

Official Transcript of Proceedings

NUCLEAR REGULATORY COMMISSION

Title: 10 CFR 2.206 Petition Review Board
RE James A. Fitzpatrick Nuclear Power Plant

Docket Number: 05000333

Location: teleconference

Date: Monday, June 29, 2015

Work Order No.: NRC-1698

Pages 1-49

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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

CONTAINMENT VENTILATION AT THE JAMES A. FITZPATRICK
NUCLEAR POWER PLANT

+ + + + +

MONDAY

JUNE 29, 2015

+ + + + +

The conference call was held, Samson Lee,
Chairperson of the Petition Review Board, presiding.

PETITIONERS:

JESSICA AZULAY, Alliance for a Green
Economy (AGREE)

PAUL GUNTER, Beyond Nuclear

TIM JUDSON, Nuclear Information and
Resource Service (NIRS)

RUTH THOMAS, Environmentalists, Inc.

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P R O C E E D I N G S

12:30 p.m.

MR. CHERESKIN: Okay, it's 12:30, so I think we can start this meeting.

All right, thank you everybody for coming to attend this meeting.

My name is Alex Chereskin and I am the NRC Petition Manager for this Petition.

The purpose of today's meeting is for the Petitioners to address the NRC's Petition Review Board, or PRB, per their request regarding the Petition dated March 9, 2012 as supplemented.

This meeting is scheduled from 12:30 p.m. to 2:00 p.m. Eastern Time to allow the Petitioners a full hour to address the PRB with the introductions as well.

This meeting is being recorded by the NRC Operation Center and the recording will be transcribed by a Court Reporter. And that transcript will become a supplement to the Petition and will be made publically available.

At this time, the people present at this meeting at NRC Headquarters will introduce themselves. As we go around the room, I'd like everyone to state it loud and clear. We do have little microphone extensions off the phone, so if you could talk into one

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1 of those, I'd appreciate it.

2 And I'll begin. My name is Alex Chereskin.
3 My last name is spelled C-H-E-R-E-S-K-I-N. I'm a
4 Project Manager in NRC's Division of Operating Reactor
5 Licensing. I'm also the Petition Manager for this
6 Petition.

7 CHAIR LEE: My name is Samson Lee. I'm the
8 Deputy Division Director for NRC's Division of Risk
9 Assessment and I'm the PRB Chairman for this Petition.

10 MS. HALTER: Hi, my name is Mandy Halter.
11 I'm the Acting Chief of the Orders Management Branch in
12 Japan Lessons-Learned Division at NRR.

13 MR. TITUS: My name is Brent Titus and I'm
14 the Acting Chief for Containment and Balance-of-Plant
15 Branch also in the Japan Lessons-Learned Division at
16 NRR.

17 MR. FRETZ: My name is Robert Fretz and I'm
18 representing the Office of Enforcement.

19 MS. BANIC: Lee Banic, Petition
20 Coordinator, NRR.

21 MR. PICKETT: I'm Doug Pickett. I'm the
22 NRR Project Manager for Fitzpatrick.

23 MS. JEHLE: Patricia Jehle, Office of the
24 General Counsel and the last name is spelled J-E-H-L-E.

25 MS. VENKATARAMAN: My name is Booma

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1 Venkataraman. I am Project Manager in the Division of
2 Operating Licensing.

3 MR. CHERESKIN: That's great. And are
4 there any other participants from NRC Headquarters on
5 the phone or from the Region?

6 MR. SETZER: Hi, this is Tom Setzer. I'm
7 the Senior Project Engineer for Region I.

8 MR. SHEEHAN: Neil Sheehan, NRC Region I
9 Public Affairs.

10 MR. CHERESKIN: Okay, I don't hear any
11 other NRC folks on the phone.

12 Are there any representatives from
13 Entergy, the licensee, on the phone?

14 MR. ADNER: Yes, this is Chris Adner, JAF
15 Regulatory Assurance Manager.

16 MR. NAPPI: Hi, this is Jerry Nappi,
17 Entergy Communications. That's N as in November,
18 A-P-P-I.

19 MR. CHERESKIN: All right, not hearing
20 anyone else from Entergy, would the Petitioners please
21 introduce yourselves for the record?

22 We'll start here at NRC Headquarters and
23 then if there are any Petitioners on the phone, we'll
24 go there afterwards.

25 MR. GUNTER: Thank you.

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1 My name is Paul Gunter and I'm Director of
2 the Reactor Oversight Project at Beyond Nuclear in
3 Takoma Park, Maryland.

4 MR. JUDSON: And Tim Judson, I'm the
5 Executive Director at the Nuclear Information and
6 Resource Service based in Takoma Park.

7 And, also, the original filing of this
8 Petition and this is the Petition that I filed when I
9 was the president of Citizens Awareness Network which
10 was one of the original Petitioners.

11 MR. CHERESKIN: All right. Do we have any
12 Petitioners joining us on the phone?

13 MS. AZULAY: Yes, good afternoon. This is
14 Jessica Azulay. I'm Program Director for Alliance for
15 a Green Economy.

16 MS. THOMAS: Ruth Thomas with the
17 Environmentalists, Incorporated.

18 MR. CHERESKIN: All right. And it's not
19 required for members of the public to introduce
20 themselves for this call. However, if there are any
21 members of the public on the phone that wish to do so
22 at this time, you may state your name for the record.

23 All right, I don't hear anyone else, so I'd
24 just like to reiterate that, again, it's important to
25 speak clearly and loudly to make sure that the Court

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1 Reporter can hear us and that the recording of this is
2 clear.

3 And, when you speak, if you could please
4 first state your name for the record, that'll help in
5 developing the transcript.

6 For the people on the phone for this
7 meeting, please remember to mute your phones to minimize
8 any background noise that you may have. If you do not
9 have mute button, you can press the key star and then
10 six. And if you press star, six again, it'll unmute the
11 phone.

12 And at this time, I'll turn it over to the
13 PRB Chairman, Samson Lee, for some opening remarks.

14 CHAIR LEE: Welcome to this meeting
15 regarding the 2.206 Petition submitted by Paul Gunter
16 and Company.

17 I will now share some background on NRC's
18 2.206 process.

19 Section 2.206 of Title 10 of the Code of
20 Federal Regulations describes the petition process.
21 The primary mechanism for the public to request
22 enforcement action by the NRC in the public process.

23 This process permits anyone to petition NRC
24 to take enforcement-type actions related to NRC
25 licensees or license activities.

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1 Depending on the results of this
2 evaluation, NRC could modify, suspend or revoke an NRC
3 issue license or take any other appropriate enforcement
4 action to resolve a problem.

5 The NRC staff guidance for the disposition
6 of 2.206 petition requests is a Management Directive
7 8.11 which is publically available.

8 The purpose of today's meeting is to give
9 the Petitioner an opportunity to provide any additional
10 explanation or support for the Petition before the
11 Petition Review Board's initial consideration and
12 recommendation.

13 This meeting is not a hearing nor is it an
14 opportunity for the Petitioner to question or examine
15 the PRB on the merits or the issues presented in the
16 Petition Request.

17 No decisions regarding the merits of the
18 Petition will be made at this meeting.

19 Following this meeting, the Petition
20 Review Board will conduct its internal deliberations.
21 The outcome of this internal meeting will be discussed
22 with the Petitioner.

23 The Petition Review Board typically
24 consists of a chairman, usually a manager at the senior
25 executive service level at the NRC. It has a Petition

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1 Manager and a PRB coordinator.

2 Other members of the Board are determined
3 by the NRC staff based on the content of the information
4 in the Petition Request. The members have already
5 introduced themselves.

6 As described in our process, the NRC staff
7 may ask clarifying questions in order to better
8 understand the Petitioner's presentation and to reach
9 a reasoned decision whether to accept or reject the
10 Petitioner's Request for review under the 2.206
11 process.

12 The following is a summary of the scope of
13 the Petition under consideration and the joint
14 Petitioner's activities today.

15 On March 9, 2012, as supplemented March 13
16 and March 20, 2012, Mr. Paul Gunter and others submitted
17 a joint Petition to the NRC under Title 10 of the Code
18 of Federal Regulations Part 2.206 regarding the James
19 A. Fitzpatrick Nuclear Power Plant.

20 The Petition requests the immediate
21 suspension of the Fitzpatrick operating license, that
22 Fitzpatrick be subject to public hearings with full
23 hearing rights with regards to continue operation and
24 that Entergy shall properly document post-Fukushima
25 analysis of the preexisting containment vent system for

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1 independent review.

2 The Petitioners have also submitted a
3 Freedom of Information Act, FOIA, request dated October
4 11, 2012 requesting various communications between the
5 NRC Office of Nuclear Reactor Regulation, NRR
6 headquarters, the Office of General Counsel, Region I
7 and the Resident Inspectors.

8 The Petitioners received a response to this
9 request on August 7, 2013. The Petitioners had said
10 that this information was necessary in order to address
11 the PRB for a second time.

12 I will now discuss the NRC activities to
13 date.

14 On October 4, 2012, the NRC staff informed
15 the Petitioners of the PRB's initial recommendation to
16 partially accept the Petition Review under the 2.206
17 process. The NRC staff notes in this email that the
18 parts of the Petition that address containment
19 ventilation under accident conditions and the ability
20 for the disarm of vent systems to accommodate hydrogen
21 gas met the criteria to be reviewed under the 2.206
22 process.

23 The other portions of the Petition did not
24 meet the criteria for review under the 2.206 process.

25 The NRC staff first gave the Petitioners an

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1 opportunity to address the PRB for a second time. After
2 the initial recommendation per MD8.11 in the October 4,
3 2012 email.

4 Since the Petitioners requested a response
5 to their FOIA request prior to addressing the PRB again,
6 the NRC staff waited until the FOIA request was answered
7 and contacted the Petitioner again on February 5, 2015
8 to give the Petitioners another opportunity to address
9 the PRB.

10 This opportunity to address the PRB is
11 being given to the Petitioners to provide additional
12 relevant explanation and support for the Petition
13 Request in light of the PRB's initial recommendation and
14 the information contained in the FOIA request and
15 response.

16 This concludes the summary of NRC
17 activities to date.

18 As a reminder for the phone participants,
19 please state your name if you make any remarks as it will
20 help us in the preparation of the meeting transcript
21 that will be made publically available.

22 I will now turn it over to the Petitioners
23 to allow them the opportunity to provide any information
24 they believe the PRB should consider as part of this
25 Petition. You have one hour for your presentation.

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1 MR. GUNTER: Okay, thank you.

2 And, good afternoon. My name is Paul
3 Gunter and I represent the Petitioner, Beyond Nuclear.
4 We're based in Takoma Park, Maryland.

5 I'd like to start out by saying that it's
6 our concern that Entergy's Fitzpatrick Nuclear Power
7 Plant in Scriba, New York fits into a historic and
8 disturbing and recurring pattern of the nuclear
9 industry's failure to comply with design performance
10 criteria for the GE Mark I boiling water reactor
11 containment licensing basis and the U.S. Nuclear
12 Regulatory Commission's failure as a regulator to
13 require and enforce compliance on that licensing basis.

14 Fitzpatrick is a GE Mark I boiling water
15 reactor as were the Fukushima Daiichi units one through
16 five. Units one, two and three were power at power on
17 March 11, 2011 at the time of the earthquake and tsunami
18 and all experienced severe reactor accidents followed
19 by catastrophic containment failure and widespread and
20 persistent radiological contamination. Fukushima
21 Daiichi's units one, three and four experienced
22 hydrogen explosions.

23 The Petitioners have requested this second
24 meeting to respond to the NRC Petition Review Board's
25 initial recommendations to reject in part and accept in

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1 part while holding in abeyance actions requested in the
2 March 9, 2012 Emergency Enforcement Petition that's
3 supplemented on March 13th and March 20, 2012.

4 The Petition Review Board rejects the
5 Petitioners' request that the Fitzpatrick operating
6 license be immediately suspending pending a public
7 hearing on the power reactor's continued operation with
8 the substandard and severe accident vulnerable GE Mark
9 I Pressure Suppression Containment.

10 The power authority of the State of New York
11 refused to make modifications with the installation of
12 a hardened containment vent line as recommended in NRC's
13 Generic Letter 86-19 issued September 1, 2001 1989.

14 Now, post-Fukushima, the current operator,
15 Entergy, continues to rely upon the unmodified
16 preexisting partially hardened and partially
17 nonpressure bearing vent path that, if used under
18 accident conditions, it's highly likely to fail to high
19 pressure steam and non-condensable explosive gasses in
20 the auxiliary housing at the standby gas treatment
21 system resulting in a radiologic release at ground
22 level.

23 The Petitioners respond that Generic
24 Letter 89-16 explicitly acknowledges that the continued
25 reliance on such preexisting capability including, and

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1 I quote, nonpressure bearing vent path or duct work,
2 unquote, jeopardizes the access to vital plant areas and
3 equipment and represents an, quote, unnecessary
4 complication that threatens accident management
5 strategies.

6 The Petitioners have asserted that this
7 same unnecessary complication represents an undue
8 public health and safety risk.

9 The PRB rejected the Petitioners' request
10 for immediate enforcement actions stating that there is
11 no imminent threat to the public health and safety
12 because, quote, a sequence of events like the Fukushima
13 accident is unlikely to occur in the United States and,
14 quote, continued operation and licensing activities do
15 not pose an immediate threat to the public health and
16 safety, end quote.

17 The fact is that there have now been five
18 severe nuclear accidents in the past 36 years
19 demonstrating, by observation, that the likelihood of
20 severe accidents, in reality, is greater than the NRC
21 theoretical and the industry promotional models
22 produced since 1970.

23 All the severe accident sequences were
24 unique to one another and unanticipated.

25 This reality places an emphasis on the

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1 importance of regulatory enforcement to maintain NRC's
2 purported defense in depth philosophy at every level
3 including containment performance criteria for the all
4 important final barrier protecting the public health
5 and safety from radiological disaster.

6 Chapter 10 of the Code of Federal
7 Regulation Part 56 Appendix A General Design Criterion
8 16 establishes the minimum requirement for containment
9 design performance and, quote, an essentially leak
10 tight containment structure against the uncontrolled
11 release of radioactivity to the environment and to
12 assure that the containment design conditions important
13 to safety are not exceeded for as long as postulated
14 action conditions require.

15 The fact that NRC issued Generic Letter
16 8916 to the operator, Fitzpatrick, and the industry on
17 a voluntary compliance basis deferred its enforcement
18 obligation to maintain licensing agreements for the
19 containment performance criteria.

20 It further deferred its commitment to
21 maintain defense in depth at Fitzpatrick when the
22 operator opted out of installing a hardened containment
23 vent, instead, relying upon a pre-installed only
24 partially hardened containment vent system.

25 Given that Generic Letter 89-16 was

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1 implemented under 10 CFR 50.59, Fitzpatrick has
2 installed partial containment, their hardware was not
3 inspected by NRC walk-down, only by a review of its
4 design.

5 The Petitioners further assert that the
6 fact that the installation of a hardened containment
7 vent as described in Generic Letter 89-16 was installed
8 at the Fukushima Daiichi units and failed to avert
9 catastrophic containment failure, but does not justify
10 the Fitzpatrick operator's decision to not install the
11 hardened contained vent from the primary containment
12 through a release point on the elevated emission stack.

13 Rather, both the multiple hardened vent
14 failures would successfully vent explosive gasses at
15 four Fukushima Mark I units and Fitzpatrick operators
16 continued reliance on the preexisting containment vent
17 amplified the Petitioners' concern with the current
18 licensing basis vulnerability.

19 We, therefore, reassert our request that
20 the Fitzpatrick unit be immediately suspended.

21 The Petitioners acknowledge that the NRC
22 issued Enforcement Action 2012-050, Order to Modify
23 Licenses with Hardened Containment Vents and
24 established the mandatory compliance date for enhanced
25 hardened containment vent on all Mark I and Mark II

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1 units, including Fitzpatrick to be no later than
2 December 31, 2016.

3 On June 6, 2013, the NRC issued Enforcement
4 Action 2013-109, Issuance of Order to Modify Licenses
5 with Regard to Reliable Hardened Containment Vents
6 capable of operation under severe accident conditions
7 superseding EA 2012-050.

8 EA 2013-109 provides for compliance dates
9 for Phase I of the installation of a now enhanced
10 reliable hardened containment vent on the wet well
11 component of the containment no later than June 30, 2018
12 and for Phase II compliance no later than June 30, 2019
13 for the installation of an optional unfiltered
14 containment vent on the dry well component of the
15 containment.

16 Or an alternative mitigation strategy for
17 severe accident water addition and severe accident
18 water management that does not install a hardened vent
19 but, instead, relies upon partial flood up of the dry
20 well component while managing water addition to
21 maintain free board in the wet well so that the Phase
22 I hardened vent remains operable to relieve the
23 accident's high pressure extreme temperature and
24 noncombustible and non-condensable and combustible
25 gasses to the atmosphere.

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1 The wet well does not have an external
2 filter and relies upon the original design S-curve
3 effect in the wet well water to prevent radiological
4 releases to the environment.

5 The Petitioners now note that the addition
6 of a one and a half year delay before full implementation
7 of the Phase I wet well hardened containment vent
8 totaling as an additional three years that Fitzpatrick
9 will operate with the vulnerable Mark I pressure
10 suppression containment system and the preexisting
11 partially hardened containment vent.

12 The Petitioners reassert that extending
13 the continued operation of Fitzpatrick with an
14 unreliable containment under accident conditions
15 represents an undue risk to public health and safety.

16 And, in the interim, and prompts the call
17 for the suspension of the Fitzpatrick operating
18 license.

19 Given the history of NRC regulation, the
20 extended delay is not likely to be the last. The
21 Petitioners have asked for the suspension of the
22 suspension of operations with the preexisting
23 containment vent certainly with that in mind.

24 The Petition Review Board has rejected a
25 review of the requested action in part stating the staff

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1 explicitly recognized the wide variance in the
2 reliability of the hardened vent designs among Mark I
3 plants. The design at Fitzpatrick is one example of
4 that variance.

5 Therefore, the issue should be rejected
6 pursuant to criterion two for rejecting a Petition under
7 2.206 and to quote, meaning that the raised issue has
8 already been thoroughly reviewed by the NRC and is
9 resolved such that the solution is applicable to the
10 raised issue.

11 The Petitioners note that this same wide
12 variance in reliability of hardened vent designs
13 includes not only Fitzpatrick's half-measure of a
14 containment vent that if used under severe accident
15 conditions will likely explode inside the adjacent
16 building to the reactor building.

17 It also includes the demonstrated failed
18 vent design at Fukushima Daiichi's units one, two, three
19 and four.

20 Accordingly, the NRC's Orwellian-like
21 interpretation of variance reliability includes
22 unreliable performance.

23 Again, the Petitioners reassert that
24 Fitzpatrick operating license should be suspended.

25 The Petition Review Board accepts three of

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1 the Petitioners challenges for the suspension. Those
2 challenges are Fitzpatrick operators claim of, quote,
3 unlikely ignition points, unquote, in the preexisting
4 event line and release path that would otherwise cause
5 a detonation of hydrogen gas generated by a severe
6 accident.

7 Also, the NRC Inspection Report finding
8 that Fitzpatrick, quote, existing plant capabilities
9 and, quote, current procedures do not address hydrogen
10 considerations during primary venting.

11 And, Fitzpatrick's mitigation strategy and
12 current procedures do not address hydrogen
13 considerations during primary containment venting.

14 In each case, the Petition Review Board
15 references the NRC Near-Term Task Force Recommendation
16 5.1 to order licensees to include reliable hardened
17 containment vents on all Mark I and Mark II boiling water
18 reactors, namely, Enforcement Action 2013109 and Task
19 Force Recommendation 6 for a long term review by NRC to
20 identify insights about hydrogen control and mitigation
21 inside containment or in other buildings as additional
22 information is revealed through further study of the
23 Fukushima Daiichi accident.

24 The Petitioners have a number of concerns
25 with the Petition Review Board's recommendation to hold

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1 the requested enforcement action in abeyance while
2 Fitzpatrick Nuclear Power Plant continues to operate
3 with a vulnerable containment structure and unaddressed
4 safety issues that involve the large amounts of
5 non-conensible explosive gasses that would be generated
6 under severe accident conditions and ignition sources
7 that can result in deflagration and detonation with
8 widespread and long lasting radiological consequences
9 that will affect large sectors of society, the economy
10 and the environment.

11 The matter of arriving at timely resolution
12 to these unaddressed issues ranks high among the
13 Petitioners concerns.

14 According to NRC presentations, the
15 current challenges to the hydrogen gas problem includes
16 very little reliable empirical data on hydrogen is being
17 used -- is being recorded since the Fukushima accident.
18 And any verifiable information on the chain of events
19 at Fukushima may not be available for ten plus years.

20 In Supporters' Petition, the Petitioners
21 submit, for the record, Natural Resource Defense
22 Council's Technical Report preventing hydrogen
23 explosions in severe nuclear accidents, unresolved
24 safety issues involving hydrogen gas generation and
25 mitigation dated March 2014, with findings that the NRC

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1 and the nuclear industry are far from resolution for
2 Recommendation 6.

3 Even after Fukushima Daiichi's three
4 devastating hydrogen explosions, the NRC has regulated
5 its investigation of severe accident hydrogen
6 generation safety issues to the lowest priority of its
7 post-Fukushima Daiichi Accident Response.

8 The NRDC report finds that beyond adding
9 reliable hardened containment vents to the Fukushima
10 cell reactors, it could take decades before the U.S.
11 nuclear industry implements further hydrogen gas
12 control measures.

13 A boiling water reactor like Fitzpatrick
14 has several times more mass of zirconium in their
15 reactor core than larger pressurized reactors like
16 Indian Point Unit 3.

17 A typical BWR core with 800 fuel assemblies
18 would actually have more than 76,000 kilograms of
19 zirconium cited by the IAEA as typically present in a
20 BWR core.

21 It is the interaction of this zirconium
22 fuel colliding with steam at high temperatures during
23 a severe accident that generates the explosive gas.

24 The NRC Technical Report further finds that
25 the NRC computer models under predict hydrogen gas

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1 generation rates during severe accidents, citing
2 technical reports from Oak Ridge National Laboratory
3 and the International Atomic Energy Agency which
4 account for hydrogen gas generation during the
5 evolution of a severe accident and how computer safety
6 models under predict rates of hydrogen generation that
7 would occur during the re-flooding of an overheated
8 reactor core that can cause hydrogen gas rates to vary
9 by a large degree.

10 NRDC points out that, despite these
11 reports, the NRC Near-Term Task Force failed to discuss
12 NRC computer safety models like MELCOR that under
13 predict such hydrogen gas generation rates, thus,
14 undermining defense in depth with less conservative
15 computer models.

16 And, I quote, when hydrogen generation
17 rates are under predicted, hydrogen mitigation systems
18 are not likely to be designed so that they can handle
19 the generation rates that would occur in actual severe
20 accidents, unquote.

21 As such, contrary to NRC and industry
22 claims, the reliable hardened containment vent issue is
23 not yet resolved and very likely to prove troublesome
24 to NRC and industry on holding to current implementation
25 schedules and are no more reliable than the wide

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1 variance of design of its predecessors.

2 The NRDC report calls particular attention
3 to the severe accident scenarios where there is a rapid
4 containment pressure increase and uncertainty for the
5 diameter and thickness of a reliable containment vent
6 line and more certainty for the lack of reliability of
7 as-built containment vent such as relied on at
8 Fitzpatrick for the next several years at least.

9 The NRDC report further illuminates that
10 current NRC enforcement action does not require that
11 hydrogen be mitigated in the BWR secondary containment,
12 also known as the reactor building, in several and
13 severe accidents, despite the multiple demonstrations
14 and devastating consequence at Fukushima Daiichi.

15 In line with the NRC defense in depth
16 philosophy, hydrogen gas leakage for more than 150
17 penetration in the Fitzpatrick Mark I primary
18 containment and/or hardened containment line needs to
19 be considered and mitigated.

20 Severe accident hydrogen explosions remain
21 an unresolved safety issue. The NRDC report points out
22 that during a severe accident, large volumes of water
23 will be pumped into the Fitzpatrick's reactor core
24 creating thousands of kilograms of steam.

25 While this large quantity of steam may

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1 initially create an inerting effect that can suppress
2 and prevent hydrogen gas explosions, the steam will
3 eventually condense at some point in an accident either
4 naturally or by the use of containment systems for
5 hydrogen combustion causing hydrogen combustion and
6 which will occur only with a very small amount of energy
7 from an electrical spark or a static electric charge,
8 for example, that caused the Hindenburg disaster.

9 But it is our concern that the attention
10 should be drawn to the widespread and unaccepting
11 consequences of allowing Fitzpatrick to continue to
12 operate with its substandard containment and only
13 partial measure that proves to be highly unreliable.

14 Thank you. That concludes my remarks.

15 MR. CHERESKIN: I believe Jessica has been
16 waiting.

17 CHAIR LEE: Jessica, you'd like to make
18 some remarks?

19 MS. AZULAY: Yes, thank you.

20 Thank you for the opportunity to address
21 you today. Thank you to my co-Petitioners who are there
22 in person.

23 My name is Jessica Azulay. I'm Program
24 Director for Alliance for a Green Economy, also known
25 as AGREE. And we are a New York State based coalition

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1 of environmental and social justice organizations.

2 AGREE has served as the primary nuclear
3 watchdog organization in Central New York since the
4 beginning of the ongoing Fukushima nuclear catastrophe.

5 Since that catastrophe began to unfold, we
6 have sought to understand why the Mark I reactors at
7 Fukushima experience meltdowns and why their
8 containments were breached. And we have sought to
9 understand how the Mark I and their cousin, Mark II,
10 reactors in our region might be vulnerable to the same
11 kinds of meltdowns and massive radiological release.

12 Central New York is home to two Mark I
13 reactors, Fitzpatrick and Nine Mile Point 1 and one Mark
14 II reactor, Nine Mile Point 2.

15 I personally live in Syracuse, New York
16 which is about 36 miles from those reactors and I am one
17 of about a million people who live within 50 miles of
18 Fitzpatrick and Nine Mile 2.

19 Our way of life in Central New York is
20 heavily dependent on our clean water resources, our
21 farming and our forests and a clean environment is
22 essential to our health and well-being. It is
23 essential to the economy of the rest of the State of New
24 York as well.

25 A Fukushima-style accident could render a

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1 large part of my region uninhabitable. Those of us
2 lucky enough to evacuate would have our lives derailed
3 and the plant and animal life and those who are not
4 evacuated could have their lives destroyed.

5 The economic blow to our state would be
6 enormous and the radiological contamination of Lake
7 Ontario, one of the world's largest sources of fresh
8 water would be a tragedy beyond words.

9 I say all this because I want to remind you
10 that your decisions have real world consequences, real
11 world risks. Your decisions matter to me personally
12 and to every person, every living thing in Central New
13 York.

14 If you make risky decisions in this case,
15 you are putting our lives at risk.

16 So, I'm calling in today really just to
17 ask a simple question of you and your colleagues at NRC.
18 Do we in Central New York deserve to be protected from
19 radiation in the case of an accident at Fitzpatrick?

20 If the answer is yes, which I hope it is,
21 will the NRC commit to enforcing right now it's General
22 Design Criterion 16 which requires a reliable leak proof
23 containment to protect the public from radiation
24 exposure during an accident?

25 That's what this Petition is all about.

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1 It's about the fact that Fitzpatrick does not have a
2 containment system that will protect us from radiation
3 in the case of accident.

4 I say this as fact because I've reviewed
5 hundreds of pages dating back to the 1980s dealing with
6 this issue. And in not one of them have I found the NRC
7 or the plant operators claiming that Fitzpatrick has a
8 containment system that will prevent the release of
9 radiation in the case of a severe accident.

10 Sure, there's a lot in the documentation
11 about how unlikely an accident is. There's a lot of
12 calculation about how much an accident would cost in
13 lives and money and how events contribution to
14 preventing an accident is so small it supposedly wasn't
15 worth the \$680,000.00 it would have taken back in the
16 early 1990s to install a hardened vent to the stack.

17 There is information about how this or that
18 vent design will help prevent a meltdown and how this
19 or that vent design will be easier or harder to operate.

20 But let's be real here, no one is saying
21 that in the case of an accident that radiation won't
22 escape and that we won't be contaminated.

23 So, I just want to ask you that in your
24 deliberations about how to handle our Petition, you ask
25 yourselves whether Fitzpatrick is in compliance with

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1 the General Design Criterion 16 or not?

2 If an accident occurs at this plant, I
3 assure that no one will excuse inaction based on the
4 precedent of inaction.

5 Now, I will turn to the specifics of the
6 Fitzpatrick case because I want to make sure you
7 understand that Fitzpatrick is a unique case because the
8 vent plan on the books doesn't really even make a
9 pretense of protection.

10 I'm going to reference a number of
11 documents that we received through the Freedom of
12 Information Act Request and I'll email these documents
13 to our Petition Manager so that you have them at your
14 fingertips to accompany your review of my statement.

15 The documents we received through the
16 Freedom of Information Act Request suggest that the vent
17 at Fitzpatrick will not work in a station blackout
18 scenario to help prevent a meltdown or the total loss
19 of containment.

20 One document dated September 28, 1992 with
21 the subject Hardened Wet Well Vent Capability at the
22 James A. Fitzpatrick Nuclear Plant describes in detail
23 how the vent would not be effective in a station blackout
24 situation because by the time the pressure is high
25 enough to be vented, it would be too late to use the vent

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1 effectively.

2 So, it seems from this and other documents
3 that we are unprotected if there is a loss of offsite
4 power and something goes wrong with the backup power
5 sources, this Fitzpatrick vent will not help us.

6 But what about cases in which the vent can
7 supposedly be used?

8 Let me review what a successful venting at
9 Fitzpatrick looks like. Because Fitzpatrick is a Mark
10 I reactor and its containment is relatively small, it
11 is not designed to be able to withstand the build up of
12 pressure that would result from a severe accident.

13 So, if the operators at Fitzpatrick find
14 themselves in an accident scenario in which proves
15 pressure is building, they will want to relieve the
16 pressure building up at the reactor.

17 The plan is to open some valves and create
18 a pathway for steam, radiation and other materials to
19 exit the reactor building through a couple of pipes and
20 enter the ductwork in the adjacent standby gas treatment
21 building where it is expected that the ductwork will
22 fail and steam and radiation will be released into the
23 building.

24 Pressure will then build up in the standup
25 gas treatment building until the doors to outside blow

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1 off, releasing the steam and radiation into the
2 environment at ground level. That's if things go
3 right.

4 Again, if things go right, the area around
5 the standby gas treatment building will be contaminated
6 with radioactive steam.

7 In the hundreds of NRC pages I've reviewed
8 on this plan, I have not found any discussion about how
9 this might affect workers on the site or how it might
10 hamper recovery efforts to get an accident under
11 control. I cannot believe this never discussed and
12 never studied.

13 But, as far as I can tell, the impact on
14 workers is unknown as is the extent to which releasing
15 radiation at the ground level could compromise access
16 to important parts of the Nine Mile Nuclear Complex
17 which houses Fitzpatrick and Nine Mile Point 1 and 2.

18 The potential for this vent plan to affect
19 the other nuclear plants at the site has been completely
20 ignored by NRC, to our knowledge.

21 What is known is that the impact on the
22 public will be greater because of the ground level
23 release at Fitzpatrick. And, if there were a hardened
24 vent path going to the stack like at the other Mark I
25 reactors in the U.S.

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1 A June 15, 1990 document titled Staff
2 Back-Fit Analysis for James A. Fitzpatrick Nuclear
3 Plant Regarding Installation of a Hardened Wet Well Vent
4 is very clear on this point.

5 It states, quote, for venting sequences,
6 the hardened vent connected to the plant stack could
7 reduce dose consequences more effectively by
8 approximately a factor of two than venting through the
9 ductwork.

10 This reduction is due to a greater
11 effectiveness of atmospheric dispersion resulting from
12 controlled elevated relief compared to an uncontrolled
13 ground level release from ductwork, unquote.

14 So, we see that if the Fitzpatrick is used
15 as planned, the public will receive twice as much
16 radiation than if there were a vent to the stack.

17 Now, all of this was a discussion of what
18 would happen if things go according to plan. But the
19 record shows that NRC now has serious doubts about
20 whether things would go according to plan.

21 For one, it was assumed all this time that
22 there would not be an explosion in the standby gas
23 treatment building if this plan were followed, or
24 rather, I think it's more accurate to say that because
25 NRC staff was uncertain about whether there would be an

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1 explosion, they let the New York power authority to
2 convince them to accept an inferior vent plan.

3 In so, with potential ignition sources in
4 the standby gas treatment building, this is clear from
5 the September 28, 1992 letter. And that the way to
6 prevent the possibility of a deflagration was to bypass
7 that building and vent to the stack.

8 But, because there was, quote, uncertainty
9 about whether the materials being vented would be
10 combustible, they allowed the inferior vent plan to
11 stand despite their reservations.

12 Quoting again from that September 28, 1992
13 document, a hardened pipe bypass around the standby gas
14 treatment system could prevent any hydrogen
15 deflagration within the SGPS room.

16 The licensee estimated the cost of this
17 modification at \$680,000.00. The licensee concluded
18 that combustion in the existing vent path is not
19 significant and does not plan to modify the vent design.

20 Based on the uncertainty as to whether a
21 combustible mixture could develop, the prevention
22 potential of steam and nitrogen to suppress a hydrogen
23 deflagration, the mitigation potential of the concrete
24 wall between the SGPS room and the safety related
25 equipment and the costs associated with modifications,

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1 the NRC staff concludes that the existing design is
2 acceptable and the intent of the criterion has been met,
3 close quote.

4 After Fukushima, some NRC staff thought
5 this decision should be revisited, at least it seemed
6 that way from the emails and other documents we obtained
7 through the FOIA Request.

8 For instance, a summary of TI 183
9 inspections we received states, quote, the inspectors
10 identified that the current licensing basis does not
11 require the licensee to have a hardened wet well vent
12 installed as part of their Mark I containment program
13 improvements.

14 While the decision to not install the
15 hardened vent received regulatory approval, it may be
16 appropriate to reevaluate the adequacy of the existing
17 wet well vent strategy and configuration, close quote.

18 A March 2013 email from John Rain to other
19 NRC staff reviewing the history of the Fitzpatrick vent
20 expresses skepticism as to whether the vent could be
21 manually opened by hand when power is unavailable,
22 remarking with a little dark humor, as our Japanese
23 colleagues would likely say, good luck with that.

24 And yet, you have allowed this plant to
25 continue operating knowing all of this. It seems the

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1 only action taken to date was to issue guidance to the
2 plant operators that they should use caution when
3 considering using the vent because of the potential for
4 a hydrogen explosion.

5 According to an April 17, 2012 email from
6 Ed Knutson, the senior resident inspector at
7 Fitzpatrick which we obtained through the FOIA, the
8 guidance for primary containment venting without AC
9 power was changed to include in the consideration,
10 quote, venting primary containment to secondary
11 containment is likely to be an irreversible action since
12 it will result in discharge of steam and non-condensable
13 gas potentially causing fission products and hydrogen
14 to the reactor building creating an environment with
15 severe thermal radiological and combustible/explosive
16 conditions, close quote.

17 Doesn't urging caution make it less likely
18 that the vent would be used to prevent a serious accident
19 which, in turn, makes a serious accident more likely?
20 How does the NRC response to this situation reflect the
21 lessons learned from Fukushima?

22 It seems the lessons have helped identify
23 a festering problem, but has not spurred adequate action
24 to protect the public.

25 As a resident of Central New York, I'm

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1 desperate to know that after Fukushima, the U.S.
2 regulators are taking the lessons learned seriously and
3 are addressing any known issues they find at our local
4 nuclear reactors. And, it seems clear to me that you
5 have fallen down on the job.

6 The NRC has known for years that the Mark
7 Is simply do not provide a leak proof containment and
8 that the vent plan at Fitzpatrick carries with it
9 certain risks to the public, more risks because of the
10 potential for ground level contamination than any other
11 reactor of its type.

12 And now, the NRC knows that, based on the
13 lessons of Fukushima, that the consequences of loss of
14 power or other severe scenarios at Mark Is can be
15 catastrophic and irreversible. Yet, the only
16 assurance we get, the only rationale for inaction is
17 that an accident is unlikely.

18 This is not a satisfactory answer. We
19 deserve a real accounting of the risks at Fitzpatrick.
20 In your original preliminary recommendation, the
21 Petition Review Board told us you were planning to
22 accept portions of our Petition but to hold them in
23 abeyance because of the rulemaking happening around
24 Mark I vents.

25 But, I urge you to accept this Petition

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1 without delay. Fitzpatrick poses an unacceptable risk
2 and it is not in compliance with the most basic of NRC
3 regulations requiring leak proof containment.

4 The existence of an inferior vent plan that
5 could lead to an explosion and/or ground level release
6 of radiation makes an accident more likely because
7 operators are told to be cautious about venting.

8 The cost of inaction or delay could be a
9 meltdown and the irreversible destruction of Central
10 New York.

11 If you are unwilling to shutdown the
12 reactor, I urge you to at least immediately grant the
13 public hearings we seek. Bring the situation into the
14 light of day and require Entergy to answer our questions
15 in a public forum. Entergy should be required to
16 publically document for independent review its
17 post-Fukushima reanalysis for the reliability and
18 capability of the Fitzpatrick vent.

19 Thank you very much for your time today.

20 MR. JUDSON: So, my name is Tim Judson.
21 I'm the Executive Director at the Nuclear Information
22 and Resource Service and I appreciate the Petition
23 Review Board's extension of this opportunity to address
24 you regarding the Fitzpatrick 2.206 Petition on
25 Fitzpatrick.

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1 You know, I want to address some of the
2 overarching concerns that the Petitioners have
3 developed over the course of this process regarding the
4 justifications that NRC has offered for what we see as
5 really inaction on our Petition, you know, the holding
6 of our Petition in abeyance.

7 And we're very concerned that the NRC is,
8 you know, is failing to act on these issues essentially
9 the way of protecting out of compliance reactors from
10 the expense of, you know, of having to restore
11 compliance at the expense of the worker and public
12 health and safety.

13 And, you know, I think what we've seen in
14 the documents that Jessica has described is that there's
15 an acknowledgment that, you know, in this particular
16 case with Fitzpatrick, that there would be a, you know,
17 double the dose consequence to the public from, you
18 know, from the utilization of Entergy's venting
19 strategy at Fitzpatrick. And there would be the NRC
20 required compliance with the installation of a hardened
21 vent.

22 And what we're very cognizant of is that the
23 NRC is not saying that Fitzpatrick is not going to have
24 to install a hardened vent at some point, it's just that
25 you're not going to require it now even though we know,

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1 based on the documentation that is now on the record,
2 that there's a known greater consequence to the worker
3 and public health and safety from deferring, you know,
4 the requirements that Fitzpatrick comply with the
5 regulations.

6 And so, and we've seen this happen -- this
7 is actually the third 2.206 Petition that many of the
8 Petitioners have been party to, you know, since
9 Fukushima at this particular reactor.

10 And I want to sort of run through the record
11 that sort of documents our concern that the NRC is acting
12 in a way to essentially lower safety regulations and
13 safety requirements in order to protect the industry
14 from financial expenses.

15 And, you know, we filed a year after this
16 Petition, we filed a 2.206 Petition alleging that
17 Fitzpatrick was in violation of financial
18 qualifications regulations and that proceeding has been
19 going on for over two years as well.

20 We submitted a vast amount of documentation
21 that Fitzpatrick is being operating at a financial loss,
22 is being under financial strain. In fact, Entergy
23 continuously acknowledges that this particular reactor
24 is operating under financial strain.

25 And we're concerned that the NRC has

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1 essentially declined to enforce regulations in order to
2 prevent reactors like this from closing and -- because
3 I've reviewed the record on this.

4 You know, we know from -- there have been
5 industry analyses of this reactor and others that
6 document potentially over \$130 million in financial
7 losses projected within a five year period. Now, the
8 five year period is significant in terms NRC regulations
9 because the NRC standard review plan on financial
10 qualifications for licensees establishes a requirement
11 that reactor operators present five years of cost and
12 revenue projections in order to show -- in order to
13 demonstrate that they're able to operate the reactor
14 profitably, that they're able to operate the reactor
15 safely.

16 Now, NRC has -- the NRR has issued a draft
17 decision on that Petition that projects it. But this
18 is after, you know, over two years of review and the
19 decision itself seems to be based entirely upon
20 information that was voluntarily submitted by Entergy
21 that is, as we've documented in a response to it,
22 inaccurate, irrelevant and incomplete, rather than any
23 review of the information that we've submitted that
24 documented financial problems facing this reactor
25 specifically.

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1 Now, in one of the documents that we've
2 submitted in relation to that was a report by the
3 investment firm, UBS, which was the initial source of
4 a lot of the documentation of the financial problems
5 facing Fitzpatrick.

6 And, in one of those reports, UBS had
7 actually visited the NRC to discuss with staff the
8 possibility that NRC was going to require the
9 installation of filtered hardened vents on Mark I and
10 II BWRs two years ago. And the UBS, based on the
11 discussion that they had had with NRC staff, expressed
12 confidence that the NRC was going to, in fact, decide
13 not to require filters on Mark I and II vents out of
14 concern for the industry's financial, you know,
15 financial considerations.

16 And this is quoting from their report
17 specifically. We look for a decision from the NRC next
18 week on proposals to require the installation of
19 hardened filtered vents on all Mark I and II units.

20 We increasingly believe the NRC may not
21 require these added precautions given the added stress
22 this places on the incumbent portfolio, with NRC staff
23 initially estimating these retrofits to cost \$15
24 million.

25 However, multiple other sources estimate

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1 that the true cost of such installation costs could be
2 up to \$40 million per unit.

3 Now, I would like to note that a cost in the
4 range of \$15 to \$40 million per unit is not an exorbitant
5 cost, it's not an exorbitant capital expense for nuclear
6 reactors in the United States. That, in fact, since
7 this decision was made, Fitzpatrick installed a \$15
8 million condenser replacement at the reactor.

9 And this has all been because one of the
10 other Petitions that we filed was an enforcing Petition
11 to get the NRC to require Fitzpatrick to replace the
12 condenser because it was in violation of the unplanned
13 power changes cornerstone in the reactor oversight
14 program.

15 And, what happened in that case was that
16 Entergy should have known in 2012 that it needed to
17 replace the condenser and decided not to, probably for
18 these financial considerations. And NRC continued to
19 let Fitzpatrick operate in violation of a safety
20 cornerstone until their next refueling outage in the
21 fall of 2014, essentially because the question of
22 whether Entergy was going to be willing to invest \$50
23 million in the future operations of this reactor was
24 going to, you know, was going to be made.

25 And, as we now know, Entergy decided that

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1 the investments in the, you know, in the new condenser
2 was worth the expense and what we now see as the
3 Petitioners is, essentially, that the NRC have deferred
4 enforcing regulations that have increased the risk of,
5 you know, safety incidents at Fitzpatrick out of
6 financial considerations that Entergy has expressed.

7 And the, you know, but the fact remains
8 that, you know, the filtered vent issue at Fitzpatrick
9 presents a direct threat to the public health and safety
10 and we know, if fact, that it would, you know, have a
11 higher consequence in an accident scenario than what the
12 current plan is.

13 There's a write up that the installation of
14 a hardened vent would reduce the consequences of an
15 accident at Fitzpatrick.

16 And, what the NRC has essentially done is
17 allow Fitzpatrick to decide to replace the condenser and
18 continue running this reactor in this degraded state
19 rather than to address the basic safety problem that
20 would have been able to do at essentially the same cost
21 level.

22 And so, this raises a very serious concern
23 for us that the NRC is essentially allowing Entergy to
24 dictate the terms of regulatory enforcement based on its
25 assertions about its own financial considerations

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1 rather than the NRC actually taking the reins as the
2 regulator and doing its own cost benefit analyses.

3 And I think what you would find in this case
4 is that the cost benefit analysis for enforcing the
5 regulations on Fitzpatrick regarding the hardened vents
6 are, actually, more of a time value of money than the
7 actual expense. Because if Fitzpatrick is going to
8 continue to operate, Entergy is going to make this
9 expense. The difference is whether it makes it now or
10 whether it makes it in four years.

11 And, this is -- and so, and the NRC
12 conducting a cost benefit analysis of the enforcement
13 of the regulation, I believe that this is the way that
14 it needs to be looked at is that there's the time value
15 cost of money which is actually going to be -- which will
16 actually benefit Entergy in the long run because it will
17 be able to amortize the expense of, you know, of
18 installing a hardened event over a longer period of time
19 before the end of the life so that, in fact, this would
20 actually be a benefit to Fitzpatrick to enforce the
21 requirement if they're going to continue to operate the
22 reactor.

23 And if the reality is that if Entergy is not
24 going to be willing to make this expense in order to
25 continue operating the reactor, then better to have them

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1 pose it sooner rather than later because, as we know,
2 the consequence of an accident is almost certain, I
3 mean, you know, the result of an accident is almost
4 certain, you know, given, you know, given the venting
5 strategy that's being used at Fitzpatrick.

6 So, with that, I'll conclude.

7 CHAIR LEE: I'm going to make the closing
8 remarks.

9 At this time, does the NRC staff at
10 headquarters have any questions for the Petitioners?

11 How about the Region?

12 MR. SETZER: No, thank you.

13 CHAIR LEE: Does the licensee have any
14 questions?

15 MR. NAPPI: No, we do not.

16 CHAIR LEE: I'm not sure if there's any
17 member of the public, but before I conclude the meeting,
18 members of the public might provide comments regarding
19 the Petition and ask questions about the 2.206 Petition
20 process.

21 However, as stated at the opening, the
22 purpose of this meeting is not to provide an opportunity
23 for the Petitioner or the public to question or examine
24 the PRB regarding the merits of the Petition Request.

25 Is there any member of the public want to

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1 make any comment or statement?

2 MR. LEWIS: Yes, I do, Marvin Lewis, member
3 of the public.

4 CHAIR LEE: Okay, Mr. Lewis, go ahead.

5 MR. LEWIS: Yes, back in '79 I had a
6 contention before the Three Mile Island Number 1 restart
7 hearing, namely concerning hardened filtered vents.

8 Thankfully, the licensee agreed with me and
9 made my contention moot after two years of whatever.

10 My problem is this, I agree with you. We
11 have to stick to procedure and that is important. But,
12 I respectfully point out that the charter of the NRC
13 specifically states protect the health and safety of the
14 public, nine times.

15 And I respectfully suggest that the NRC and
16 the Hearing Board look to the charter and see if that
17 protection of the health and safety of the public has
18 some precedence over some step, procedural step, that
19 the licensee or the NRC wants to involve itself therein.

20 Thank you.

21 CHAIR LEE: Thank you.

22 Is any other members of public want to make
23 a statement?

24 I would like to thank the Petitioners for
25 taking time to provide the NRC staff the clarifying

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1 information on the Petition you have submitted.

2 And, before we conclude the meeting, does
3 the Court Reporter need any additional information for
4 the meeting transcript?

5 With that, this meeting is concluded and
6 I'm terminating the phone connection.

7 (Whereupon, the above-entitled matter went
8 off the record at 1:29 p.m.)

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