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Reactors Located on or Near Earthquake
Fault Lines

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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

ALL U.S. REACTORS LOCATED ON OR

NEAR EARTHQUAKE FAULT LINES

+ + + + +

WEDNESDAY

MAY 25, 2011

+ + + + +

The conference call was held, Tom Blount,
Chairperson of the Petition Review Board, presiding.

PETITIONER: THOMAS SAPORITO

PETITION REVIEW BOARD MEMBERS

TOM BLOUNT, Chairman

PETER TAM, Petition Manager

LAUREN GIBSON, Backup Petition Manager

TANYA MENSAH, PRB Coordinator

NRC HEADQUARTERS STAFF

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11 HAROLD CHRISTENSEN, Deputy Director, Division of
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13 NRC REGION III
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16 TOM FARNHOLTZ, Engineering Branch Chief, Engineering
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A G E N D A

WELCOME AND INTRODUCTIONS 4

Peter Tam, Petition Manager

PRB CHAIRMAN'S INTRODUCTION 7

Tom Blount, PRB Chairman

PETITIONER'S PRESENTATION 15

Thomas Saporito

PRB CHAIRMAN'S CLOSING REMARKS 47

Tom Blount

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P R O C E E D I N G S

(3:05:28 p.m.)

1
2
3 MR. TAM: I'd like to thank everybody for
4 attending this meeting. My name is Peter Tam, and I am
5 a Senior Project Manager in the NRC Office of Nuclear
6 Reactor Regulation. We are here today to allow the
7 petitioner, Thomas Saporito, to address the Petition
8 Review Board for the second time, regarding the 2.206
9 petition dated March 12, 2011. I am the Petition
10 Manager for the petition. The Petition Review Board
11 Chairman is Tom Blount.

12 As part of the Petition Review Board, or
13 we call it PRB, review of the petition, Mr. Saporito
14 has requested this second opportunity to address the
15 PRB, after having been informed of the PRB's initial
16 recommendation.

17 This teleconference is scheduled from
18 3:00-4:30 p.m. Eastern Time. This teleconference is
19 being recorded by the NRC Operations Center and will
20 be transcribed by a court reporter. The transcript
21 will become a supplement to the petition. The
22 transcript will also be made publicly available.

23 I'd like to open this teleconference with
24 introductions. As we go around the room, please be
25 sure to clearly state your name, your position, and

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1 the office that you work for within the NRC for the
2 record. I'll start off. I am Peter Tam, Petition
3 Manager.

4 CHAIRMAN BLOUNT: I'm Tom Blount, the PRB
5 Chair, Office of Nuclear Reactor Regulation.

6 MR. MARKLEY: Mike Markley, Branch Chief,
7 NRR.

8 MR. MANOLY: Kamal Manoly, Senior
9 Technical Advisor.

10 MR. MIRANDA: Sam Miranda, Technical
11 Reviewer, Reactor Systems Branch.

12 MS. SEXTON: Kimberly Sexton, Office of
13 the General Counsel.

14 MR. CLARK: Mike Clark also with the
15 Office of General Counsel.

16 MS. WEIL: Jenny Weil, Congressional
17 Affairs Officer, Office of Congressional Affairs.

18 COURT REPORTER: This is the court
19 reporter. I'm having a lot of trouble hearing some of
20 the people.

21 MR. TAM: Do you want us to repeat? Court
22 reporter, do you want us to repeat the names?

23 COURT REPORTER: If the last few people
24 could, I think I caught the first few.

25 MS. SEXTON: Kimberly Sexton, Office of

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1 the General Counsel.

2 MR. CLARK: Mike Clark, Office of General
3 Counsel.

4 MS. WEIL: Jenny Weil, Congressional
5 Affairs Officer, Office of Congressional Affairs.

6 MR. TAM: The regional people, starting
7 with Region I.

8 MR. SETZER: Hi, this is Tom Setzer,
9 Senior Project Engineer in Region I.

10 MR. CHRISTENSEN: In Region II you have
11 Chris Christensen, Deputy Director, Division of
12 Reactor Safety.

13 MR. MEGHANI: Region III, this is Vijay
14 Meghani. I'm filling in for David Hill, Branch Chief
15 in Division of Reactor Safety.

16 MR. FARNHOLTZ: And in Region IV, this is
17 Tom Farnholtz, Engineering Branch Chief for
18 Engineering Branch I.

19 CHAIRMAN BLOUNT: Any other NRC personnel
20 on the phone?

21 MS. MENSAH: Tanya Mensah, Division of
22 Policy and Rulemaking.

23 MS. GIBSON: And Lauren Gibson from NRR.

24 CHAIRMAN BLOUNT: Mr. Saporito, would you
25 introduce yourself?

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1 MR. SAPORITO: Yes. My name is Thomas
2 Saporito. I am the Senior Consulting Associate with
3 Saprodani Associates based in Jupiter, Florida.

4 CHAIRMAN BLOUNT: Do we have any other
5 folks on the line? Hearing none.

6 MR. TAM: Okay. It is not required for
7 members of the public to introduce themselves for this
8 call. However, if there are any members of the public
9 on the phone who wish to do so at this time, please
10 state your name for the record.

11 I'd like to emphasize that we each need to
12 speak clearly and loudly to make sure that the court
13 reporter can accurately transcribe this meeting. If
14 you do have something that you would like to say,
15 please first state your name for the record.

16 For those dialing into the teleconference,
17 please remember to mute your phones to minimize any
18 background noise or disturbance. If you do not have a
19 mute button, this can be done by pressing the keys *6.
20 To un-mute, press the *6 key again. Thank you.

21 At this time, I'll turn it over to the PRB
22 Chairman, Mr. Tom Blount.

23 CHAIRMAN BLOUNT: Good afternoon. This is
24 Tom Blount, as was mentioned. Welcome to the second
25 teleconference regarding the 2.206 petition submitted

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1 by Mr. Saporito.

2 I'd like to first share some background on
3 our process:

4 Section 2.206 of Title 10 of the Code of
5 Federal Regulations describes the petition process;
6 the primary mechanism for the public to request
7 enforcement action by the NRC in a public process.
8 This process permits anyone to petition the NRC to
9 take enforcement-type action related to NRC licensees
10 or licensed activities. Depending on the results of
11 its evaluation, NRC could modify, suspend, or revoke
12 an NRC-issued license, or take any other appropriate
13 enforcement action to resolve a problem. The NRC
14 staff's guidance for the disposition of 2.206 petition
15 requests is in Management Directive 8.11, which is
16 publicly available.

17 The purpose of today's teleconference is
18 to give the petitioner a second opportunity to provide
19 any additional explanation or support for the petition
20 before the Petition Review Board renders its final
21 recommendation. The PRB has had a first
22 teleconference with Mr. Saporito on April 14th, 2011.

23 This teleconference is not a hearing, nor
24 is it an opportunity for the petitioner to question or
25 examine the PRB on the merits or the issues presented

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1 in the petition request. No decisions regarding the
2 merits of this petition will be made during this
3 teleconference.

4 Following this teleconference, the
5 Petition Review Board will conduct its internal
6 deliberations. The outcome of this internal meeting
7 will be conveyed to the petitioner by letter.

8 The Petition Review Board typically
9 consists of a Chairman, usually a manager at the
10 senior executive service level at the NRC. It has a
11 Petition Manager, and a PRB Coordinator. Other members
12 of the Board are determined by the NRC staff based on
13 the content of the information in the petition
14 request.

15 At this time, I would like to introduce
16 the Board. I am Tom Blount, the PRB Board Chairman.
17 Peter Tam is the Petition Manager for the petition
18 under discussion today. Tanya Mensah is the office's
19 PRB Coordinator. Our technical staff includes Kamal
20 Manoly, Division of Engineering; George Thomas,
21 Division of Engineering; Sam Miranda, Division of
22 Safety Systems; Gerald Gulla, Office of Enforcement;
23 Mike Clark and Kimberly Sexton, Office of the General
24 Counsel; Tom Setzer, Region I; Chris Christensen,
25 Region II; David Hills, Region III; and Tom Farnholtz

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1 of Region IV.

2 As described in our process, the NRC staff
3 may ask clarifying questions in order to better
4 understand the petitioner's presentation, and to reach
5 a reasoned decision whether to accept or reject the
6 petitioner's request for review under the 2.206
7 process.

8 I would like to summarize the scope of the
9 petition under consideration and the NRC activities to
10 date.

11 On March 12, 2011, Mr. Saporito submitted
12 to the NRC a petition under 2.206 regarding reactors
13 located on or near earthquake fault lines.

14 In this petition request, Mr. Saporito
15 requested the NRC to take escalated enforcement action
16 against licensees and suspend or revoke the NRC
17 license granted to the licensees for operation of
18 nuclear power reactors; and that the NRC issue a
19 notice of violation with a proposed civil penalty
20 against the collectively named and each singularly
21 named licensee captioned above in this matter. In
22 particular, Petitioners request that the NRC order the
23 immediate shutdown of all nuclear power reactors in
24 the USA, which are known to be located on or near an
25 earthquake fault line.

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1 Allow me to discuss the NRC activities to
2 date.

3 On March 21, 2011, the Petition Manager
4 contacted Mr. Saporito by email to discuss the 10 CFR
5 2.206 process, and to offer him an opportunity to
6 address the PRB by phone, or in person. Mr. Saporito
7 requested to address the PRB by phone prior to its
8 internal meeting to make the initial recommendation to
9 accept or reject the petition for review.

10 On April 4th, the PRB met internally to
11 discuss the request for immediate action. The PRB
12 denied Mr. Saporito's request for immediate action on
13 the basis that there's no immediate health or safety
14 concern to the public. Mr. Saporito was informed on
15 the same day, April 4th, of the PRB's decision to deny
16 his request for immediate action.

17 On April 14th, the PRB held a
18 teleconference with Mr. Saporito for him to provide
19 any supplemental and revised information to support
20 his March 12, 2011 petition. That teleconference was
21 recorded and a full transcript is publicly available.

22 In this teleconference, Mr. Saporito clarified his
23 petition, stating that his petition falls into three
24 requests:

25 One, order the immediate shutdown of all

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1 nuclear power reactors located on or near an
2 earthquake fault line in the United States.

3 Two, order the immediate shutdown of all
4 power reactors employing GE Mark I containment design
5 in the United States, characterizing such design as
6 flawed from the nuclear safety standpoint.

7 And, three, advise other countries
8 employing the GE Mark I nuclear power reactors about
9 the serious nuclear safety design flaws associated
10 with that design, which is likely to result in a
11 serious nuclear accident comparable to the Japanese
12 nuclear disaster.

13 After that teleconference, Mr. Saporito
14 supplemented his petition with three emails dated
15 April 14th, and a letter dated April 16th, 2011.

16 On April 28th, 2011, the PRB met internally
17 and made an initial recommendation to accept the
18 petition for review, in part. On May 12th, 2011, the
19 Petition Manager conveyed this initial recommendation
20 by email to the petitioner. Request number 1 and 2
21 did not meet the criteria for review on the basis that
22 the petitioner did not provide sufficient facts to
23 justify shutting down all nuclear power reactors
24 located on or near earthquake fault lines, or those
25 with the GE Mark I containment design. Request 3,

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1 regarding sharing information with international
2 stakeholders did not meet the criteria for review on
3 the basis that the petitioner requested an action that
4 the NRC is currently implementing with the
5 international community, and that the request did not
6 set forth sufficient facts to warrant further actions
7 beyond the actions that the NRC has already
8 undertaken.

9 However, the petitioner's general concern
10 about nuclear safety in light of the Japan earthquake
11 and tsunami leading to a major nuclear accident was
12 found to meet criteria for review. Regarding this,
13 the petitioner Manager's email says:

14 "Your concern about the impact of a
15 Fukushima-type earthquake and tsunami on U.S. nuclear
16 plants is consistent with the NRC's mission of
17 protecting public health and safety. Currently, the
18 NRC's monitoring of the events that unfolded at
19 Fukushima has resulted in the Commission establishing
20 a senior-level task force to conduct a methodical and
21 systematic review to evaluate currently available
22 technical and operational information from the
23 Fukushima events. This will allow the NRC to
24 determine whether it should take certain near-term
25 operational or regulatory actions potentially

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1 affecting all 104 operating reactors in the United
2 States."

3 Upon receiving the Petition Manager's May
4 12th, 2011 email, Mr. Saporito confirmed his intention
5 to address the PRB a second time in a teleconference.

6 In his March 21st, 2011 email to the Petition Manager,
7 Mr. Saporito requested that he be allowed an hour in
8 this second teleconference.

9 As a reminder for the phone participants,
10 please identify yourself if you make any remarks, as
11 this will help us in the preparation of the meeting
12 transcript that will be made publicly available.

13 Mr. Saporito, I now invite you to provide
14 any additional information you believe the PRB should
15 consider as part of this petition. You will have an
16 hour, as you previously requested. To make efficient
17 use of your allowed time, let me urge you to remember
18 that we have certain information you've provided us
19 previously, and, therefore, it would be unnecessary to
20 elaborate or provide that additional information a
21 second time. Okay?

22 A full transcript of the April 14th, 2011
23 teleconference is in the NRC records, and is publicly
24 available.

25 With that, Mr. Saporito, I give you the

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1 floor.

2 MR. SAPORITO: All right. Good afternoon.

3 Thank you for this opportunity to engage the NRC
4 Petition Review Board a second time. My name is
5 Thomas Saporito, and I am the Senior Consulting
6 Associate for Saprovani Associates based in Jupiter,
7 Florida.

8 We maintain a website at Saprovani-
9 associates.com, and there's a hyphen between the word
10 Saprovani and Associates, where documents associated
11 with our 2.206 Petition can be viewed and downloaded.

12 During our previous discussions in
13 connection with the instant petition, the Petition
14 Review Board Chairman requested that we provide the
15 NRC with a computer disk containing a copy of all the
16 documents submitted in support of our petition.

17 Please be advised that the NRC took
18 receipt of a computer disk sent by Saprovani
19 Associates, which contained the reference documents
20 accordingly. And I just want to make sure for the
21 record that the NRC Petition Review Board is aware
22 that that CD is in the possession, custody, and
23 control of the NRC, because the emails that the
24 Chairman referenced earlier may not be inclusive of
25 all those documents due to the transmit limitations of

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1 email associated with those documents. So, I am just
2 making the NRC Petition Review Board aware, and urge
3 the Petition Review Board to obtain a copy of that CD
4 so they can review it in its entirety, and make sure
5 they reviewed all supporting documents that we have
6 provided to the Agency.

7 Today, I would like to first correct the
8 record in this matter as follows. On May 12th, 2011,
9 NRC employee, Peter Tam, sent me an email
10 communication which stated in relevant part that -- I
11 misplaced that. Oh, here it is. Which stated that:
12 "On April 14th, 2011, you addressed the Petition Review
13 Board during a teleconference; clarifying your
14 petition falls into three requests as follows:

15 Number one, order the immediate shutdown
16 of all nuclear power reactors located on or near
17 earthquake fault line in the United States. Two,
18 order the immediate shutdown of all power reactors
19 employing GE Mark I containment design in the United
20 States, characterizing that such a design is flawed
21 from the nuclear safety standpoint. Three, advise
22 other countries employing the GE Mark I nuclear power
23 reactors about serious nuclear safety design flaws
24 associated with that design, which is likely to result
25 in serious nuclear accident comparable to the Japanese

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1 nuclear disaster."

2 You supplemented the above Item 2 request
3 by specifically naming NRC-licensed plants. That's
4 for the GE Mark I containment design, and then he goes
5 on to name those specific plants. And then he states
6 that: "You stated for these reasons standing alone
7 petitioners urge the NRC to order the immediate
8 shutdown of all GE Mark I nuclear power reactors in
9 the United States."

10 Okay. And then -- but that email was not
11 inclusive of the record that was provided by the
12 petitioners. And, specifically, as the Chairman has
13 recently stated, there was a record transcribed by the
14 NRC of the initial teleconference held on April 14th,
15 2011.

16 During the initial teleconference in
17 connection with the instant petition, all of my
18 statements made to the Petition Review Board were to
19 be accepted by the Petition Review Board as a
20 supplement to our original petition in this matter.

21 Notably, during the initial Petition
22 Review Board meeting held on April 14th, 2011, I
23 specifically discussed concern in connection with the
24 NRC's rubber stamping of 20-year license extensions
25 for nuclear reactors which were originally licensed

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1 for a 40-year period.

2 I specifically requested that, "The NRC
3 immediately revoke all 20-year license extensions
4 issued to NRC licensees." And I refer the NRC
5 Petition Review Board to the NRC transcript record for
6 the Petition Review Board meeting held on April 14th,
7 2011 at pages 26-32 where that request is captured.

8 Nonetheless, according to Mr. Tam via his
9 May 12th, 2011 email communication, my supplemental
10 request for enforcement action on the part of the NRC
11 was never considered by the Petition Review Board, as
12 required under NRC Management Directive 8.11.

13 Therefore, once again for the record the
14 NRC Petition Review Board is requested to consider our
15 supplemental request related to 20-year license
16 extensions granted by the NRC to the Agency's
17 licensee.

18 Furthermore, I request that the NRC Office
19 of Inspector General be provided a copy of today's
20 record transcript to enable the Office of Inspector
21 General to make an informed decision as to whether the
22 NRC Petition Review Board members engaged in any type
23 of willful wrongdoing related to this particular
24 issue.

25 With respect to my statements made on the

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1 record today, it is requested that the NRC Petition
2 Review Board accept such statements as a further
3 supplement to the instant petition filed in this
4 matter in accordance with NRC Management Directive
5 8.11.

6 The ongoing nuclear crisis in Japan has
7 significantly worsened since March 11th, 2011, as there
8 are now three nuclear reactors in a full meltdown
9 leaking high-level nuclear contamination into the
10 environment by air, and by sea. Radiation levels at
11 the facility are extremely high preventing humans from
12 taking corrective emergency actions, and any attempt
13 to bring the four damaged nuclear reactors to a
14 controlled cold shutdown mode of operation. Notably,
15 robots have been employed to make observations and
16 radiation measurements within the plants.

17 I would like to supplement the instant
18 petition filed in this matter by making specific
19 requests to the NRC for enforcement action to be taken
20 against the Agency's licensees in the United States.
21 However, first, I would like to provide the NRC
22 Petition Review Board with background information
23 related to the ongoing crisis in Japan, so that my
24 supplemental request for NRC enforcement action can be
25 properly evaluated by the Petition Review Board

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1 accordingly.

2 As everyone is aware, following a 9.0
3 earthquake off the coast of Japan, a tsunami disrupted
4 nuclear operation at the Fukushima Daiichi nuclear
5 facility resulting in significant damage to at least
6 four nuclear reactors and nuclear spent fuel pools.

7 A preliminary assessment of the event
8 based on news reports and other documentation supports
9 the loss of offsite power to the nuclear reactors was
10 the root cause of the meltdown of at least three
11 nuclear reactors. Although, scrams occurred in the
12 nuclear reactors which were operating at the time of
13 the event, the loss of offsite power for station
14 blackout caused emergency diesel generators to
15 automatically start to provide the needed power to
16 operate the reactor coolant system equipment to
17 prevent the nuclear fuel inside the nuclear reactors
18 from overheating and melting down. However, it appears
19 the tsunami disrupted the fuel supplies to the
20 emergency diesel generator, and they subsequently
21 failed to operate.

22 Once the diesel generators failed, the
23 facility's emergency backup batteries provided power
24 through inverters to operate the reactor coolant
25 system equipment. However, the batteries were

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1 completely depleted in less than eight hours of
2 operation leaving the reactor coolant system equipment
3 non-operational. This, ultimately, resulted in at
4 least three nuclear reactor meltdowns to date.

5 And petitioners note here that when the
6 reactors scrambled, the emergency diesel generators
7 automatically started, but subsequently failed when
8 the tsunami disrupted their fuel supplies.

9 The petitioners aver here that the NRC
10 should focus its attention in analyzing whether
11 nuclear reactors in the United States employ
12 sufficient means to maintain the reactor coolant
13 system equipment during a prolonged station blackout
14 event.

15 Notably, the plant operator responsible
16 for the ongoing Japanese nuclear crisis recently
17 admitted that the nuclear reactors started the
18 meltdown within hours of the station blackout event.
19 Here in the United States, as in Japan, diesel
20 generators are installed at all nuclear power plants
21 intended to provide emergency power to the reactor
22 coolant system equipment during a station blackout
23 event. However, there appears to be several areas of
24 concern related to the expectation by NRC licensees
25 that these emergency diesel generator systems will

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1 function as intended during a station blackout event.

2 Many NRC licensees operate more than a
3 single nuclear reactor at their facility, such as the
4 Turkey Point Nuclear Plant, St. Lucie Nuclear Plant,
5 the Palo Verde Nuclear Plant, et cetera.

6 NRC licensees which operate more than one
7 nuclear reactor at any one facility have emergency
8 diesel generator systems which are flawed by design,
9 and could result in a single common mode failure.
10 These single common mode failures could be caused
11 because of common mode fuel supplies where in the case
12 of Turkey Point and St. Lucie Nuclear Power Plants
13 where I was once employed, I know firsthand that those
14 emergency diesel generators have piping which supplies
15 diesel fuel to the emergency diesel generators, and
16 that that fuel supply piping is shared between nuclear
17 reactors.

18 And this design was intended to provide
19 the licensee, in this case the Florida Power & Light
20 Company, with availability of a second diesel fuel
21 supply should the first diesel fuel supply become
22 inoperable or exhausted for any number of reasons.

23 However, when analyzed by the petitioners it appears
24 that these shared diesel fuel supply systems present a
25 common mode failure when analyzed with respect to a

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1 station blackout event.

2 In particular, over the years of the last
3 approximately four years, the Turkey Point Nuclear
4 Plant has been cited by the Nuclear Regulatory
5 Commission numerous times to date for failure of the
6 Plant Operators to comply with the requirements of 10
7 CFR Part 50 in operation of those nuclear plants.
8 And, specifically, operator error, where the operators
9 have emergency safety mitigating systems improperly
10 valved in such a position to prevent their operation
11 as designed, and as intended to mitigate a nuclear
12 accident, such as a reactor core meltdown.

13 So, it stands to reason that if a diesel
14 fuel system which is shared by, for example, the
15 Turkey Point nuclear reactors, where St. Lucie nuclear
16 reactors is valved in such a position as to improperly
17 cause an interruption of fuel to any of the diesel
18 generators which are called upon to perform during a
19 station blackout event. That could result in a
20 situation where the reactor fuel becomes uncovered
21 and/or the fuel in the spent fuel pools becomes
22 uncovered, and causes a meltdown, similar to what is
23 now occurring in Japan.

24 The fuel supplies, diesel fuel supplies to
25 the emergency diesel generators at any nuclear power

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1 plant in the United States could be subject to
2 significant damage and become inoperable as a result
3 of a significant hurricane or tornado. I'm sure the
4 NRC is aware of the recent disaster which unfolded
5 from the tornado in the Midwest which has taken
6 approximately 116 human lives, or more, and caused
7 horrendous damage. I mean, physically destroyed an
8 entire town, community tossing huge trucks, trailers,
9 cars, and other heavy equipment around as if it was
10 light as a feather.

11 Such an event could seriously damage, for
12 example again, the Turkey Point Nuclear Plant to the
13 extent that the emergency diesel generators would fail
14 to operate, because the hurricane could cause physical
15 damage to, and interrupt the diesel fuel supply to any
16 number of the diesel generators. They could actually
17 inundate the emergency diesel generators with water to
18 such an extent which would cause the inoperability of
19 these diesel generators.

20 A tornado, which is a more concentrated
21 force could actually destroy emergency diesel
22 generator systems at any one of the nuclear power
23 plants in the United States.

24 The hurricane scenario which I talked
25 about, specifically as it relates to nuclear power

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1 plants operated by Florida Power & Light Company, and
2 by the Progress Energy Company here in Florida are of
3 particular concern to the petitioners, and should be
4 of particular to the Nuclear Regulatory Commission,
5 because a hurricane can remain offshore hours, days,
6 and weeks. It is totally unpredictable as to the
7 amount of time a hurricane can affect a nuclear power
8 plant with excessive winds, which can cause
9 significant damage to that facility. And that's
10 something the NRC needs to focus on, in our opinion.

11 The diesel generators are limited, from my
12 observation and my participation in one or more
13 meetings with the NRC with respect to operation of
14 Florida-based nuclear power plants, where the NRC has
15 affirmed to the public that the fuel supply for the
16 emergency diesel generators would be exhausted after
17 one week.

18 The NRC at these meetings, at these public
19 meetings has maintained that even in the event where
20 there was a hurricane in South Florida, that the
21 emergency diesel generator fuel supply could be
22 replenished if in the event of a significant
23 hurricane, the diesel fuel would become exhausted.
24 However, petitioners believe that the NRC seriously
25 underestimates the consequences of a significant

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1 hurricane, such as the ones that Florida has been
2 subjected to over the years.

3 These hurricanes are very deadly and they
4 contain enormous, enormous force, and they can cause
5 significant damage not only to the physical plant at
6 one of the nuclear power plants in Florida, but to the
7 surrounding areas.

8 Notably, the Turkey Point Nuclear Power
9 Plant, as well as the St. Lucie Nuclear Power Plant
10 are, in particular, isolated to a significant degree.

11 The Turkey Point Nuclear Plant, for example, has a
12 single access road to that plant. Therefore, a
13 significant hurricane could cause an inordinate amount
14 of damage to access, prevent access to the nuclear
15 power plant, and for a significant amount of time,
16 where because of the severity of the hurricane, the
17 public would have to evacuate. You would have traffic
18 jams and snarls, you would have debris, physical
19 debris caused from the hurricane which would prevent
20 access to the nuclear power plant at Turkey Point.

21 So, to the extent that a major hurricane
22 could disrupt physical access to the Turkey Point
23 Nuclear Power Plant, it's questionable at best that
24 the NRC should allow its licensee, Florida Power &
25 Light, to take any amount of credit that they could

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1 replenish diesel power, the diesel fuel in a timely
2 manner to prevent a loss of coolant accident at the
3 Turkey Point facility.

4 Likewise, the St. Lucie Nuclear Power
5 Plant is actually located on Hutchinson Island, which
6 is a body of land separate and apart from the mainland
7 of Florida. Therefore, a significant hurricane could
8 very well entirely and completely isolate the nuclear
9 power plant.

10 CHAIRMAN BLOUNT: Mr. Saporito, this is
11 Tom Blount.

12 MR. SAPORITO: Yes.

13 CHAIRMAN BLOUNT: I had a question for
14 you. In your --

15 MR. SAPORITO: Can you hold --

16 CHAIRMAN BLOUNT: Well, part of the
17 conversation is we get to ask you questions.

18 MR. SAPORITO: Yes, but I would like you
19 to hold the questions to the end so I can get my
20 presentation finished.

21 CHAIRMAN BLOUNT: And, I certainly want
22 for you to complete your presentation.

23 MR. SAPORITO: I'll be happy to entertain
24 your questions at the end of the presentation.

25 CHAIRMAN BLOUNT: But I think it's

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1 relevant to this point.

2 MR. SAPORITO: Yes, but I don't want to
3 belabor and get my focus disrupted. Thank you very
4 much.

5 The disruption that could be caused to
6 Hutchinson Island could be the physical damage to the
7 bridges, the intercostal bridges which provide access
8 from the mainland to Hutchinson Island. And there
9 could be an accident scenario which takes out both
10 bridges and provides no access to the island. And you
11 would only have access via a helicopter transport.

12 So, in the event of a significant
13 hurricane, there is an accident scenario which
14 petitioners believe the NRC should evaluate as to
15 whether the licensee could provide emergency diesel
16 fuel for the emergency diesel generators at the St.
17 Lucie Nuclear Power Plant in the event that a
18 prolonged station blackout would deplete the existing
19 diesel fuel supply at that facility.

20 And, again, I return to the point that a
21 hurricane off the coast of Florida can maintain its
22 force and effect on the St. Lucie Nuclear Power Plant
23 for days, weeks, and months. It's totally
24 unpredictable the length of time the hurricane can
25 sustain itself, thereby prevent any helicopter, or any

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1 aircraft from entering that air space.

2 One final point on the emergency diesel
3 generators we'd like to bring to the attention of the
4 NRC is the common mode failure of the emergency diesel
5 generators' electrical systems. Here again, as in
6 Turkey Point, St. Lucie, and the Palo Verde plants, as
7 well as other nuclear plants around the United States,
8 these emergency diesel generators' electrical output
9 supplies emergency power not only to the reactor
10 coolant system equipment, but to other ancillary
11 systems, lighting systems and other plant systems.

12 Therefore, again, any disruption of the
13 emergency diesel generators could result in a common
14 mode failure to more than one nuclear reactor at any
15 one of the nuclear power plants in the United States
16 where there are shared resources, where you have more
17 than one nuclear reactor in operation.

18 In light of these discussions here, the
19 petitioners request specific enforcement action by the
20 NRC. Petitioners request that the NRC require its
21 licensees to physically separate the diesel fuel
22 supplies for each emergency diesel generator for each
23 nuclear reactor at all licensee facilities. In other
24 words, petitioners request that the NRC require its
25 licensees to insure that each nuclear reactor has its

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1 emergency diesel generator systems' fuel supply
2 physically separate and apart from any other nuclear
3 reactor located at the same site, that each nuclear
4 reactor have its emergency diesel generator output
5 power supply physically separate and apart from any
6 other nuclear reactor located at the same site, that
7 each licensee have a plan to have diesel generator
8 fuel transported to the plant in the event of a
9 station blackout event, and that transport of the
10 diesel fuel by accomplished within a specific time
11 period as of the station blackout event, and that each
12 licensee have a separate emergency diesel generator to
13 provide power to any licensee emergency response
14 center established at each nuclear power plant.

15 Petitioners further request that the NRC
16 require its licensees to conduct an actual full-load
17 testing of each emergency diesel generator system via
18 a manual scram of each nuclear reactor at least once
19 during every refueling event to insure reliability of
20 the emergency diesel generator system to
21 automatically start and load, as intended, and as
22 designed.

23 Unless and until the NRC requires its
24 licensees to actually conduct a full-load testing in
25 an actual scram event which can be had during and

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1 prior to a refueling outage, licensees cannot provide
2 reasonable assurance to the NRC that these emergency
3 diesel generators will automatically start, and
4 automatically accept a full-load scenario in an
5 emergency situation on demand without failure.

6 Battery backup systems; in Japan during
7 this nuclear crisis nuclear workers had to actually
8 search for flashlights in cars that were parked in the
9 facility's parking lot. They had to use flashlights to
10 illuminate their emergency response center, and their
11 control room, and to engage emergency activities in
12 and about the plant.

13 As discussed earlier, upon failure of the
14 emergency diesel generator to operate, NRC licensees
15 have battery backup systems which operate inverters to
16 power the nuclear reactor coolant system equipment and
17 other plant systems; therefore, battery backup systems
18 are critical emergency power systems at nuclear power
19 plants in the United States.

20 Therefore, petitioners request that the
21 NRC require its licensees to insure that emergency
22 battery backup systems are capable of providing
23 uninterrupted power to the nuclear reactor coolant
24 system equipment for at least eight consecutive hours
25 under full-load conditions. And also require that its

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1 licensees insure that emergency battery backup systems
2 designed for operation of all nuclear reactor coolant
3 system equipment are electrically separated from other
4 plant system electrical loads, and dedicated only to
5 the reactor coolant system equipment. And that the
6 NRC require its licensees to insure that emergency
7 lighting systems for the plant are powered by a
8 battery backup system separate and apart from the
9 reactor coolant system equipment battery backup
10 system. And that the NRC requires the licensees to
11 insure that emergency lighting systems are located at
12 all operational areas of the plant, and that such
13 system automatically engage during a station blackout
14 event. And that the NRC requires licensees to insure
15 that the licensee conducts full-load testing for the
16 emergency battery backup system for the reactor
17 coolant system equipment, and lighting system prior to
18 -- here, again, the petitioners encourage the NRC to
19 take these actions because the battery backup systems
20 need to be operational for at least eight hours during
21 a station blackout event. And they need to be
22 electrically separated to only power reactor coolant
23 system equipment.

24 One system needs to be for that, another
25 system needs to engage the lighting system, and

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1 another system needs to engage other plant systems
2 that are required during emergency events, so that
3 nuclear workers in the United States don't have to go
4 out in the parking lot and look for flashlights in
5 parked cars during these type of events.

6 Emergency venting. I'm going to refer to
7 a *New York Times* article dated May 17th, 2011. It's
8 entitled, "In Japan Reactor Failings, Danger Signs for
9 the United States." I'm not going to read this whole
10 article because you all can read that for yourselves.

11 But it states in relevant part that: "Emergency vents
12 that American officials have said would prevent
13 devastating hydrogen explosions at nuclear plants in
14 the United States were put to the test in Japan, and
15 failed to work, according to experts and officials
16 with the company that operate the crippled Fukushima
17 Daiichi plant.

18 The failure of the vents calls into
19 question the safety of similar nuclear power plants in
20 the United States and Japan. After the venting failed
21 at the Fukushima plant, the hydrogen gas fueled
22 explosions that spewed radioactive materials into the
23 atmosphere, reaching levels about 10 percent of
24 estimated emissions at Chernobyl, according to Japan's
25 nuclear regulatory agency.

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1 Venting was critical to relieving pressure
2 that was building up inside several reactors after the
3 March 11th tsunami knocked out the plant's crucial
4 cooling systems. Without flowing water to cool the
5 reactors' cores, they began to dangerously overheat.

6 American officials said early on that
7 reactors in the United States would be safe from such
8 disasters because they were equipped with new,
9 stronger venting systems. But Tokyo Electric Power
10 Company, which runs the plant, now says that Fukushima
11 Daiichi had installed the same vents years ago."

12 This article goes on to say that: "The
13 mechanical failures and design flaws in the venting
14 system also contributed to delays, delays in venting
15 the system which ultimately caused the explosion, the
16 hydrogen to explode."

17 And it says: "One reason the venting
18 system at the plant, which was built by General
19 Electric, did not work is that it relied on the same
20 sources of electricity as the rest of the plant."

21 So here, again, this event highlights why
22 electrical emergency systems have to be isolated, they
23 have to be dedicated to protect the reactor, to
24 protect the nuclear spent fuel system.

25 So, petitioners request that the NRC

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1 require its licensees to evaluate plant venting
2 systems to insure reliability of the venting systems
3 during an actual emergency. Petitioners request that
4 the NRC require its licensees to determine whether any
5 mechanical or electrical design flaws exist to prevent
6 operation of the venting system.

7 Petitioners request that the NRC require
8 its licensees to take corrective action on venting
9 systems to insure reliability of such systems.
10 Petitioners request that the NRC require its licensees
11 to require NRC authorization prior to operation of any
12 venting system during an emergency situation for
13 radioactive release at the plant. And petitioners
14 request that the NRC require its licensees to require
15 evaluation of nitrogen purge systems which were
16 intended and designed to introduce nitrogen in a
17 containment building to prevent a hydrogen explosion.

18 Spent fuel pools. Prior to the onset of
19 this meeting and per request of Mr. Peter Tam, NRC
20 employee, petitioners emailed Mr. Tam a document
21 entitled, "Nuclear Waste Disposal Crisis," authored by
22 David A. Lochbaum, a Nuclear Engineer with the Union
23 of Concerned Engineers. And this is published in
24 1996, deals with spent fuel risks.

25 Petitioners request that the NRC Petition

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1 Review Board accept that document to the record, and
2 review that document and its analysis of the United
3 States' nuclear spent fuel pools, and the concerns
4 highlighted in that document as compared to the
5 ongoing nuclear disaster in Japan.

6 Petitioners request that the NRC require
7 its licensees to insure that emergency power systems
8 are in place to operate water circulation equipment in
9 connection with nuclear spent fuel pools, and
10 associated instrumentation.

11 It is our understanding that one or more
12 nuclear power plants operated in the United States
13 have nuclear spent fuel pools which are not connected
14 to any type of emergency diesel generator or
15 electrical systems, nor do they employ instrumentation
16 that would be operational during a station blackout
17 event. So, petitioners request that the NRC requires
18 licensees to address these issues at the earliest time
19 possible.

20 As far as any nuclear spent fuel pool
21 which becomes depleted of water inventory, it's
22 subject to meltdown and generation of hydrogen and
23 explosion. In particular, there are numerous GE Mark I
24 nuclear reactors which are the same design of those
25 that exploded in Japan. And, therefore, that's where

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1 the nuclear spent fuel pools are physically located
2 within the containment building in the same space, and
3 adjacent to the nuclear reactor core itself. So, that
4 poses an exceptional and enhanced risk to public
5 health and safety, where an explosion within the
6 containment building itself can damage not only the
7 reactor vessel, but also the nuclear spent fuel all
8 within the same explosion, which has happened in
9 Japan.

10 Finally, petitioners would like to discuss
11 their concerns with respect to a issue of where a
12 terrorist attack could subject any one of the 104
13 nuclear reactors to a station blackout event and
14 result in a core meltdown, and release of radioactive
15 materials to the environment, and harm public health
16 and safety. And could adversely effect the national
17 security and common defense of the United States.

18 In our opinion, the terrorist could make a
19 cyber attack whereby through access to the internet
20 they could cause a disruption to the nuclear power
21 plant in such a manner, and in various ways disrupt
22 nuclear operations to cause a nuclear core meltdown,
23 station blackout event, and other consequences which
24 would ultimately result in a core meltdown at any one
25 of the 104 nuclear power plants.

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1 Furthermore, and in support of this
2 position related to a cyber terrorist attack,
3 petitioners would urge and request the Petition Review
4 Board to go to our website at the main page, and there
5 is a video there of a recent Congressional hearing
6 held by the Honorable Edward Markey, and there is
7 expert witness testimony with respect to a cyber
8 terrorist attack. And the expert testifies, as you
9 will learn, that all these nuclear plants are subject
10 to such attacks. There are no safeguards in
11 existence, to our knowledge, to date to prevent such
12 an attack.

13 Petitioners would request that the NRC
14 require its licensees to address this issue as to
15 whether their plant, these nuclear reactors licensed
16 to each licensee that are subject to a terrorist
17 attack, a cyber terrorist attack, if so, how such an
18 attack can be averted, or what measures or methods, if
19 any, licensee intends to take to correct any
20 deficiencies in these areas.

21 Another area of concern to petitioners is
22 a terrorist attack which would disrupt offsite power
23 provided to any one of the 104 nuclear power plants in
24 the United States.

25 Personally, I have physically worked at

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1 the Palo Verde Nuclear Generating Station, and I
2 called the NRC's attention, in particular, to that
3 station, but this is relevant to any nuclear power
4 plant in the United States. But with respect to Palo
5 Verde, that plant is located approximately 50 miles
6 due west of Phoenix, Arizona, a huge city with tens of
7 thousands, if not hundreds of thousands of people.

8 Those transmission lines leading to and
9 leading from the Palo Verde Nuclear Generating Station
10 travel across miles and miles of desert, isolated from
11 public view and isolated from any type of monitoring
12 by any government agency, including Homeland Security,
13 and the Federal Bureau of Investigation, and the
14 Nuclear Regulatory Commission.

15 These transmission lines, because of the
16 extreme heat in the desert, they expand and they dip.

17 They dip so much so that a human, a single human
18 being could physically throw a heavy-weighted chain
19 across the transmission line and trip the breakers
20 associated with those transmission lines, and thereby
21 cause a station blackout event at any nuclear power
22 plant. But in particular those, because the
23 transmission lines are so isolated from view, and they
24 are not monitored.

25 This particular type of terrorist attack

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1 could take out more than just the Palo Verde Nuclear
2 Power Plant. There are three nuclear reactors at Palo
3 Verde, so you would have -- you could take out three
4 nuclear reactors, but because the United States has a
5 common mode failure in that there's a common
6 electrical grid throughout the United States, you
7 could have a series of station blackout events across
8 the United States.

9 Such an event occurred over the last
10 several years here in Florida where an engineer with
11 the Florida Power & Light Company violated a
12 maintenance procedure at a substation, which caused
13 both Turkey Point Nuclear Power Plant to scram, to be
14 knocked off line because a transformer at a substation
15 blew up. So, the electrical grid is something that
16 the NRC needs to take a close look at. And since the
17 electrical grid is a common mode failure which
18 interconnects all NRC licensees, petitioners request
19 that the NRC require all of its licensees to analyze
20 and make an assessment as to each licensee's
21 vulnerability to a terrorist attack by disruption of
22 their transmission lines.

23 Finally, petitioners would like the NRC to
24 focus its attention specifically on station blackout
25 events, and the worst case scenario, the worst

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1 accident that can be anticipated, which would be a
2 station blackout event.

3 The analysis I would like the NRC to
4 envision is where the power, offsite power to any one
5 of the 104 nuclear power plants is lost and you have a
6 station blackout event which occurs over an extended
7 period of time, weeks or months, and not just a matter
8 of hours or days.

9 Petitioners request the NRC require its
10 licensees to make this evaluation as to how the
11 licensee would protect the reactor cores from a
12 meltdown and prevent the nuclear fuel from becoming
13 critical should offsite power be lost for a prolonged
14 period of time, so much so that the emergency diesel
15 generators' fuel supplies would become exhausted,
16 and/or there was such a disaster where the fuel
17 supplies could not be replenished, or such a disaster
18 that the emergency diesel generators were completely
19 inoperable all together.

20 Now, there are one or more nuclear power
21 plants in the United States, such as Diablo Canyon,
22 which are actually located on top of or near a
23 significant earthquake fault, and located near the
24 shoreline on the west coast and subject to the effects
25 of a tsunami. So, it doesn't take much imagination in

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1 light of what happened in Japan to consider the
2 consequences of an extended loss of offsite power.
3 So, I think this is a highly relevant request.

4 Other plants that are located near
5 earthquake faults, if there are any security traders
6 on the Petition Review Board, you might know well the
7 saying that a stockbroker would tell their client past
8 performance is no indication of future performance of
9 any one stock.

10 The same can be said of earthquake
11 studies, seismic studies conducted and relied upon by
12 NRC licensees, for which licensee takes credit in the
13 design and operation of existing nuclear reactors
14 around the United States.

15 Petitioners aver here that the NRC should
16 require its licensees to reassess seismic
17 qualifications of all of its nuclear reactors, and in
18 particular re-evaluate whether or not their particular
19 nuclear reactor could be subject to a seismic event
20 risk that's addressed in licensee's file since the
21 analysis. Because the NRC and its licensees do not
22 have the technical expertise nor any historic relevant
23 information which would anticipate an act of God,
24 which would result in an earthquake failure of that
25 design basis to support the NRC's granting any license

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1 to any of its licensees with respect to previously
2 qualified reactors. Meaning that the NRC and its
3 licensees, that the licensees be required to re-
4 evaluate how well, or if their nuclear reactor could
5 be protected from a core meltdown, or the spent fuel
6 could be prevented going critical during a station
7 blackout event, which resulted from an earthquake
8 greater than that which the plant has been licensed to
9 operate.

10 In addressing the station blackout event,
11 as the NRC is aware, Japan -- the nuclear crisis
12 ongoing in Japan, the officials and authorities have
13 resulted to a Hail Mary, meaning the only thing they
14 could do because of the meltdowns and the high
15 radiation levels was to take concrete trucks, pumping
16 trucks and pump water, seawater in and over the
17 containment facilities in the hope that they would
18 prevent a meltdown. Of course, that failed, but this
19 was their Hail Mary.

20 Petitioners would suggest to the NRC that
21 they require their licensees to provide the NRC with
22 their own help and action should they be needed during
23 a disaster. Like I said, the Japanese used concrete
24 pumping trucks, and they also used fire trucks.

25 Petitioners would recommend the NRC

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1 consider requiring its licensees to analyze what the
2 consequences would be to do a Hail Mary filling the
3 containment building itself with water, to provide
4 cooling to reactor vessel and or spent fuel pools
5 where one design is used, and where the GE Mark I
6 design is not used, provide cooling to the reactor.
7 This would be a last prayer.

8 Finally, and lastly, petitioners would
9 request that the NRC consider requiring its licensees
10 to install at each nuclear reactor site an independent
11 water supply tank an elevation higher than their
12 reactor vessel, and physically connect it to the
13 reactor coolant system, but isolated from the system
14 through mechanical valves located outside the
15 containment building, so that in the event of a
16 disaster event like Japan, where all other emergency
17 backup systems failed, that the reactor core could be
18 kept cool by natural circulation by opening this
19 emergency water supply tank which is located higher
20 than the reactor core.

21 I'm not an engineer, I'm not an expert, so
22 I don't even know if this system would work, or if
23 it's feasible. I'm just throwing it out there because
24 this came to light as an event, such as that's what
25 happened, what else could we do to protect the public?

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1 At this time, that would conclude our
2 comments, and we would take any questions from the NRC
3 or the public on line and participating at this
4 meeting. Thank you.

5 CHAIRMAN BLOUNT: Mr. Saporito, this is
6 Tom Blount. In your petition, in the original
7 petition that we have under review, I was under the
8 distinct impression that it was focused on the
9 facilities that were similar to the Japanese
10 facilities that were impacted by tsunami. Is that
11 correct?

12 MR. SAPORITO: In part that's correct, but
13 it's also relevant to non-similar, like Westinghouse
14 reactors, combustion engineering reactors, and other
15 reactors that are not similar in design, because the
16 GE is a PWR pressurized water reactor, and these other
17 reactors are -- GE is a boiling water reactor, where
18 these other reactors, like the CE, Combustion
19 Engineering, and Westinghouse are pressurized water
20 reactors. So, the petition is much broader in scope
21 than you have ascertained.

22 CHAIRMAN BLOUNT: Okay. So, you're
23 looking at a much broader application of the
24 implications associated with a tsunami, and of the
25 events that happened in Japan. Right? And your basis

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1 for that is?

2 MR. SAPORITO: Well, you're question is
3 true in part, but the NRC -- we also want the NRC to
4 analyze the substance of the petition in relation to
5 human error.

6 It wasn't an act of God, like a tsunami or
7 earthquake that caused the Three Mile Island meltdown,
8 or the Chernobyl meltdown. Those were human errors,
9 and there are -- as you are aware, there are thousands
10 and thousands of NRC inspections which show repetitive
11 violations where it's human error-based, human error
12 which caused the failure of safety mitigating systems.

13 So, it's important to not only consider act of God,
14 but also human error, and how are you going to prevent
15 a station blackout, a core meltdown, and damage to the
16 nuclear spent fuel pool in relation to human error.

17 CHAIRMAN BLOUNT: Okay. I think I
18 understand what the premise of your supplemental
19 information is. Thank you.

20 Any other questions here at Headquarters?

21 (No response.)

22 CHAIRMAN BLOUNT: Any questions from the
23 folks at Region I?

24 MR. SETZER: No questions from Region I.
25 Thank you.

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1 CHAIRMAN BLOUNT: Questions from the folks
2 at Region II?

3 MR. CHRISTENSEN: No questions.

4 CHAIRMAN BLOUNT: Region III?

5 MR. MEGHANI: No questions.

6 CHAIRMAN BLOUNT: Region IV?

7 MR. FARNHOLTZ: No questions from Region
8 IV.

9 CHAIRMAN BLOUNT: How about any of the
10 other NRC folks on the line?

11 MS. GIBSON: No questions. Thank you.

12 MS. MENSAH: Tanya Mensah, no questions.

13 CHAIRMAN BLOUNT: Understand. Let's see.
14 Do we have any members of the public on the line?

15 (No response.)

16 CHAIRMAN BLOUNT: All right, hearing none.

17 Mr. Saporito, thank you for taking the
18 time to provide our staff with clarifying information
19 on the petition you submitted.

20 Before we close, does the court reporter
21 require any additional information for the meeting
22 transcript?

23 COURT REPORTER: No, thank you.

24 CHAIRMAN BLOUNT: Thank you very much.
25 With that, this meeting is concluded, and we are

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1 terminating the phone connection. Thank you very
2 much. Have a great evening.

3 (Whereupon, the proceedings went off the
4 record at 4:18:11 p.m.)
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