

TOM SUMMERS, Site Vice President, Turkey Point

MICHAEL PEARCE, General Manager, Turkey Point

STEVE HAMRICK, Counsel

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P R O C E E D I N G S

(2:01 p.m.)

MS. KLETT: Welcome, everyone, and thank you for attending this meeting. My name is Audrey Klett, and I am the NRC's Licensing Project Manager for Turkey Point Units 3 and 4.

The purpose of this meeting is for the Petitioner, Mr. Thomas Saporito, to address the NRC's Petition Review Board, or PRB, per his request, regarding his petition dated March 23rd, 2016.

This meeting is scheduled to last from 2:00 o'clock p.m. to about 3:30 p.m. Eastern Time, to allow the Petitioner one hour to address the PRB. This meeting is being recorded by the NRC Operations Center and will be transcribed by a court reporter. The transcript will become a supplement to the petition and will be made publicly available.

At this time the people present at this meeting at NRC Headquarters will introduce themselves. As we go around the room, please be sure to clearly state your name, your position and the NRC office that you work in for the record. And I will begin.

Again, my name is Audrey Klett. My last name is spelled K-L-E-T-T. And I am the NRC's Licensing Project Manager for Turkey Point Units 3 and

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1 4 in the NRC's Division of Operating Reactor Licensing.
2 And I am also the petition manager for this petition.

3 CHAIRPERSON MARSHALL: My name is Jane
4 Marshall. I am the Deputy Division Director of NRC's
5 Division of License Renewal. And I am the PRB
6 Chairperson for this petition.

7 MR. GARRY: My name is Stephen Garry. I
8 am a Senior Health Physicist in the Office of Nuclear
9 Reactor Regulation in the Division of Risk Assessment.

10 MR. FORD: My name is William Ford. I am
11 a Groundwater Hydrologist in the Division of License
12 Renewal.

13 MR. SMITH: My name is Michael Smith. I
14 am a Health Physicist in the Office of Nuclear Reactor
15 Regulation in the Division of Risk Assessment.

16 MS. NEWMAN: My name is Shelbie Newman. I
17 am an attorney in the Office of General Counsel. I am
18 the legal advisor.

19 MS. BANIC: My name is Lee Banic. I'm the
20 2.206 petition coordinator. I work in NRR.

21 MS. KLETT: So we have completed
22 introductions at NRC headquarters. Are there any
23 other participants from NRC headquarters on the phone?

24 MS. GRANGE: Hi. This is Briana Grange of
25 NRC Headquarters on the phone. I am a biologist with

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1 the Division of License Renewal.

2 MS. KLETT: Are there any participants
3 from NRC Region 2 Office on the phone?

4 MR. SUGGS: Good afternoon. This is
5 LaDonna Suggs. I am the Branch Chief for Turkey Point
6 out of the Region 2 Office in Atlanta, Georgia.

7 MR. WILSON: And this is Adam Wilson. I'm
8 a project engineer from Projects Branch 3, Region 2.

9 MS. KLETT: Is there anyone from Florida
10 Power & Light Company, the licensee for Turkey Point,
11 on the phone?

12 MR. SUMMERS: Yes. Tom Summers, Site
13 Vice President.

14 MR. PEARCE: Michael Pearce, General
15 Manager.

16 MR. HAMRICK: Steve Hamrick, counsel for
17 FPL.

18 MS. KLETT: And, Mr. Saporito, would you
19 please introduce yourself for the record?

20 MR. SAPORITO: My name is Thomas Saporito.
21 I represent myself in the petition.

22 MS. KLETT: Okay, thank you, Mr. Saporito.

23 It is not required for members of the
24 public to introduce themselves for this call.
25 However, if there are any members of the public on the

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1 phone that wish to do so at this time, please state your
2 name for the record.

3 (No response.)

4 MS. KLETT: It is important that we each
5 speak clearly and loud enough to make sure that the
6 court reporter can accurately transcribe this meeting.
7 When you speak, please first state your name for the
8 record.

9 For those dialing into the meeting, please
10 remember to mute your phones to minimize any background
11 noise or distraction. If you do have to mute -- if you
12 do not have a mute button on your phone, this can be
13 done by pressing the star-6 keys. To un-mute, press
14 the star-6 keys again.

15 At this time I will turn the meeting over
16 to the PRB Chairperson Jane Marshall.

17 CHAIRPERSON MARSHALL: Thank you.

18 Welcome, everyone. And thank you, Mr.
19 Saporito, for bringing your concerns to the NRC. The
20 NRC's regulations in Title 10 of the Code of Federal
21 Regulations, Section 2.206, provide a way for someone
22 to ask the NRC in a public process to take enforcement
23 action related to NRC licensees for licensed
24 activities. This request is called a 2.206 petition.

25 Depending on NRC's review of the petition,

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1 the NRC could modify, suspend, revoke -- or revoke a
2 license issued by the NRC or take any other appropriate
3 enforcement action to resolve an issue. The NRC's
4 guidance for processing a 2.206 petition is in
5 Management Directive 8.11, which is available through
6 NRC's website.

7 When the NRC receives a 2.206 petition it
8 forms a Petition Review Board, or PRB. A PRB consists
9 of a chairperson, who is an NRC senior executive service
10 level manager. The PRB also has a petition manager and
11 a coordinator. Other members of the PRB are chosen
12 based on the subject of the petition.

13 Before the PRB meets about whether to
14 accept a petition for further review under the 2.206
15 process, the PRB gives the Petitioner an opportunity
16 to meet with the PRB. That is the purpose of today's
17 meeting. The Petitioner has this opportunity to
18 provide additional explanation or support for his 2.206
19 petition. The PRB will then consider this information
20 when deciding whether to accept the petition for
21 further review under the 2.206 process.

22 Today's meeting is not a hearing nor is it
23 an opportunity for the Petitioner or the public to
24 question the PRB on the merits of the issues presented
25 in the petition. No decisions regarding the merits of

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1 this petition will be made at today's meeting.

2 After Mr. Saporito's presentation, the NRC
3 and licensee may ask the Petitioner clarifying
4 questions in order to better understand the
5 Petitioner's presentation. After today's meeting,
6 the PRB will review the petition and the information
7 presented today to determine whether the petition will
8 be accepted for further evaluation. The PRB's initial
9 decision on whether the 2.206 petition will be accepted
10 for further review rests with the Petitioner.

11 Mr. Saporito will then be provided another
12 opportunity to address the PRB before it makes its final
13 decision on whether to accept the petition for further
14 review.

15 At this point I will provide a summary of
16 Mr. Saporito's petition activities to date.

17 On March 23rd, 2016, Mr. Saporito
18 submitted a 2.206 petition to the NRC about the
19 discharge of radioactive isotopes, other contaminants
20 into the environment surrounding the Turkey Point site.
21 Mr. Saporito requested that the NRC take escalated
22 enforcement action against the licensee and issue a
23 confirmatory order requiring the licensee to take the
24 nuclear reactors through a cold shutdown mode of
25 operation until certain conditions were met.

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1 These conditions include the completion of
2 an independent assessment and of corrective actions for
3 the source and impacts of the discharge of radioactive
4 isotopes and other contaminants, and an update to the
5 plant's Final Safety Analysis Report.

6 As a basis for his request, Mr. Saporito
7 included two reports in his petition dated March 23rd,
8 2016. His first report is an attachment to the
9 memorandum dated March 7th, 2016, from the Miami-Dade
10 County Mayor Carlos A. Gimenez to the Miami -- I'm
11 sorry, Miami-Dade County Board of County
12 Commissioners. This report appears to have been
13 prepared by the Division of Environmental Resources
14 Management in Miami-Dade County Department of
15 Regulatory and Economic Resources.

16 The second report is a study completed by
17 Dr. David Chin at the University of Miami. This study
18 is available from the Miami-Dade County Department of
19 Regulatory and Economic Resources website.

20 On May 8th and 9th, 2016, the Petitioner
21 provided 12 more attachments to his petition, which
22 included newspapers articles, NRC and licensee
23 environmental reviews, and the licensee's license
24 renewal application.

25 On March 29th, 2016, the NRC's petition

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1 manager contacted Mr. Saporito to discuss 10 CFR 2.206
2 and to offer an opportunity to address the PRB. Mr.
3 Saporito requested to address the PRB by teleconference
4 prior to the PRB's initial recommendation to accept or
5 reject the petition for review.

6 On April 7th, 2016, the PRB met internally
7 to determine whether immediate NRC actions were needed
8 based on the issues presented in the petition.

9 On April 22nd, 2016, the NRC's petition
10 manager called Mr. Saporito and left him a message that
11 the PRB determined that his petition did not raise
12 public health or safety issues that necessitated
13 immediate enforcement actions to shut down Turkey
14 Point.

15 On April 25th, 2016, the NRC's petition
16 manager contacted Mr. Saporito about a scheduling
17 change to the teleconference. The petition manager
18 also informed the Petitioner that on April 29th, staff
19 would be participating in a Florida State Senate
20 workshop about Turkey Point's cooling canal system, and
21 provided the Petitioner a website link that had
22 information about the workshop.

23 This concludes the summary of the
24 activities to date regarding this petition.

25 A reminder for the phone participants:

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1 please state your name if you speak. This will help
2 with developing the meeting transcript that will be
3 made publicly available.

4 Mr. Saporito, I will now turn it over to
5 you to provide any information you believe the PRB
6 should consider when reviewing your petition. You
7 have one hour for your presentation.

8 MR. SAPORITO: All right. Thank you, Mr.
9 Chairman.

10 So, for the record, my name is Thomas
11 Saporito and I represent Saproani Associates in this
12 matter, which we are the Petitioners in these
13 proceedings.

14 On March 23rd, 2016, an enforcement
15 petition was submitted to the U.S. Nuclear Regulatory
16 Commission, or NRC, under 10 CFR 2.206 related to
17 licensed operations at the Florida Power & Light
18 Company Turkey Point Nuclear Plant. In relevant part,
19 the petition requests that the NRC take escalated
20 enforcement action against the licensee and issue a
21 confirmatory order to the licensee requiring the
22 licensee to take their nuclear reactors to cold
23 shutdown mode of operation until such time as the
24 following items could be completed:

25 That the licensee complete an independent

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1 assessment to fully understand and correct the
2 potential and/or realized threat to the public and
3 environment related to the operations of the Turkey
4 Point Nuclear Plant Units 3 and 4 regarding the
5 discharge of radioactive isotopes and other
6 contaminants into the surrounding environment, and;

7 That the licensee complete a comprehensive
8 evaluation of the Turkey Point Nuclear Plant Units 3
9 and 4 regarding the source of the discharge of
10 radioactive isotopes and other contaminants into the
11 surrounding environment, and;

12 That the licensee identify and implement
13 measures to correct any deficiencies in the Turkey
14 Point Nuclear Plant Units 3 and 4 regarding the
15 discharge of radioactive isotopes and other
16 contaminants into the surrounding environment, and;

17 That the licensee complete an updated
18 approved Final Safety Analysis Report, or FSAR, of the
19 Turkey Point Nuclear Plant Units 3 and 4 regarding the
20 discharge of radioactive isotopes and other
21 contaminants into the surrounding environment.

22 In support of the petition, I submitted one
23 attachment, a 5-page memorandum, dated March 7th, 2016,
24 from Carlos A. Gimenez, G-I-M-I-N-E-Z, Mayor for
25 Miami-Dade County, and the Honorable Chairman Jean

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1 Monestime, M-O-N-E-S-T-I-M-E, and Members of the Board
2 of County Commissioners.

3 In further support of the petition I
4 subsequently submitted 13 additional attachments for
5 a sum total of 14 attachments. To the extent that the
6 NRC has allowed me one hour to address the Petition
7 Review Board, or PRB, today, only the following
8 attachments should be referenced during this
9 teleconference call: Attachments 1, 2, 4, 7, 9, 11, 12,
10 13, and 14. Should the NRC require input from me
11 related to the other attachments, please advise at a
12 later date via email.

13 So before I discuss the specifics of the
14 enforcement petition, I want the public record to be
15 perfectly clear about the circumstances leading up to
16 the deteriorated conditions at the FPL Turkey Point
17 Nuclear Plant. You folks may have seen recent national
18 news broadcasts about the lead poisoning of thousands
19 of people in the Flint, Michigan area, including
20 children and babies. Those people trusted government
21 regulators and elected government officials to protect
22 their health and safety related to the drinking water
23 provided to them by the city.

24 Indictments of numerous individuals have
25 been exercised stemming from investigations that

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1 showed employees and government officials were
2 apparently complicit in knowingly pumping tainted
3 water from the local river to thousands of area
4 residents. The governments regulators miserably
5 failed to protect the health and safety of the public
6 in those circumstances.

7 This is but one significant example
8 showing the failure of a government agency to protect
9 the health and safety of the public. There are many,
10 many more examples, such as the Pilgrim Nuclear Plant
11 and the Indian Point Nuclear Plant, which the NRC
12 knowingly allowed the plants to conduct licensed
13 operations with severely embrittled reactor vessels
14 which could crack in a pressurized thermal shock event
15 at any moment.

16 The Turkey Point Nuclear Plant also has
17 severely embrittled reactor vessels subject to
18 cracking from a pressurized thermal shock event at any
19 moment. But the NRC granted FPL a 20-year extension
20 allowing the plant to continue licensed operations well
21 beyond the plant initial safety design basis.

22 How do the tens of thousands of people
23 living in the New York City area and the Miami, Florida
24 area evacuate in time? The obvious answer is that they
25 cannot evacuate in a timely manner, and they are

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1 instructed to stay in place.

2 Nuclear disasters in Japan and in Russia
3 demonstrate that tens of thousands of people will
4 suffer the damaging effects of radioactive substances
5 strewn from those nuclear accidents for generations
6 following the nuclear accident. The American people
7 are sick and tired of government regulators that do not
8 protect the health and safety, and the gridlock in
9 Congress preventing meaningful change to ensure that
10 government regulators act in a proactive manner and not
11 in a reactive and passive manner to protect public
12 health and safety.

13 That is why Donald J. Trump won the
14 Republican primary elections and is likely to become
15 the next President of the United States.

16 With respect to the incident for this
17 petition, the record will show that the NRC appears to
18 be complicit with the licensee in failing to address
19 and resolve longstanding issues related to licensed
20 operations at the Turkey Point Nuclear Plant Units 3
21 and 4 regarding the canal cooling system.

22 Let me begin with a reference to Attachment
23 4 for which I will read, as follows. This document is
24 identified, for the record, as an April 17th, 2016 op
25 ed printed in the Miami-Herald newspaper and authored

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1 by Laura Reynolds. This article accurately sums up the
2 frustration and the concern of the general public
3 regarding the Turkey Point cooling canals.

4 The documents states: For Florida Power
5 and Light to downplay the contamination of its aging
6 Turkey Point nuclear reactors is self-serving and
7 misses the point. Why should customers take any solace
8 in FPL's Trust us - we'll fix it approach when the
9 reactor's cooling canal system has been leaking for
10 years, and most recently has been made worse by FPL
11 itself?

12 The Turkey Point power plant is a sprawling
13 complex with two nuclear reactors located a few miles
14 south of Miami and owned and operated by FPL. Turkey
15 Point is the only nuclear...plant in the United States
16 located on the borders of two national parks. It has
17 a cooling canal system that is different from any other
18 nuclear...plant cooling system in the country.

19 The leaking industrial wastewater
20 facility is not a new problem. But recently new data
21 revealed a direct connection from the groundwater plume
22 to the surface waters of the Biscayne National Park.
23 A recent Miami-Dade County report and an ongoing
24 University of Miami study found elevated levels of
25 tritium, which is a radioactive isotope that comes from

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1 nuclear power production, in groundwater up to 4.7
2 miles west of the facility and up to 2.1 miles east.

3 Water is the lifeblood of South Florida.
4 These un-permitted releases of wastewater pose a danger
5 to Miami-Dade's sole source drinking-water resource,
6 the Biscayne Aquifer, and to the fragile ecosystem of
7 Biscayne National Park. The leak is exacerbating
8 saltwater intrusion toward Miami-Dade drinking water
9 wells. South Florida communities everywhere are
10 struggling to contain saltwater intrusion, when
11 saltwater moves inland, underground toward drinking
12 water well sources. The reactors cooling canal system
13 is loading at least 600,000 pounds of salt per day into
14 our drinking water resource.

15 The leaking pollutants to the east into
16 Biscayne National Park poses a danger to the park's
17 sensitive ecosystem. Radioactive tritium has been
18 found in surface waters surrounding Turkey Point since
19 2010. FPL should have seen this coming -- it's been
20 ongoing for decades. Instead of working to stop the
21 leaks, mitigate the damages and find new cooling
22 technologies that use our precious water resources more
23 efficiently without loading salt directly into the
24 aquifer, the company accelerated the reactor output.
25 Now they run longer and work harder.

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1 By adding billions -- that's with a B --
2 billions of gallons of water in 2015 and adding over
3 8 cubic feet of weight to the top of the cooling canals,
4 FPL has flushed the pollution in a large pulse from
5 inside the cooling canals and the groundwater into the
6 surface waters of the Biscayne National Park. The
7 levels of tritium have been recorded at thousands of
8 times higher than what normal background levels should
9 be.

10 The so-called reactor uprates came with a
11 cost. FPL customers picked up the bill for these
12 uprates in the amount of over \$2 billion. Since the
13 uprates, FPL has not been able to keep the temperature
14 in the cooling canals at an acceptable level.

15 Let me repeat that: Since the uprates,
16 FPL has not been able to keep the temperature in the
17 cooling canals at an acceptable level -- scrambling to
18 comply with environmental and Nuclear Regulatory
19 Commission requirements to keep the reactors from
20 shutting down.

21 FPL sold the reactor uprates as a good deal
22 for customers to the Florida Public Service Commission.
23 Ultimately, FPL customers will foot the bill for this
24 gross mismanagement of our natural resources and public
25 water supply.

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1 The unfortunate irony is that FPL is now
2 requesting a rate increase from that same commission.

3 And it goes on to talk about the rate
4 increase. But then it says:

5 It's stunning that the company would
6 request more profit at the same time its Turkey Point
7 reactors are leaking pollutants. Moreover, FPL wants
8 to add two new proposed reactors -- for which its
9 customers are already footing the bill. Is it a good
10 idea to allow this utility to expand a troubled
11 industrial facility abutting a national park to the
12 east and drinking water wells to the west in the face
13 of sea-level rise?

14 Where are the regulators who should be
15 protecting us and the environment?

16 And that, that actually sums up the
17 attitude, the frustrations of South Florida residents.

18 Next let me reference Attachment 7. This
19 document is identified for the record as a April 21st
20 newspaper article in the Miami-Herald and authored by
21 Jenny Staletovich, S-T-A-L-E-T-O-V-I-C-H. This
22 article provides an accurate time line of events
23 leading up to the current deteriorated Turkey Point
24 cooling canals. Notably, references made in this
25 document are wholly supported by substantial evidence

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1 shown in other attachments that will be discussed here
2 today.

3 The article states, In the wake of
4 revelations last month that its aging cooling canals
5 at Turkey Point were leaking into Biscayne Bay, Florida
6 Power & Light rushed to do damage control: company
7 leadership went on the defensive, insisting they were
8 acting responsibly and, in a full page add, blaming
9 misinformation for fanning unfounded fears.

10 They are quoted as saying, 'We're not
11 punting on this at all, President and CEO Eric Silagy
12 told the Miami Herald editorial board earlier this
13 month as he laid out a list of on-going fixes.

14 'If this company has given that
15 impression, that's my fault, he said. What is
16 frustrating a little bit is we've been working really
17 hard over the decades to do the right thing.'

18 But critics contend the powerful utility
19 worked even harder at delay tactics in the face of
20 mounting evidence that its compromised canal system had
21 produced an underground plume of saltwater threatening
22 nearby drinking supplies and contaminating Biscayne
23 Bay.

24 Records show FPL had been warned for years
25 about problems and even conducted its own research in

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1 2010 that concluded its key fix -- adding millions of
2 gallons of brackish water to freshen the super salty
3 canals -- would likely make the plume worse. After
4 overheated canals forced the plant's two reactors to
5 partially power down in 2014, the utility pushed state
6 regulators and water managers repeatedly to add more
7 water, solutions that would allow it to continue
8 operating under Nuclear Regulatory Commission limits
9 but potentially increase the extent and the speed of
10 saltwater seepage from the unlined canals.

11 At the time, the company was still publicly
12 insisting its canals were definitely a closed system
13 not impacting any other source of water.

14 The end result, say environmentalists and
15 others who pushed FPL to move faster over the years,
16 are patchwork fixes and shortsighted solutions that
17 they say have failed to deal with broader problems
18 caused by the 44-year-old canals.

19 'They're band-aids, said Steve Torcise,
20 T-O-R-C-I-S-E, whose family has operated a rock mine
21 just west of the canals for 90 years and earlier this
22 year won a legal fight demanding the state overhaul a
23 management plan that allowed FPL to add more water
24 without fully addressing the impact on the plume. An
25 administrative law judge in February faulted the

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1 Florida Department of Environmental Protection for
2 being too weak and not citing FPL.

3 Despite the criticism, the DEP on Thursday
4 approved the plan, dismissing many of the judge's
5 findings. In a 28-page decision, DEP Secretary Jon
6 Steverson wrote the judge inappropriately invaded the
7 exclusive province of the state's ability to regulate
8 the utility. The city of Miami, which had joined the
9 lawsuit with Torcise, plans to appeal.

10 Then further to that, 'We will be pursuing
11 all available appellate remedies to challenge this
12 ruling, said deputy city attorney Barnaby Min.

13 In the meantime, the salt plume continues
14 to grow. According to the DEP's own 2014 management
15 plan, it has advanced at a rate of 525 to 660 feet per
16 year with up to 600,000 pounds of salt escaping daily
17 from the canals. That's pure salt, not salty water.

18 'FPL...should have shared that they were
19 working on a solution, instead of fighting us in court,
20 said Miami-Dade County Commission Daniella Levine
21 Cava, who pressed for information from additional
22 monitoring wells that this year confirmed the presence
23 of tritium, a radioactive isotope used to trace
24 cooling...water, in Biscayne Bay.

25 Their first order of business has to be to

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1 do no harm to our community and to our environment, --
2 asked the Environmental Protection Agency to weigh in,
3 joining Representative --

4 MS. KLETT: Mr. Saporito, this is Audrey
5 Klett. Can you hear me?

6 MR. SAPORITO: Yes.

7 MS. KLETT: We're having trouble hearing
8 you. I think your phone connection isn't working, at
9 least for the past couple of sentences.

10 MR. SAPORITO: Can you hear me now?

11 MS. KLETT: Yes, I can hear you now.

12 MS. KLETT: All right. I sound like a
13 Verizon commercial.

14 All right, here we go.

15 Worsening conditions have also caught the
16 attention of Monroe County, which operates its only
17 well field west of the canals. The county, which this
18 week passed a resolution raising concerns, is
19 considering buying land further west to relocate its
20 well field as well as build an additional reverse
21 osmosis plant in Key West, an expensive option that can
22 make salt water fit for human consumption.

23 And it quoted, it quoted, 'The cooling
24 canals have been on our radar screen as long as I've
25 been here, said Florida Keys Aqueduct Authority deputy

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1 director Tom Walker. We literally have a line we
2 watch.'

3 How FPL got to this point is a complex path
4 of regulatory decisions and company expansion,
5 complicated by the singular design of the cooling
6 canals. Turkey Point is the only nuclear plant in the
7 country that uses the radiator-like cooling system
8 spanning 5,900 acres. It also sits atop the Biscayne
9 Aquifer, a pitted layer of coral rock that looks more
10 like a hardened sponge than solid ground.

11 In 1972, when the canals were created --
12 a compromise FPL says it was forced to accept after
13 federal environmental regulators sued in court to stop
14 the plant from dumping cooling water directly into the
15 bay -- it was understood canals in such porous geology
16 would leak. So the design included a critical feature:
17 a straight, deep canal, called an interceptor ditch,
18 to stop saltwater piling up under the canals from
19 migrating west.

20 Engineer Ed Swakon created --

21 I'll move on to the next paragraph.

22 The interceptor ditch was important
23 because South Florida's drinking water supply also sits
24 just below the surface in the Biscayne aquifer. Canals
25 dredged in the 1940s to drain the Everglades had caused

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1 the salt front to migrate inland. But over the years
2 water managers installed hundreds of gates and other
3 controls to stop migration -- and in some cases, even
4 reverse it.

5 But by the 1980s, there already was an
6 indication that Turkey Point's ditch wasn't effective,
7 with the underground salt front moving just west of what
8 was supposed to be -- or what was supposed to act as
9 a barrier.

10 Under all five management plans for Turkey
11 Point drawn up by the Florida environmental regulators
12 and water managers over the decades, FPL has been under
13 orders to maintain the quality of surrounding
14 groundwater. A network of monitoring wells was dug to
15 keep watch.

16 Over the years, the number of wells
17 dwindled, falling to just four by 1983. If state
18 regulators were watching them, they weren't doing it
19 very closely, said consulting engineer Ed Swakon.
20 Torcise hired him to investigate the plume after plans
21 to expand a rock mine near Homestead were nearly
22 derailed when environmental regulators wondered
23 whether mining would pull the saltwater front inland.

24 In 2007, Swakon went to the South Florida
25 Water Management District, the regulatory agency

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1 keeping tabs on salt water intrusion, and asked for old
2 records. To his surprise, Swakon found salinity in
3 groundwater spreading and spiking. By 2001 and 2002,
4 readings showed the front -- water with higher salt
5 concentrations than in Biscayne Bay -- had reached
6 Southwest 137th Avenue about three miles to the west.

7 'The way the reports were written, they
8 never really --

9 'The way the reports were written, they
10 never really did a long term history of the data. They
11 only compared quarter to quarter and there was very
12 little difference, he said. But if you really plotted
13 it, and somebody had taken the time, they would have
14 seen each successive quarter got a little worse and a
15 little worse.'

16 Swakon said he and Torcise met with FPL
17 officials to report their findings, but got no
18 response. An FPL spokesman later called them
19 unfounded allegations. At the time, the utility was
20 in the midst of hammering out a new administrative order
21 required by a \$3 billion uprating project of Turkey
22 Point's two nuclear reactors that FPL said it needed
23 to keep up with increasing demand: as much as 40
24 percent of the power the county needed was being
25 imported, FPL officials said in a 2007 zoning meeting.

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1 The uprate would increase power output by
2 15 percent but also raise temperatures in the cooling
3 canals, with the effect of increasing evaporation and
4 salt concentrations. FPL officials planned to offset
5 additional heat going into the canals by shutting down
6 the plant's two oldest fossil fuel burning units. The
7 move was expected to cap the heat increase to only 2.5
8 degrees -- an impact FPL insisted would not affect the
9 operation of the canals.

10 But modeling done by the United States
11 Geological Survey in 2009 found that as the canals grew
12 hotter and saltier, they could potentially shoot saline
13 fingers to the bottom of the 98-foot-thick aquifer --
14 sometimes as fast as a few days. The extra salty water
15 could then spread laterally, expanding the plume.

16 Water managers, whose approval was key to
17 the uprating moving forward, wanted to know if the
18 interceptor ditch was still an effective barrier. At
19 the time, FPL officials assured them that it was.

20 Engineers who designed the ditch weren't
21 so confident. According to a report compiled this year
22 by University of Miami hydrologist David Chin for
23 Miami-Dade County, the engineers worried as early as
24 1971 that saltwater could migrate inland even if the
25 ditch was properly operated. Chin also found the ditch

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1 only blocks shallow saltwater from spreading -- and the
2 canal system was pushing it deeper into the Biscayne
3 aquifer.

4 Faced with increased scrutiny, FPL hired
5 its own engineers to look for remedies, according to
6 an in-house study Torcise obtained in his recent
7 lawsuit. Completed in August 2011, the study found
8 that canal water had moved 3.5 miles west of the plant
9 and was spreading at a relatively brisk pace of 500 feet
10 a year. In response to a question, an FPL spokesman
11 this week revised that figure, saying the rate has since
12 slowed to just over 120 feet a year.

13 FPL's engineers offered five
14 alternatives, including building massive slurry walls
15 underground to stop water from moving at a cost of
16 \$134.4 million. But the cheapest and preferable
17 alternative, the engineers said, was adding fresher
18 water from the Floridan aquifer.

19 'The alternative is attractive because it
20 effectively removes the source of the hypersaline
21 water, engineers wrote. But a potentially negative
22 aspect of the remedy, they said, was it did nothing to
23 stop the westward movement of saltwater. Nor did the
24 other four, the other four remedies that they don't want
25 to talk about.

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1 Despite the findings, FPL officials in
2 2010 and 2011 continued to work with water managers on
3 an elaborate monitoring plan that also for the first
4 time included checking for tritium, a radioactive
5 isotope found in canal water that could be used as a
6 tracer. In 2011, as part of their effort to confirm
7 tritium as the best tracer, district hydrologists John
8 Janzen and Steve Krupa found that canal water was in
9 wells at Southwest 137th Avenue. Tritium was also
10 found in surface water just east of the canals at the
11 mouth of the Card Sound Canal. To get a better read,
12 the hydrologists recommended installing a better
13 network of wells.

14 But in its annual post-uprate report in
15 October 2012, FPL continued to debate the 2009 United
16 States Geological Study findings of the expanding
17 plume, arguing that the wells used by the agency might
18 not be connected or in the same zone because of the
19 complex geology of the area. Still, the utility agreed
20 a plume existed and offered solutions.

21 FPL managers now say the location of the
22 saltwater plume wasn't in dispute -- just the exact
23 cause of it.

24 'We always said we were part of it, but
25 there's other factors, including lowering the water

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1 table seasonally for nearby farmers, senior project
2 director Steve Scroggs said this week. It's easy to
3 say it's all FPL. It's not.' According to him.

4 Meanwhile, the boundaries of the tritium
5 were growing clearer. A Miami-Dade County contour map
6 of samples in 2011 and 2013 show tritium detected well
7 beyond the cooling canal boundaries. County officials
8 had been keeping an eye on the wells, but had no
9 authority without a water quality violation, said Lee
10 Hefty, direct of the Division of Environmental
11 Resources Management. Instead, he said, they pushed
12 for the district to act.

13 In April 2013, the Water Management
14 District finally officially notified FPL that the
15 canals were in violation. The utility responded,
16 asking to add 15 million gallons of water a day from
17 the Floridan aquifer, which it said would reverse the
18 plume, a prediction that contradicts the earlier 2010
19 report. But district hydrologist Jeff Giddings found
20 FPL used faulty modeling. While adding Floridan water
21 reduced salinity in the canals, it did nothing to reduce
22 the underground plume.

23 District Consultant William Nuttle also
24 concluded more water would just increase seepage and
25 warned that FPL failed to account for local conditions,

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1 including a major change on the horizon: and that's
2 called sea rise. A foot sea rise, now predicted by the
3 National Oceanic and Atmospheric Administration by
4 2030, would put the shoreline west of the canals.

5 As the agencies tried to hammer out a deal,
6 temperatures in the canal spiked in the summer of 2014,
7 prompting the utility to scramble for solutions,
8 including getting operating limits raised to 104
9 degrees, the highest in the country, and an emergency
10 permit to pump up to 100 million gallons of water a day
11 from a nearby drainage canal. The utility also began
12 pumping water from unregulated marine wells.

13 Over the next year, Miami-Dade County
14 officials estimate that FPL pumped more than 12 billion
15 gallons -- that's 12 billion with a B -- gallons of water
16 into the canals. Half of that came from the marine
17 wells with a quarter coming from the nearby L-31E canal.
18 Rain supplied just 37 percent, even though company
19 officials say rain remains the primary source of water
20 to address increasing evaporation with higher
21 temperatures.

22 What caused the spike remains in dispute.
23 Chin, whose final report is due next month, concluded
24 that the uprating project caused it.

25 Let me repeat that: Chin concluded that

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1 the uprating project caused the rising temperature in
2 the canals.

3 FPL blames a local drought. In July 2014,
4 FPL environmental services director Matt Raffenberg
5 said rainfall over the canals amounted to just 5.29
6 inches and only 20 inches in all in 2013.

7 'If it's such an important facility, you
8 would expect its design would not be based on the
9 weather, Hefty said. It sounds like a funny thing to
10 say, but really it's a fairly significant facility. I
11 would have expected their design engineers would have
12 contemplated how that facility would operate without
13 rain.

14 FPL's Scroggs also said that when the
15 canals were briefly shut down, sediment built up in the
16 northwest corner, which slowed flow, turned the water
17 browner and hotter, and caused an algae bloom to spread.
18 Sediment had not been removed from the canals since
19 1990s, Scroggs said, because it is expensive.

20 When the state finally issued a new
21 administrative order in late 2015, allowing FPL to pump
22 more water into the canals to lower salinity and abate
23 the plume without fully spelling out how, Torcise,
24 environmentalists, neighboring cities and the county
25 sued. Last month, a Tallahassee administrative law

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1 judge ordered FPL to redo the plan after it failed to
2 cite FPL for a specific violation.

3 On Thursday, DEP chief Steverson wrote
4 that the order in fact contained remedies which were
5 not suitable for judicial review and that choosing to
6 fix the problem, rather than penalize FPL, was up to
7 the department.

8 The state's decision, South Miami Mayor
9 Phil Stoddard said, comes as no surprise given the
10 utility's political connections.

11 He reportedly said, 'I suspect there's
12 incentive enough for DEP to disrespect the
13 administrative law judge and the public welfare to
14 avoid holding FPL responsible for the environmental
15 damage they've done.'

16 On May 15, FPL is also due to submit a
17 clean-up plan to the county, which pulled out of the
18 suit and hammered out its own deal. The plan called
19 for FPL to install extraction wells to pump the extra
20 salty water deep into the border zone, which
21 environmentalists worry won't do enough to address the
22 plume. To address high levels of ammonia and
23 phosphorus leaking the bay, FPL also dug a 30-foot deep
24 well east of the canals, which it did without consulting
25 the county environmental staff, prompting another

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1 letter from Hefty to better spell out plans.

2 FPL now says the cooling canals are back
3 under control, that salinity is a third lower than last
4 summer and, now that they've cleared sediment and have
5 permission to add water from the deeper brackish
6 Floridan aquifer, they expect the canals to work
7 properly. Efforts to address the plume was delayed not
8 by them, Scroggs said, but by a complicated
9 bureaucratic system.

10 'For years people knew about this and
11 everybody talked about what we would do. Well, we
12 finally broke through that, he said. I'm living
13 everyday with the delays and the questions and the go
14 back and do this and the back and forth. It's an
15 incredibly complex process with multiple people and
16 multiple interests. But at the end of the day, we've
17 moved to a place where we're taking action.'

18 That's the end of that article. But that
19 gives the PRB a good time line of the facts of what has
20 happened almost to date.

21 Now I'm going to move on to Attachment 14.
22 I noted here that Attachment 14 and Attachment 11 go
23 together since they're related to the same subject
24 matter. To the extent that Attachment 11, 11 indicates
25 a date of September 8th, 2000, it provides a useful

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1 reference to the undated document in Attachment 14 that
2 follows.

3 This document is identified, for the
4 record, as FP&L's application for a renewed operating
5 license at the Turkey Point Nuclear Plant 3 and 4. I
6 note here that this document contains 802 pages with
7 only about five pages that reference the Turkey Point
8 cooling canals. Find FPL's page in this nomenclature
9 at the bottom right-hand corner of each page.

10 Page 2.4-15 and 2.4-16 state, entitled 2.4
11 -- is a paragraph entitled 2.4, 2.4 cooling water
12 canals. The cooling water canals serve as the plant
13 ultimate heat sink. The cooling water canals
14 constitute a closed cooling system made up of earthen
15 canals that provide cooling and discharged water prior
16 to re-use at the intake structure. The cooling water
17 canals, as shown on Figure 3.1-2 of the license renewal
18 application environmental report.

19 The next page, 2.4-16 states that the
20 cooling water canals are in the scope of license renewal
21 because they provide a source of cooling water for plant
22 shutdown.

23 A complete list of cooling water canal
24 structural components require an aging management
25 review and the component intended functions are

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1 provided in Table 3.6-6.

2 The aging management review for cooling
3 water canals is discussed in subsection 3.6.2.

4 Moving on to page 3.6-27, it's entitled --
5 the section 3.6.2, other structures. And the -- under
6 the first paragraph --

7 MS. KLETT: Sorry. This is Audrey Klett.

8 For those on the phone that are not
9 speaking, can you please mute your phone? We can hear
10 a dog barking in the background. It's pretty
11 disruptive.

12 MR. SAPORITO: Thank you, Audrey.

13 Farther down on that page it says cooling
14 water canals. Okay, that's the next reference.

15 And then on page 3-42 there's a paragraph
16 entitled Section 3.6.2.4, miscellaneous structural
17 components. Second item down in there it's stated,
18 cooling water canals.

19 And then at page 3.6-44 it states, cooling
20 water canals provide a source of cooling water for plant
21 shutdown. The heat load for shutdown is a small
22 percentage of the normal operating heat load.
23 Weathering and organic decomposition on aging
24 mechanisms which could lead to a loss of material of
25 the cooling water canals that could cause loss of

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1 intended functioning.

2 The next two paragraphs we'll skip.

3 And the next paragraph it says, based on
4 the loss of material due to weathering, corrosion and
5 organic decomposition is an aging effect requiring
6 management for miscellaneous structural components.

7 Okay? So the aging management of the
8 canal cooling system at Turkey Point was part of FPL's
9 application to the NRC to renew their operating
10 licenses, to extend them an additional 20 years the NRC
11 granted.

12 So what does this all mean? It means that
13 the NRC appears to have knowingly granted FPL a 20-year
14 extension for the Turkey Point Nuclear Plant Units 3
15 and 4 without ensuring that the licensee had a proper,
16 active and functioning aging management program in
17 place in the Turkey Point cooling canal system. This
18 apparent and blatant failure on the part of the NRC
19 violates the agency's mission statement and
20 congressional mandate which states that the Nuclear
21 Regulatory Commission, or NRC, was created as an
22 independent agency by Congress in 1974 to ensure the
23 safe use of radioactive material for beneficial
24 facility purposes, while protecting people and the
25 environment. The NRC regulates commercial nuclear

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1 power plants and other uses of nuclear material, such
2 as in nuclear medicine, through licensing, inspections
3 and enforcement of its requirements.

4 So in this instance it appears that the NRC
5 failed to protect public health and safety and failed
6 to protect the environment when the agency granted a
7 20-year license extension to FPL without first ensuring
8 that the licensee complied with the agency's
9 regulations and requirements with respect to the
10 cooling canal system's aging program.

11 Indeed, where's the NRC's independent
12 assessment in the Turkey Point cooling canal system
13 aging program? It appears that the agency merely
14 adopted and accepted FPL's statements on their face.
15 Is that how the NRC is mandated by Congress to carry
16 out its mission statement?

17 I have children and now grandchildren who
18 live in South Florida. And I am gravely concerned that
19 the NRC is in bed with the licensee FPL, allowing
20 licensed operations at the Turkey Point Nuclear Plant
21 in violation of the agency's regulations and
22 requirements, which will ultimately result in a nuclear
23 accident similar to the Fukushima nuclear accident
24 where two nuclear reactors melted down and spewed
25 radioactive substances into the environment.

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1 That nuclear accident to this very --
2 continues to this very day, and will continue for
3 decades to come.

4 Next let me reference Attachment 12. For
5 the record, this document is dated in the year 2010,
6 entitled License Amendment Request Extended Power to
7 Operate. This request is for the Turkey Point Nuclear
8 Plant Units 3 and 4. The page numbers of FPL is at the
9 bottom of each page.

10 So at page ATT.3- -- .7-3 it says at 1.0,
11 Executive Summary, that this supplemental
12 environmental report contains Florida Power & Light
13 assessments of environmental impact of proposed Turkey
14 Point Nuclear Plant's 3 and 4 extended power uprate and
15 the current four level of 2,300 megawatts thermal,
16 2,644 each. With the EPU, or extended power uprate to
17 the nuclear supply system level, heat will be 2,652 MWt.

18 The intent of this supplemental
19 environmental report is to provide sufficient
20 information for the United States Nuclear Regulatory
21 Commission, NRC, to evaluate the environmental impact
22 of the EPU in accordance with requirements of 10 CFR
23 51. This report is applicable to both TPN Units 3 and
24 4.

25 The bottom of that same page states the

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1 generation of low level radioactive waste will not
2 increase significantly over the current generation
3 rate. There will be minimal changes in the volume of
4 radioactive effluent, liquid and gases, released to the
5 environment. Although the radioactive content of the
6 liquids and gases releases will increase slightly, they
7 will remain bounded by the analysis in the Final
8 Environmental Statement, or FES, related to operation
9 of the Turkey Point plant.

10 Florida Power & Light inspections of the
11 project will not impact wetlands and nearby waters.
12 There will be no increase in the amount of water
13 response as a result of the project.

14 And this last, that last statement was at
15 page ATT.7-21. And the third paragraph of that page
16 I just read states that each nuclear unit produces about
17 3 -- produces about 5.35 billion BTUs per hour of waste
18 heat discharge to the cooling canal at full load.
19 After the uprate, that volume will increase to about
20 6.10 billion BTUs per hour. The predicted temperature
21 difference -- he goes on to talk about the plant.

22 And it says these changes are
23 insignificant relative to the existing seasonal
24 changes of up to 20 degrees Fahrenheit at every -- any
25 given location in the system.

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1 At page ATT.7-27, in the middle of that
2 page it says under the heading of Threatened and
3 Endangered Terrestrial Species, it says no adverse
4 impact to federal or state listed terrestrial plants
5 or animals are expected during the daily operations due
6 to the existing developed nature of the habitat. No
7 long-term change in the populations of threatened or
8 endangered species is anticipated as a result of
9 operations of TPN 3 and 4.

10 No changes in wildlife population at the
11 adjacent undeveloped areas are anticipated included in
12 the listed species, and the project is not anticipated
13 to deter continued visits by wildlife from the outer
14 belt areas in the Turkey Point boundaries. An impact
15 also will not change.

16 Now, the last paragraph says the Turkey
17 Point cooling canal system is a permitted wastewater
18 treatment facility. As a result, state and federal
19 water quality standards need not apply within. The
20 effect of the operation of the project upon aquatic
21 biota in an enclosed cooling canal system are expected
22 to be negligible. The predicted maximum temperature
23 increase is approximately 2 degrees. The water
24 entering the canal is not anticipated to result in any
25 adverse impact to the listed American crocodile.

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1 That whole paragraph is proven to be false
2 by the evidence I've submitted to the NRC, especially
3 the articles.

4 The next page states that, on page
5 ATT.7-23, the growth rate of crocodiles varies with
6 food availability and temperature. And digestion is
7 only efficient within a certain range of aquatic
8 temperatures. Crocodile are able to regulate falling
9 temperatures. They bask on the edge of canals, on
10 berms, resting on berms alternating locations between
11 cooler and warmer canals. The maximum temperature
12 increase related to the project of about 2 degrees is
13 unlikely, can result in any significant impact to
14 crocodiles' ability to thermoregulate.

15 Laboratory experiments indicate that
16 prolonged high temperatures may be potentially
17 stressful to crocodiles. Laboratory studies
18 conducted by authorities indicate that hatchling
19 crocodiles show signs of acute thermal stress --
20 panting, pupil dilation, death, eye blinking, jerky
21 body movement, and attempts to climb out in a hurry when
22 canal temperatures exceeded 100.4 degrees Fahrenheit
23 and once air temperatures exceeded 104 degrees.

24 It's interesting that the uprate,
25 following the uprate, canal water went up to 104

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1 degrees. Well, where -- with respect, with respect to
2 Attachment 12, where are the independent studies to
3 support FPL's contentions? Because they're just mere
4 assertions in there.

5 Where's the NRC's independent assessment
6 of that request by FPL to amend their licenses,
7 operating license? Where? Where are they? Where
8 have you got these studies? What did FPL rely on, rely
9 on? What did the NRC rely on?

10 Did NRC just take FPL's version to be true?
11 Did the NRC fail to do their own assessment? I think,
12 I think that's what the facts show.

13 Okay. Next let me reference Attachment
14 13. And let me first correct the cover page of this
15 attachment which should identify the document as an
16 August 2011 NRC biological assessment with a reference
17 number of M as in Mary, L as in Larry, 112280501.

18 This document was prepared by NRC employee
19 Briana Balsam, B-R-I-A-N-A B-A-L-S-A-M. It starts off
20 with an introduction briefly stating that this
21 biological assessment was prepared to support the U.S.
22 Nuclear Regulatory Commission's review of Florida
23 Power & Light Company's extended power uprate license
24 amendment request, dated September 14th, 2010, and to
25 comply with provisions of Section 7, Endangered Species

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1 Act 1973, as amended.

2 This biological assessment again is the
3 potential impact of the Turkey Point Plant Unit 3 and
4 4 on listed species and the American crocodile. Then
5 it goes on to reference prior studies, reference
6 studies made by other agencies. It talks about
7 descriptions proposed back and under Section 2 they
8 talk about a thermal uprate FPL predicts will occur
9 after the uprate.

10 But then on page 5 of the document it talks
11 about changes to the cooling canal system. And they
12 state in the middle of the first paragraph that FPL
13 predicts that discharge water would increase a maximum
14 of an additional 2 degrees Fahrenheit, which would
15 increase the change in temperature as the water passes
16 through the condensers. Because when we talk about the
17 condensers, blah, blah, blah, the next paragraph says
18 the increased discharge temperatures will cause
19 additional evaporative rates of losses to the canal
20 cooling -- losses to the cooling canal system.

21 The Florida Department of Environmental
22 Protection predicted that an additional 2 to 3 million
23 gallons per day will be lost due to evaporation under
24 these conditions. The increased evaporation will in
25 turn increase the cooling canals salinity by 2 to 3

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1 parts per thousand. Due to the north/south
2 temperature grade, evaporative losses will be greater
3 in the northern portion of the system and salinity will
4 demonstrate a north to south gradient.

5 And then on page 10 they talk about the
6 interceptor ditch, which I talked about earlier. This
7 is a ditch which FPL claims would prevent all this
8 movement of the saltwater plume. Interceptor ditch
9 has a 3 M height banks of limestone rock fill. The
10 majority of the bank is bounded, or some of the areas
11 are vegetated with Australian pine.

12 Since from late October groundwater
13 naturally flows directionally to Biscayne Bay and parts
14 south. However, from November to April the
15 groundwater can reverse and flow inland. Under these
16 reversed groundwater flow conditions, FPL pumps water
17 into the interceptor ditch, back into the cooling canal
18 system, creating artificial plumes for groundwater
19 seepage adversely affecting freshwater habitats west
20 of the site. There's more information on that.

21 But the Chin report disputes, disputes
22 that operation as described there. That ditch, it
23 takes issues with it. And Mr. Chin has credentials
24 beyond required.

25 At page 12, under the early view, it says

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1 the NRC first initiated Section 7 in consultation with
2 FWS regarding Turkey Point in 2001 as a requirement of
3 the Turkey Point license renewal program. During this
4 qualification, NRC staff considered the potential
5 adverse effects on 23 federal listed species in its
6 biological assessment.

7 In the 2001 biological assessment NRC
8 concluded that the license renewal will have no effect
9 or was not likely to adversely affect any listed
10 species.

11 Okay, FPL -- I mean NRC consistently relied
12 on FPL, FPL's assertions, and the assertions made by
13 other agencies. Where is NRC's independent study?
14 Where is F -- the NRC's past determination concluding
15 that there will be no harm to the environment? That
16 there is no release of radioactive isotopes from the
17 plant? Where are these studies now?

18 This attachment is exhaustive. I don't
19 have time to go into the other points at this time.

20 The NRC's reliance on the speculation and
21 reports from the licensee and some other agencies is
22 a blatant failure on the part of the NRC to protect
23 public health and safety and to protect the
24 environment. Notably, and we'll discuss going
25 forward, many of FPL's assertions and the assumptions

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1 on the part of the NRC in relying on other agencies'
2 environmental reports is flawed and not consistent with
3 the NRC's mission statement.

4 Let me address Attachment 9. This
5 document is identified for the record as a July 31st,
6 2014 Federal Register notice, FPL Turkey Point UHS
7 License Amendment.

8 We start, and the pages are noted in the
9 upper right-hand corner, page number 44465, states that
10 the site features a 6,100-acre closed cooling canal
11 system, CCS, that cools heated water discharged by
12 Units 1 through 4. Unit 5 uses mechanical draft
13 cooling towers for cooling, draws makeup water from the
14 Upper Floridan Aquifer, and discharges blowdown to the
15 CCS, or the canal system. The five units and
16 supporting equipment, excluding the CCS, occupy
17 approximately 130 acres.

18 The United States Atomic Energy
19 Commission, the NRC's predecessor agency, and the NRC
20 have previously conducted environmental reviews of
21 Turkey Point in several documents, and the descriptions
22 therein continue to accurately depict the Turkey Point
23 site and environs. Those documents include the AEC's
24 July 1972 Final Environmental Statement, the NRC's
25 January 2002 Generic Environmental Impact Statement

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1 for License Renewal of Nuclear Plants regarding Turkey
2 Point Units 3 and 4. Final Report, NUREG-1437,
3 Supplement 5; ADAMS Accession Number ML020280236; and
4 the NRC's March 2012 environmental assessment and final
5 FONSI for the Turkey Point extended power uprate:
6 ADAMS Accession Number ML12074A251.

7 On the next page, page 44466. The
8 proposed action is needed to provide FPL with
9 additional operational flexibility during periods when
10 high air temperatures, low rainfall, and other factors
11 contribute to conditions resulting in a UHS, or
12 ultimate heat sink, temperature in excess of 100
13 degrees that would otherwise necessitate FPL to place
14 Turkey Point in cold shutdown.

15 Further down it says that the NRC evaluated
16 the environmental impacts of operating Turkey Point for
17 an additional 20 years beyond the original operating
18 license and predicted that the environmental impacts
19 of license renewal were small for all environmental
20 resources.

21 Here again, the assertion made by the
22 Nuclear Regulatory Commission to rely on FPL's
23 assertions and assumptions where the NRC didn't do
24 their own homework. Okay? Where's the NRC's
25 independent study? They're an independent government

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1 agency. They're supposed to be the regulator.
2 They're supposed to protect us.

3 This document goes on to talk about how
4 they reference documents that lead to conclude that
5 there will be no significant adverse effects and will
6 not affect the operations of the canal cooling system.
7 I don't have time to go into more in depth on that
8 document at this time.

9 But here again, FPL made assumptions, and
10 FPL's assertions and assumptions and reports by other
11 agencies in granting the licensee an amendment to their
12 operating license, allowing FPL to increase the canal
13 cooling water to 104 degrees Fahrenheit. In so doing,
14 the NRC has blatantly failed in its mission statement
15 to protect public health and safety, to protect the
16 environment.

17 I note here on the record that I challenge
18 FPL's license amendment request by submitting that
19 2.206 enforcement petition to the NRC. I averred in
20 that petition that the extended power operating project
21 was directly, directly related to the increase in the
22 canal water temperature. Although I provided
23 substantial documentation and evidence in support of
24 this conclusion, the NRC denied the petition and they
25 allowed FPL to continue licensed operations at Turkey

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1 Point.

2 Following that determination on the part
3 of the NRC, I subsequently filed a formal complaint with
4 the NRC Office of the Inspector General against the NRC.
5 I requested that the NRC Office of the Inspector General
6 be represented at today's teleconference call
7 accordingly.

8 Now let me address Attachment 1. This
9 document is identified on the record as a March 7, 2016
10 memorandum Carlos A. Gimenez to the Honorable Chairman
11 Jean Monestime and Members of the Board of County
12 Commissioners for Miami-Dade County. This document
13 serves to provide the NRC with a timeline and events
14 related to Turkey Point analysis. Therefore, I do not
15 intend to discuss this document further at this time.
16 It's required reading on the part of the NRC, as far
17 as I'm concerned.

18 Finally, let me address Attachment 2.
19 This document is identified for the record as a March
20 8, 2016 Chin Report on FPL's Turkey Point Nuclear Plant
21 and the Ultimate Heat Sink, UHS, canal system.

22 David A. Chin is a Ph.D., P.E., D.WRE and
23 B.C.E.E., professional professor of civil and
24 environmental engineering in the University of Miami,
25 has credentials over credentials, above and beyond the

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1 credentials. He has an executive summary that this
2 report was prepared under an agreement between
3 Miami-Dade County and the University of Miami.

4 The following issues related to the
5 operation of the cooling canal system, CCS, at the
6 Turkey Point power station were investigated:

7 Number one, temperature variations in the
8 CCS and associated impact on the surrounding
9 groundwater;

10 Number two, salinity variations in the CCS
11 and associated impact on the surrounding groundwater,
12 and;

13 Three, the effect of pumping up to 100
14 million gallons per day from L-31E Canal into the CCS.

15 The principal findings in this
16 investigation are summarized below, with analytical
17 details supporting the findings contained in the body
18 of the report. Data for this study was provided by the
19 Miami-Dade County Department of Regulatory and
20 Economic Resources.

21 CCS temperature and salinity data for the
22 4-year interval from September 1, 2010 to December 7,
23 2014 were made available for this investigation.

24 A heat-balance model was developed to
25 determine the temperature dynamics in the CCS. The

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1 results derived from the heat-balance model showed that
2 there were two distinct periods during which
3 heat-rejection rate from the power plant remained
4 approximately constant. The first period corresponds
5 to the pre-uprate conditions, and the second period
6 corresponded to the post-uprate conditions.

7 The heat-rejection rate during the second
8 period was found to be significantly greater than the
9 heat-rejection rate during the first period. As a
10 result of the increased heat addition to the CCS, the
11 average temperature of the water in the CCS has
12 increased, and in the vicinity of the power plant
13 intake, the average temperature has increased
14 approximately 2.6 degrees Fahrenheit, or 4.7 degrees
15 Fahrenheit. And I note here for the record that's well
16 in excess of FPL's assertions and assumptions which the
17 NRC relied on in granting them the LAR, the amendment
18 request for the operations.

19 This measured increase in the average
20 temperature within the intake zone is slightly greater
21 than the increase in the maximum allowable operating
22 temperature at the intake location of 2.2 degrees
23 Celsius or 4 degrees Fahrenheit that was approved by
24 the Nuclear Regulatory Commission in 2014.

25 Therefore, the increased maximum

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1 operating temperature has not reduced the probability
2 of the intake temperatures exceeding the threshold
3 value, which currently stands at 104 degrees
4 Fahrenheit. Since supplementary cooling of the CCS
5 was needed in 2014, this serves as a cautionary note
6 regarding further increases in power generation beyond
7 2014 levels without providing a reliable supplementary
8 cooling system.

9 Which amendment tells me if you have a
10 nuclear accident you're not going to be able to maintain
11 the nuclear plant in a safe shutdown mode of operation
12 and it would actually melt down.

13 Continuing on with the report, the
14 measured temperature data during the period of record
15 indicate that the thermal efficiency of the CCS has
16 decreased between the pre-uprate and the post-uprate
17 periods. Further investigation is recommended to
18 confirm the decrease in thermal efficiency of the CCS
19 and identify causative factors.

20 The assertion that higher algae
21 concentrations in the CCS were responsible for the
22 elevated temperatures in the CCS was investigated. A
23 sensitivity analysis indicates that the increased
24 algae concentrations were not likely to have been
25 responsible for the significant elevated temperatures

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1 in the CCS recorded in the mid-summer months of 2014.
2 The additional heating rate in the CCS caused by the
3 presence of high concentrations of algae is estimated
4 to be less than 7 percent of the heat-rejection rate
5 of the power plant, hence the minimal impact.

6 Further development of the heat-balance
7 model is needed, since the design of any engineered
8 system to control temperatures in the CCS must be done
9 in tandem with the heat balance model.

10 For these scientists, FPL's assertion,
11 hey, you know, we didn't have enough rain back there
12 in 2014; you know what, the algae did it. It caused
13 algae bloom. That made the heat rise in the water. Go
14 on, NRC, give us this license amendment request because
15 we've got to keep the juice running; it was all lies,
16 misrepresentations, assertions, assumptions stacked
17 one on top of another. And the NRC bought it all. The
18 NRC failed to protect, failed the public, they failed
19 to do their job, they failed the congressional mandate
20 that they are supposed to carry out according to the
21 law.

22 He goes on to say that the measured
23 groundwater temperatures in the monitoring wells
24 between CCS and the L-31E Canal have shown higher
25 temperatures than groundwater west of the L-31E canal.

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1 And this occur --

2 MS. KLETT: Mr. Saporito.

3 MR. SAPORITO: Yes?

4 MS. KLETT: This is Audrey Klett. We're
5 over the one hour allotted and we'd like some time to
6 ask you questions and to wrap this meeting up.

7 MR. SAPORITO: Oh, that's fine.

8 MS. KLETT: So I remember the last
9 petition you had notes that you were speaking to that
10 you provided to me after the petition. Could you do
11 that for this petition as well?

12 MR. SAPORITO: Well, I'll consider that.
13 But, okay, go ahead. The rest of the report, you know,
14 this report speaks for itself. I just wanted to
15 highlight certain aspects for the record for the NRC
16 Office of the Inspector General and for the public
17 because the public may not have access to all these
18 documents.

19 So I want them to understand that FPL made
20 assertions and assumptions and provided those to the
21 NRC under the pretense that these were facts which the
22 NRC should rely on in granting the license amendment.
23 But they turned out to be not actual or to be false.

24 And I made these same arguments to the NRC
25 when I contested and challenged that license amendment

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1 request with the 2.206 petition prior with the NRC. I
2 just wanted to put that all on the record.

3 MS. KLETT: Okay, thank you, Mr. Saporito.

4 CHAIRPERSON MARSHALL: Okay. Jane
5 Marshall, PRB Chair.

6 At this time does the staff here at
7 headquarters or at the region have any questions for
8 Mr. Saporito?

9 MS. KLETT: Mr. Saporito, this is Audrey
10 Klett.

11 Regarding your request for the licensee to
12 complete a UFSAR revision regarding the discharge of
13 radioactive isotopes and other contaminants into the
14 surrounding environment, could you be more specific as
15 to what information you believe should be in the UFSAR?

16 MR. SAPORITO: Yeah, I'll respond to that.
17 But give me a second here. I forgot to -- I want to
18 put on the record here, I have to put this on the record.

19 In addition to the referenced request
20 under the 2.206, I also have two supplemental requests
21 which I'm putting on the record which I'm requesting
22 be made part of the initial document.

23 First request: to require FPL to obtain an
24 independent assessment as to how climate change will
25 affect the CCS, the canal cooling system, in that a

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1 predicted rise in sea level of 1 to 3 feet would inundate
2 the CCS allowing contaminants to flow freely well
3 beyond the boundaries of the CCS.

4 And number two: NRC should require FPL to
5 respond to each and every point and/or concern raised
6 in Attachment 2, the March 8, 2016, Chin report.

7 I want those included in the original 2.206
8 request.

9 With respect to the UFSAR, you know, if
10 this plant is -- I would estimate just off the top of
11 my head about 44, 45 years old, I think it was licensed
12 way back in the 70s somewhere. I don't recall the exact
13 date anymore. But when this plant was initially
14 licensed the licensee, Florida Power & Light Company,
15 had to provide the NRC with a Final Safety Analysis
16 Report and an Updated Final Safety Analysis Report in
17 order for the NRC to issue two operating licenses, one
18 for Turkey Point 3 and one for Turkey Point 4.

19 So in those documents they would have to
20 have addressed how the proposed cooling water, or the
21 canal cooling water system, CCS, would operate and
22 function in that -- and function as an ultimate heat
23 sink to ensure that, you know, during an emergency,
24 during a nuclear accident where the reactor had to be
25 shut down that the heat is active, billions of btu's

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1 produced by the reactor even when it shut down, would
2 be able to be discharged and dissipated in that cooling
3 water of the canal system.

4 So here we have a situation years later
5 after several license amendments where the licensee
6 does not appear to be in compliance with whatever they
7 told the NRC back when they got their initial license
8 in the 70s because the component cooling water system
9 is not a closed loop system. It's leaking. It's
10 pushing radioactive isotopes well beyond its boundary
11 and threatening contamination of our drinking water,
12 threatening the environment, threatening animal and
13 wildlife and plant life.

14 And it's also spewing other contaminants,
15 like ammonia, chlorine I believe, and phosphate, and
16 who knows what else is in there.

17 So this was, this was outside the bounds
18 of their license. And it's outside the bounds of their
19 license right now, but it's also outside the bounds of
20 the license as was documented in their FSAR and updated
21 FSAR.

22 So I want the NRC to force FPL to update
23 that and provide NRC with a detailed explanation if they
24 contend that they are in compliance, how are they in
25 compliance as it relates to the functioning of the

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1 ultimate heat sink which is the canal cooling system.

2 CHAIRPERSON MARSHALL: Okay. Any other
3 questions from NRC staff?

4 MS. KLETT: No.

5 CHAIRPERSON MARSHALL: Does the licensee
6 have any questions?

7 MR. SUMMERS: The licensee has no
8 questions.

9 CHAIRPERSON MARSHALL: Members of the
10 public may provide comments about the petition and ask
11 questions about the 2.206 petition process. However,
12 as I previously stated, the purpose of this meeting is
13 not to question the NRC about the merits of the
14 petition.

15 Are there any members of the public that
16 have questions?

17 (No response.)

18 CHAIRPERSON MARSHALL: Okay, hearing
19 none, Mr. Saporito, thank you for raising your concerns
20 to the NRC and taking the time to speak with us about
21 your petition.

22 Before we conclude the meeting, does the
23 court reporter need any information for the meeting
24 transcript?

25 COURT REPORTER: No.

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1 MR. SAPORITO: With that, this meeting is
2 concluded and we are terminating the phone connection.

3 (Whereupon, the above-entitled matter
4 went off the record at 3:23 p.m.)
5
6
7

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