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RE James A. Fitzpatrick Nuclear Power Plant

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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

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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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BOOMA VENKATARAMAN, Project Manager, Division of Operating Reactor licensing, Office of Nuclear Reactor Regulation

NRC REGION I

NEIL SHEEHAN, Public Affairs, Region I

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

of those, I'd appreciate it.

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

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

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

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

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

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

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

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

MS. VENKATARAMAN: My name is Booma

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

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

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

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

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

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

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

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

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

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

MR. GUNTER: Thank you.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Manager and a PRB coordinator.

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

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

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

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

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

independent review.

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

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

I will now discuss the NRC activities to date.

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

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

The NRC staff first gave the Petitioners an

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

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

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

This concludes the summary of NRC activities to date.

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

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

MR. GUNTER: Okay, thank you.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

This reality places an emphasis on the

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

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

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

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

Given that Generic Letter 89-16 was

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

The Petition Review Board accepts three of

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

variance of design of its predecessors.

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

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

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

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

While this large quantity of steam may

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

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

Thank you. That concludes my remarks.

MR. CHERESKIN: I believe Jessica has been waiting.

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

MS. AZULAY: Yes, thank you.

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

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

of environmental and social justice organizations.

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

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

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

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

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

A Fukushima-style accident could render a

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

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

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

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

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

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

That's what this Petition is all about.

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

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

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

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

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

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

the General Design Criterion 16 or not?

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

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

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

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

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

effectively.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

As a resident of Central New York, I'm

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

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

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

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

But, I urge you to accept this Petition

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

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

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

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

Thank you very much for your time today.

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

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

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

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

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

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

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

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

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

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

And we're concerned that the NRC has

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

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

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

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

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

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

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

However, multiple other sources estimate

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

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

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

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

And, as we now know, Entergy decided that

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

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

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

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

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

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

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

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

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

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

So, with that, I'll conclude.

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

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

How about the Region?

MR. SETZER: No, thank you.

CHAIR LEE: Does the licensee have any questions?

MR. NAPPI: No, we do not.

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

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

Is there any member of the public want to

make any comment or statement?

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

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

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

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

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

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

Thank you.

CHAIR LEE: Thank you.

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

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

information on the Petition you have submitted.

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

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

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