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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

ENFORCEMENT ACTION AGAINST PILGRIM NUCLEAR POWER STATION (OEDO-15-00479)

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WEDNESDAY

AUGUST 5, 2015

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

PETITIONERS: DAVID LOCHBAUM, MARY LAMPERT, PINE DUBOIS, DIANE TURCO

PETITION REVIEW BOARD MEMBERS

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JENNIFER HAUSER, Project Manager, Division
Of Operator Reactor Licensing

TANYA MENSHA, Division of Policy and Rulemaking,
Office of Nuclear Reactor Regulation

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P-R-O-C-E-E-D-I-N-G-S

1:30 p.m.

MS. VENKATARAMAN: Good afternoon. It's a couple minutes past 1:30 p.m. Eastern U.S. Time. It's a pleasant and sunny day here at the NRC Headquarters.

My name is Booma Venkataraman and I am a project manager in the Office of Nuclear Reactor Regulation. I would like to thank everybody for attending this teleconference.

Our purpose today is to allow the Petitioner, David Lochbaum, representing the Union of Concerned Scientists, and Mary Lampert representing Pilgrim Watch to address the Petition Review Board, PRB, regarding the 2.206 petition dated June 24th, 2015 regarding Pilgrim's current licensing basis for flooding.

David Lochbaum submitted this petition with seven Co-Petitioners, including Mary Lampert. I am the petition manager for the petition and a member of the PRB. The PRB Chairman is Sam Lee.

By the way, my last name Venkataraman is spelled V-E-N-K-A-T-A-R-A-M-A-N.

p.m. to 2:30 p.m. Eastern Time. The meeting is being recorded at the NRC Operations Center and will be transcribed by a court reporter. The transcript will become a supplement to the petition. The transcript will also be made publicly available in ADAMS.

I would like to open this teleconference with introductions. As we go around the room and the bridge line, please be sure to clearly state your name, your position and the office that you work for within the NRC for the record. We will start with the introduction of the Petition Review Board including the members on the phone. We'll begin with the Chairman.

CHAIRMAN LEE: Yes, this is Sam, Samson Lee. I'm the Deputy Division Director for Division of Risk Assessment in NRR. I'm the Petition Review Board Chairman for this particular request.

MR. SHAMS: This is Mohammed Shams. I'm Branch Chief for the Hazard Management Branch in NRR and the Division of Japan Lessons Learned.

MR. HALL: Good afternoon. This is Victor Hall. I'm a senior project manager also in the

Hazards Management Branch in the Japan Lessons Learned
Division as part of the Office of Nuclear Reactor
Regulation. And I'm a member of the PRB Board.

MR. WRAY: I'm John Wray; the last name is spelled W-R-A-Y, with the Office of Enforcement.

MS. VENKATARAMAN: Yes, do we have any of the PRB members from the NRC Headquarters on the phone?

MR. CARPENTER: Yes, this is Robert Carpenter and I'm representing the Office of General Counsel.

 $\mbox{MS. VENKATARAMAN:} \quad \mbox{Do we have PRB members} \\ \mbox{from Regional Office of the NRC?}$

MR. SHAFFER: Steve Shaffer from DRP in Region I.

MS. VENKATARAMAN: Thank you. Let's now go around the room here for the other attendees to introduce themselves.

MS. HAUSER: I'm Jenny Hauser. I'm a PM in the Division of Operator Reactor Licensing.

MR. COOK: Good afternoon. My name is Christopher Cook. I'm Chief of the Hydrology Meteorology Branch in the Office of New Reactors.

MR. GUZMAN: This is Rich Guzman, Project Manager in NRR, Project Manager for Pilgrim.

 $$\operatorname{MR}.$$ BEASLEY: This is Ben Beasley. I'm a branch chief of the Division of Operating Reactors in NRR.

MS. VENKATARAMAN: We have completed introductions at the NRC Headquarters in the room. Are there any NRC participants from the headquarters on the phone other than the PRB members?

MS. MENSHA: This is Tanya Mensha,
Division of Policy and Rulemaking, Office of Nuclear
Reactor Regulation. I'm the 2.206 coordinator.

MS. VENKATARAMAN: Are there any other NRC participants from the regional office on the phone other than the PRB members?

(No audible response)

MS. VENKATARAMAN: Are there any representatives for Entergy, the licensee for Pilgrim, on the phone? If so, please introduce yourself at this time.

(No audible response)

MS. VENKATARAMAN: And for the record would the Petitioners please introduce yourself?

MR. LOCHBAUM: This is David Lochbaum,
Director of the Nuclear Safety Project for the Union
of Concerned Scientists.

MS. LAMPERT: This is Mary Lampert, L-A-M-P-E-R-T, Director of Pilgrim Watch located in Duxbury, Massachusetts.

MS. duBOIS: Pine duBois with the Jones River Watershed Association in Kingston, Mass.

MR. TURCO: Diane Turco with Cape Downwinders from Cape Cod, Massachusetts.

MS. VENKATARAMAN: It is 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, please state your name for the record.

(No audible response)

COURT REPORTER:

MS. VENKATARAMAN: And for our court reporter, would you also please state your name?

Tony Porreco.

MS. VENKATARAMAN: Thank you. I would like to emphasize that we each need to speak clearly and loudly to make sure that the court reporter can accurately transcribe this meeting. If you do have something that you would like to say, please first state your name for the record.

For those dialing into the teleconference, please remember to mute your phones to minimize any

background noise or distractions. If you do not have a mute button, it can be done by pressing the keys star, six. To un-mute, press the star, six keys again. Thank you.

At this time I will turn it over to Sam Lee, the PRB Chairman.

CHAIRMAN LEE: Good afternoon. I'm Samson Lee. Welcome to this teleconference regarding the 2.206 petition submitted by David Lochbaum with seven Co-Petitioners.

I would like to first share some background on our 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 a public process. This process permits anyone to petition the NRC to take enforcement type action related to NRC licensees or licensed activities. Depending on the results of this regulation NRC could modify, expand or revoke an NRC-issued license or take any other appropriate enforcement action to resolve the problem.

The NRC staff guidance for the disposition of 2.206 petition request is in Management Directive 8.11, which is publicly available. The purpose of

today's teleconference is to give the Petitioners an opportunity to highlight key issues in the petition and provide any additional explanation or support for the petition before the PRB's initial consideration and recommendation.

This meeting is not a hearing, nor is it an opportunity for the petition to question or examine the PRB on the merits or the issues presented in the petition request. No decisions regarding the merits of this petition will be made at this teleconference. Following this meeting the Petition Review Board will conduct its internal deliberations. The outcome of this internal meeting will be discussed with the Petitioners.

The PRB typically consists of a chairman, usually a manager at the Senior Executive Service level at the NRC, a petition manager and a PRB coordinator. Other members of the Board are determined by the NRC staff based on the content of information in the petition request. In addition, the PRB obtains advice from the Office of General Counsel of the NRC. The PRB members have already introduced themselves.

As described in our process the NRC may ask clarifying questions in order to better understand the

Petitioners' presentation and to reach a reasoned decision whether to accept or reject the Petitioners' request for review under the 2.206 process. Additionally, the licensee may ask questions to clarify the issues raised by the Petitioners.

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

On June 24th, 2015 David Lochbaum representing the Union of Concerned Scientists submitted to the NRC а petition with Co-Petitioners under 2.206 regarding Pilgrim's current licensing basis for flooding. In the petition request the Petitioners requested that NRC take enforcement action to require that the current licensing basis for Pilgrim includes flooding caused by local intense precipitation, probable maximum precipitation events. Additionally, the Petitioners state evaluations by the plant's owner indicate that the site could experience flood levels of these causes nearly 10 feet higher than anticipated when the Atomic Energy Commission originally licensed it.

The good news is that there was already installed at the site protect important equipment from

being submerged and damaged. That bad news is that regulatory requirements neither nor enforceable commitments exceeds that ensure a continue reliability of these flood protection features. The Petitioners seek to rectify this safety shortcoming by revising the current licensing basis to include flooding caused by heavy rainfall events. In the petition Petitioners also request to address the NRC staff before the PRB needs to consider the petition request.

As a reminder for the phone participants, please identify yourself when you make any remarks as this will help us in the preparation of the meeting transcript that will be made publicly available. Since this is a public teleconference, I would like to remind all participants to refrain from discussing any NRC sensitive or proprietary information during today's teleconference.

I will now turn it over to the Petitioners to allow them the opportunity to highlight key issues in the petition and provide any additional information they believe the PRB should consider as part of this petition. The Petitioners will have about 40 minutes for their presentation.

So with this, I'll turn this over to David

Lochbaum, Union of Concerned Scientists.

MR. LOCHBAUM: Thank you. This is David Lochbaum with the Union of Concerned Scientists. I wanted to point out one clarification in the petition and highlight two other points within the petition.

The clarification involves the second paragraph from the bottom of page 2 of the petition right below the heading "Pilgrim's Heavy Rainfall Flood Hazard." The second sentence in this paragraph talks about the re-evaluated storm surge event having a maximum height of 15.8 mean sea level providing more than 7 feet, about a 50 percent margin to the 23 feet minimum entrance level. That 50 percent, it's not real clear what I'm talking about there.

What I was trying to convey was the re-evaluated extreme storm surge maximum height of 15.8 feet would have to be off by quite a bit, more than 50 percent off in order to compromise the 23 feet mean sea level minimum entrance level. That's what the 50 percent margin applies to, although I clearly -- I should have worded it clearer than it came across. So I just wanted to make that clarification.

The two points I wanted to emphasize or spotlight, one of them is on page 3, at the bottom of

page 3 continuing on over to the top of page 4. The NRC with a generic letter issued in -- Generic Letter 89-22 in October of 1989 indicated that all future plants would have to consider the latest and most recent information on maximum precipitation events from the National Oceanic and Atmospheric Administration and the National Weather Service. The NRC did not retroactively require existing plants to apply the updated information.

years. An alternative to re-licensing Pilgrim would have been for its owner to build a brand new plant at the same location. In that situation the latest and greatest information from NOAA and the National Weather Service would have clearly had to have been factored into the safety studies conducted by the owner for the Pilgrim Unit 2. So basically all we're saying, as shown on the top of page 4, is rather than continue allowing Pilgrim to operate for 20 more years based on data from the 1940s and '50s that it would be prudent based on this recent re-evaluation to use -- to protect against the known hazard, not a hazard from the middle of last century.

The last point I'd like to make is on the

last page about the fact that even though there are existing barriers installed at Pilgrim that could protect against a heavy rainfall or local intense precipitation event, there's concern in our lines about the reliability of these existing barriers. Because they're not currently within the licensing basis, the owner could opt to remove the doors and other barriers in the future and do so without prior seeking NRC permission to do so. It could just -- or if it broke, there would be no incentive or no requirement for the owner to fix a flood barrier that became degraded or impaired.

We notice that this same owner has had problems with internal flooding or flood barriers in the recent past. The Special Inspection Team report conducted by the NRC for a transformer event at this company's Indian Point Unit 3 facility; and that inspection report is in ADAMS under ML15204A499, pointed out that there's been problems with the drains and the testing of the drains in the 480-volt switch gear room at Unit 3 that the owner has repeatedly identified, but repeatedly not fixed.

Likewise, there's an earlier NRC inspection report from April 30th of 2012 that's

available in ADAMS under ML12121A641 that documents similar problems with the drains in the 480 switch gear room on Indian Point Unit 2 where they keep having drain clogs, things like that, flooding issues in there and have done everything but fix them. So, and the NRC in those reports has documented the reason as being that they're not safety-related equipment, they're not part of the licensing basis. So therefore, this company feels there's no need to ensure that drains remain unclogged and testing is done to make sure that those devices are reliable.

Similarly, because the flood protection measures at Pilgrim that protect against heavy rainfall events and local precipitation, intense precipitation are currently not part of the licensing basis, not safety-related. There is no regulatory requirement for them to be maintained in any kind of reliable -- in fact they could be removed tomorrow without NRC permission.

So, the petition is seeking to ensure that the existing protections against identified flooding events are maintained into the future other than removed or repaired or otherwise lessened. So that's -- I'd be glad to answer any clarifying questions that

the NRC staff or PRB has for me. Otherwise, I'll turn it over to Mary Lampert.

MS. LAMPERT: Are there any questions for Dave?

CHAIRMAN LEE: No, we have no question here. So, Mary?

MS. LAMPERT: Oh, yes, this is Mary Lampert of Pilgrim Watch, a Co-Petitioner.

I would like to limit my comments to three points. The first is that heavy rainfall events are neither remove nor speculative. And I will cite a few quotes from EPA, studies by the Commonwealth of Massachusetts and independent agencies. All of them say that intense precipitation events are not an anomaly and are going to grow in frequency and intensity here as a result of climate change.

The second point that I will look at is that Pilgrim's structures and components important to safety are located close to the bay on a relatively flat surface, however, there is elevated terrain behind those buildings and areas that are elevated and above the buildings are paved. What this means, obviously, is that there would be drainage downhill from an intense precipitation event to those structures which would add

to the amount of water that was directly falling let's say besides those structures.

And so my question is; and I don't know the answer, but I would encourage the Board to look into whether the AREVA study, whether Entergy looked at that cumulative impact so that the elevated flood height perhaps could be greater than if only they looked at one source.

My third point is that the impact of flooding from these extreme excessive precipitation events goes beyond intrusion into buildings. You see other important safety components that are being concerned with in the past and continue to be concerned is the impact on the miles of submerged non-environmentally qualified electric cables which were put in in the '60s. And there is a record of flooded manholes in vaults. For example, an NRC integrated inspection report, 0500293/201003 in July 29, 2010 talked about the flooding in all three manholes. So that is another important area to show the necessity of including in the CLB these excessive rainfall events.

For an example to give you an idea that heavy rainfall events are neither remote or

speculative; and I can send you these documents, EPA did a climate impact in the Northeast. And one quote:
"Heavy precipitation events increased in magnitude and frequency for the region as a whole. Climate scientists project that these trends will continue."

Adaptation Report a few quotes: "Observed effects of climate change include increased precipitation." Of course they add floods, etcetera. Then they say, "These changes are expected to continue for a minimum of several decades even if greenhouse gas emissions are reduced." That was in chapter 2, page 12. They point out that precipitation can increase to a predicted range of change by 2050 up to percent. In the winter, 16 percent. And by the end of the century up to 14 percent.

Then we have a report from the Association of Metropolitan Water Agency that indicates that occurrences of extreme precipitation events and intensity of rainfall are increasing due to an increase in global temperatures driven by enhanced level of greenhouse gases in the atmosphere. Warmer temperatures lead to greater evaporation rates. The air has a higher capacity for water vapor leading to

a more active hydrological cycle. The air rises and then cools and comes down as liquid.

So there are reports after reports showing that basing a decision on 1940s, '50s data is no longer appropriate. And so it is clear to us that NRC's rules, regulations have to be elastic, be flexible and adjust to changed circumstances. And clearly the evidence is there that the big change is climate change. The evidence is that it will continue and one of the impacts will be increased heavy precipitation events, therefore there will be more flooding.

And this has to be accounted for by including that in the current licensing basis so we are basing regulation on what is happening today, what will happen during Pilgrim's operations and what will happen for the foreseeable future after they cease operations and the spent fuel will remain on site in an area that there is elevation behind in an area of increased heavy precipitation. So therefore, regulations and requirements and evaluation of any change in structures or building of structures or FLEX equipment in how let's say the diesel cables, the extra diesel cable will enter into a building --all that will be looked at in the light of actual precipitation events.

Last, I did bring up the issue of looking at the impact not only on doors, on other structures and structures that have indicated cracking and linkage as the facility has aged, but looking at the important safety significance of the submerged non-environmentally-qualified electric cables. are buried. They are not qualified to be in a moist environment and that environment is increasingly becoming -- proper grammar -- more moist, moister, and therefore, if there was to be a change in the current licensing basis, then one would look appropriateness of aging management programs to assure that in fact these cables that are so important for bringing electric power to our safety systems will operate.

And in conclusion then, I think the take-away is for recognition that we are in a different situation and our regulations should adjust to that reality. And also I would encourage again the Board to assure that in assessing the impact of extreme precipitation events that the analyses done by Entergy included the double impact from the location of the structures being downhill and also to have a broader look on what safety systems are impacted or can be

impacted by these events which underscores the importance of the petition.

I know that Pine duBois who is on the call has a particular concern that I think should be brought forward to the Board for its consideration of the importance of the availability of an updated site plan, both available to the Petitioners and also the Board.

Pine, do you have a comment on that?

MS. duBOIS: Yes. Thank you, Mary. If I may, to the Board. This is Pine duBois. I'm the Executive Director of the Jones River Watershed Association and a Co-Petitioner here.

We did read the AREVA report and have a number of concerns that have been expressed both by Dave and Mary, and in addition to that would like to raise the fact that we were not able to locate the site plan that AREVA refers to throughout their flood analysis that was done in 2014.

And the reason that this is important is that previous site plans have been confusing because of their lack of cohesiveness, consistency and the use of outdated datums that confuse the relative elevation of sea level to the relative elevation of the site and your systems and structures that sit on it. And that

confusion is, although acknowledged in the AREVA report, especially in this section on precipitation -- it is not resolved. And if we could through you, or at least you can, get that site plan, it may help.

Part of the issue that is raised within their report talks about a levy element, and where Dave Lochbaum properly, I think, said, well, you know, they can change their doors at any time and they can remove flood protection structures, they have also in the last year created things on site that actually look like through -- this AREVA report has acknowledged that it makes the flooding worse.

For instance, it says, "Levy elements. The concrete shoreline barriers which impede flow away from the site were modeled as levy structures using the levy component in their flow model. The top elevation of this concrete shoreline was interpolated between the surveyed points because they didn't have anything direct."

I think that given Pilgrim's proximity to the Atlantic Ocean on Cape Cod Bay, they're -- they sit right there. They're very close to it, as I would like to assume you all know. The relative intensity of storms as well as the precipitation is exceedingly

important. In this evaluation AREVA infiltrates 18 percent of the storm, so essentially they're calling it conservative, but at the same time they're saying we didn't evaluate groundwater at the site.

Groundwater on the site is relative to the sea level, so if you have a higher sea level, which according to NOAA mean sea level has risen six inches since Pilgrim was constructed, and that information is 15 years old, the groundwater at site is going to be higher especially in storm events and especially in astronomical high tide events. So I think that that's important to you.

And I think that that contributing to the flooding and the pressure, that the hydrostatic pressure that would accompany a surface flooding on site will put increased pressure on the foundation walls, which AREVA states are flood-protected. However, we also know that there are tritium leaks that are unaccounted for and, you know, it's likely that there is some cracking of the concrete structures.

So they're very close to the sea. They can be flooded both by precipitation as well as the sea. Their, you know, old flood plain from 2001 is 18.43 on site with a surface elevation of 20. That does not give

you much room for the waves to break. They did not include the spent fuel storage that is now located outside, either the stranded fuel or the

-- that is located 30 feet from the shoreline or the new dry cask storage unit that is 175 feet from the shoreline in this study, and yet it is only -- it's at elevation 22 when they're talking about a 23½-foot flood on the site.

The final thing that I'd like to point out is that there needs to be some comprehensive review with, including the FLEX strategies where we have -- are addressing locally with the state, one of their proposed deployments of a pump next to the bay. But in addition to that they have one that is on the west side of the turbine building that in this flooding situation would be standing in water with cables running under the turbine door that is supposed to be actually opened so that the cables can run under it. So that would defeat a lot of your flood protection mechanisms.

I think that in reading the plan I feel
-- or this flooding evaluation and the precipitation
study, it seems to be disjointed from the rest of site
considerations. And so, I think in terms of our

requested petition, you know, please make it uniform that people have to qualify their flood mechanisms, make it uniform that they have to address you in a formal way when they create new structures on site that may impact that flooding.

And I will sign off with that. I thank you very much. I hope that you can get us the plan so that we can review it. We've spent considerable resources of our own trying to make plans, but clearly we're not going to go on site and do an on-site survey. So thank you again. I appreciate your time and your collective energy.

CHAIRMAN LEE: Okay. So we have no statement from the Petitioner?

MR. LOCHBAUM: This is David Lochbaum. Diane Turco is also on the call.

CHAIRMAN LEE: Oh, okay.

MR. LOCHBAUM: A Co-Petitioner. We do have some time left. If Diane has a statement or a comment to make, I'd welcome this opportunity for her to make it.

MS. TURCO: Okay. This is Diane Turco with Cape Downwinders, and I'm here just to present that Cape Downwinders is supporting the presenters'

petitions and information. Thank you.

MR. LOCHBAUM: Okay. This is David Lochbaum with the Union of Concerned Scientists again. That's it for the Petitioner then, Sam. It's back in your court.

CHAIRMAN LEE: Okay. Thank you, Mr. Lochbaum. Yes, thank you very much.

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

(No audible response)

CHAIRMAN LEE: How about the region?

MR. SHAFFER: We have no questions.

CHAIRMAN LEE: I'm not sure the licensee's on the line. If they are on the line, the licensee, do you have any questions?

(No audible response)

CHAIRMAN LEE: And I'm not sure if we have any public, members of public on the line, but before we conclude the meeting, members of the public may 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 to examine the PRB regarding

the merits of the petition request.

So, is there any members of public want to make a statement?

(No audible response)

CHAIRMAN LEE: I would like to thank the Petitioners for taking time to provide the NRC staff the clarifying information on the petition you have submitted.

Before we close, does the court reporter need any additional information for the meeting transcript?

COURT REPORTER: Yes, the spelling of the last Co-Petitioner who spoke. Their last name. Diane Turco.

MS. TURCO: Oh, Diane Turco, T-U-R-C-O.

COURT REPORTER: And you are with?

MS. TURCO: Cape Downwinders.

COURT REPORTER: Could you spell that for

me?

MS. TURCO: Okay. C-A-P-E, then $\label{eq:D-O-W-N-W-I-N-D-E-R-S} D\text{-}O\text{-}W\text{-}I\text{-}N\text{-}D\text{-}E\text{-}R\text{-}S\,.$

COURT REPORTER: Thank you.

MS. TURCO: Okay. You're welcome.

COURT REPORTER: That was all.

CHAIRMAN LEE: Okay. With that, the teleconference is concluded and we are terminating the phone connection. Thank you.

(Whereupon, the above-entitled matter went off the record at $2:11\ p.m.$)