"Corrected Transcript: Corrections denoted within brackets [ ]"

UNITED STATES OF AMERICA

U.S. NUCLEAR REGULATORY COMMISSION

WORK ORDER 96

FORTHCOMING MEETING WITH THE PETITIONERS, BEYOND NUCLEAR ET AL., REQUESTING ACTION UNDER 10 CFR 2.206 REGARDING SUSPENSION OF THE OPERATING LICENSES FOR NORTH ANNA POWER STATION (NAPS) DUE TO CONCERNS ABOUT DAMAGE TO THE NAPS REACTORS FROM THE AUGUST 23, 2011 EARTHQUAKE

FEBRUARY 2, 2012

10:00 A.M. [1:00 P.M.]

TRANSCRIPT OF PROCEEDINGS

Public Meeting

"Corrected Transcript: Corrections denoted within brackets [ ]"

APPEARANCES

NRC Staff:

Jon Thompson
Petition Manager
Office of Nuclear Reactor Regulation

Andrea Russell
2.206 Coordinator
Office of Nuclear Reactor Regulation

Patrick Hiland
Office of Nuclear Reactor Regulation

Maria [Mauri] Lemoncelli
Senior Attorney
Office of the General Counsel

David Pstrak
Branch Chief of the Structural Mechanics and Materials Branch in the Division of Spent Fuel Storage and Transportation
[Office of Nuclear Materials Safety and Safeguards]

David Tang
Senior Structure Engineer
Office of Nuclear Materials Safety and Safeguards
Division Spent Fuel Storage and Transportation, Structural Mechanics and Materials Branch

David Rahn
Instrumentation and Controls Reviewer
Office of Nuclear Reactor Regulation

Kamal Manoly
Senior Technical Advisor,
Division of Engineering, NRR.

Nancy Salgado
Branch Chief
Division of Operator and [Operating] Reactor Licensing,
NRR

Kimyata Morgan Butler
Acting Branch Chief of the Generic Communications Branch
NRR

Shih-Liang Wu
Nuclear Performance and Code Review Branch
NRR.

Anthony McMurtray,
Branch Chief of Component Performance and Testing
NRR

Gurjendra Bedi
Mechanical Engineer
Region [Division] of Engineering and
Component Integrity [Performance and Testing] Branch

Bob Tripathi[*]
Senior Structural Engineer
NRC Spent Fuel Storage Transportation
[Office of Nuclear Materials Safety and Safeguards
Division Spent Fuel Storage and Transportation, Structural
Mechanics and Materials Branch]

Gerald McCoy[*]
Branch Chief
Division of Reactor Projects, Region II.

Licensee Representatives:

Page Kemp[*]
North Anna Power Station
Dominion.

Ann Margaret Earle[Margaret Earle*]
Dominion.

Petitioners:

Paul Gunter
Director of the Reactor Oversight Project,
Beyond Nuclear

Kevin Kamps
Radioactive Waste Specialist
Beyond Nuclear

Thomas Saporito[*]
Senior Consultant, Saprodani Associates

Richard Ball[*]
Energy Issues Chair, Virginia Chapter of the Sierra Club.

Erica Gray[*]
Alliance for Progressive Value

[*participated by telephone]

P R O C E E D I N G S

JON THOMPSON: Well, the appointed hour is here, so I guess we'll open the meeting. I'd like to thank everybody for attending this meeting. My name is Jon Thompson. I'm the petition manager for the petition submitted on October 20, 2011, and supplemented on November 2nd by Paul Gunter and a number of other petitioners who we'll list here in a moment regarding the restart of North Anna 1 and 2 after the earthquake of August 23, 2011.

We're here today to allow the petitioners to address the petition board for a second time regarding their 2.206 petition. The petition review board chairman is Patrick Hiland who you've had a chance to meet, at least here in person. As part of the petition review board, or PRB's review of this petition, the petitioners were offered an opportunity to address the PRB and to provide any

relevant additional information and support for the petition prior to the PRB's internal meetings to make the initial recommendation to accept or reject the petition for review. The petitioners were provided this opportunity during the public meeting held on December 12, 2011, at NRC headquarters. And the information provided at this meeting was considered by the PRB in developing its initial recommendation to partially accept this petition for review. As part of the NRC's process for reviewing 2.206 petitions, the NRC also offers the petitioners an opportunity to meet with the PRB after the initial recommendation on a petition has been made. The petitioners have made this request, and so we are meeting today. As before, Mr. Paul Gunter of Beyond Nuclear has agreed to coordinate the efforts of the petitioners in making their presentations, and we thank him for that.

This is a Category III public meeting where the public is normally invited to participate in the meeting by providing comments and asking questions throughout the meeting. In this public meeting, however, we've arranged for the petitioners to have one hour to make their presentations to the PRB and for other members of the public to have an opportunity near the end of the meeting, as time allows, to ask question pertaining only to the 10 CFT [CFR] 2.206 process. If a member of the public does not have an opportunity to ask their questions about the 2.206 process because of time limitations, then they can submit their questions in writing to me, the petition manager, Jon Thompson at J-O-N -- that's three letters -- .thompson -- T-H-O-M-P-S-O-N -- @NRC.gov.

The meeting is scheduled from 1:00 to 2:45 p.m. The meeting is being recorded by the NRC operations center and will be transcribed by a court reporter. The transcript will become a supplement to the petition. The transcript

will also be made publicly available through the NRC's agency-wide documents access and management system, otherwise known as ADAMS.

For those at the NRC headquarters, we have public meeting feedback forms. They're located near the door. And there might be one extra copy of the agenda there as well. And you're welcome to fill out these public meeting feedback forms. These forms are forwarded to our internal communications specialists. You may either leave them here following the meeting or mail them back. They're already post-paid. If you're participating by phone and would like to leave email feedback on this public meeting, please forward your comments to me, Jon Thompson, at the email address I provided.

I'd like to open this meeting with introductions of the NRC staff who are here in this room at NRC headquarters. I ask that all the NRC staff clearly state for the record your name, your position or occupation and your organization. For those here in the room, please speak up or approach the podium microphone, or I think what I'll do is I have a handheld mic, and as we go around, I'll walk over to the individuals outside this immediate table and I'll pass the handheld mic to them so that the persons on the phone can clearly hear them and so that the court reporter can accurately record your name.

I'll start with myself and the other NRC participants here in the room. My name is Jon Thompson. I'm in the Office of Nuclear Reactor Regulation, and I'm the petition manager.

ANDREA RUSSELL: Andrea Russell in the Office of Nuclear Reactor Regulation, the 2.206 coordinator.

PATRICK HILAND: I'm Pat Hiland. I'm in the Office of Nuclear Reactor Regulation, and I'm the chairman of this petition review board.

MARIA [MAURI] LEMONCELLI: Good afternoon. I'm Maria [Mauri] Lemoncelli, senior attorney in the Office of the General Counsel.

DAVID PSTRAK: I'm David Pstrak and the branch chief of the Structural Mechanics and Materials Branch in the Division of Spent Fuel Storage and Transportation.

DAVID TANG: I'm David Tang, senior structure [structural] engineer in the Office of Nuclear Materials Safety and Safeguards Division of Spent Fuel Storage and Transportation, Structural Mechanics and Materials Branch. I'm a senior instructor [structural] reviewer.

DAVID RAHN: I'm David Rahn. I'm with the Office of Nuclear Reactor Regulation. I'm the instrumentation and controls reviewer.

KAMAL MANOLY: I'm Kamal Manoly, senior technical advisor, Division of Engineering at NRR.

NANCY SALGADO: I'm Nancy Salgado. I'm a branch chief in the Division of Operator and Reactor Licensing in the Office of NRR.

KIMYATA MORGAN BUTLER: I'm Kimyata Morgan Butler, acting branch chief of the Generic Communications Branch in NRR.

SHIH-LIANG WU: Shih-Liang Wu, Nuclear Performance and Code Review Branch of NRR.

ANTHONY MCMURTRAY: Anthony McMurtray, branch chief of Component Performance and Testing Branch in NRR.

GURJENDRA BEDI: Gurjendra Bedi, mechanical engineer in the region [Division] of Engineering and Component Integrity Branch.

JON THOMPSON: That completes the introductions of the NRC staff in this room. At that time -- at this time, are there any NRC participants from

headquarters who are participating on the phone?

BOB TRIPATHI: Yes. This is Bob Tripathi. I'm with the NRC Spent Fuel Storage Transportation. And I'm a senior structural engineer.

JON THOMPSON: Hearing no others, that completes the introductions of the NRC staff from headquarters. Are there any NRC participants from the regional offices on the phone?

GERALD MCCOY: Yes, this Gerald McCoy. I'm a branch chief in the Division of Reactor Projects in Region II.

JON THOMPSON: Are there any representatives for the licensee on the phone?

PAGE KEMP: Yes. This is Page Kemp at North Anna Power Station, Dominion.

MARGARET EARLE: Margaret Earle, Dominion.

JON THOMPSON: At this time, I would like to have the petitioners who are here at NRC headquarters introduce themselves. I ask that all petitioners please clearly state for the record your name, your position and your organization. Again, please speak up or use one of the microphones -- well, we don't have to deal with that logistical issue here.

PAUL GUNTER: Thank you. My name is Paul Gunter. I'm director of the Reactor Oversight Project at Beyond Nuclear in Takoma Park, Maryland.

KEVIN KAMPS: Thanks. My name is Kevin Kamps with Beyond Nuclear. I'm radioactive waste specialist.

JON THOMPSON: Thank you. At this time, I would to have any petitioners who are on the phone introduce themselves.

THOMAS SAPORITO: Yes, this is Thomas Saporito. I'm the

senior consultant at Saprodani Associates in Jupiter, Florida.

RICHARD BALL: Yes, this is Richard Ball. I'm energy issues chair for the Virginia Chapter of the Sierra Club.

ERICA GRAY: Yes, I'm Erica Gray, and I represent the Alliance for Progressive Values in Richmond, Virginia.

JON THOMPSON: I'm sorry, did Mr. Blundell [spelled phonetically] already introduce himself? He's not on the phone yet. Okay. Okay, very good. That'll be fine. Headquarters operation center, could you unmute the public 800 or toll free number?

MALE SPEAKER: All right. It's unmated. I did not believe that there was anybody on there. There wasn't when I checked awhile ago, but go ahead.

JON THOMPSON: Okay, just to double-check, it's not required for members of the public to introduce themselves for this meeting, but we would like a record of your participation, so if you could, just please send this record of your participation to my email at jon.thompson@nrc.gov. For the public question period at the end of the meeting, we will ask you to introduce yourself if you want to make any remarks and state your name and then ask your question.

Okay, so I don't believe we have any members of the public who are dialing into the meeting and are not petitioners. I would remind you that please have your lines on mute. And headquarters operations officer, if you could mute that toll free number now at this time.

MALE SPEAKER: All right, sir.

JON THOMPSON: And also, for those who are on the phone and if you're not speaking at the moment, if you could press *6 to mute phone, and that

way there won't be any background noise impeding on the meeting. And I'd just like to reemphasize that we each need to speak clearly and loudly to make sure the court reporter can accurately transcribe this meeting. Also, if you do have something that you'd like to say, please state your name for the record first and then make your statement. At this time, I'll turn it over to the PRB chairman, Patrick Hiland.

PATRICK HILAND: Good afternoon. Welcome to this meeting concerning the 2.206 petition submitted by the petitioners regarding the restart of North Anna Units 1 and 2 after the earthquake of August 23, 2011. I'd like to first share some background on our process. Section 2.206 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 NRC to take enforcement-type action related to NRC licensees or licensed activities. Depending on the results of its evaluation, NRC could modify, suspend or revoke and [an] NRC-issued license, or take appropriate enforcement action to resolve a problem. The NRC staff's guidance for the disposition of 2.206 petition requests is in Management Directive 8.11, which is publicly available.

The purpose of today's meeting is to give the petitioners another opportunity to provide any additional explanation or support for the petition after 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 to examine the petition review board on the merits or the issues presented in the petition request. No decisions regarding the merits of this petition will be made at this meeting.

Following this meeting, the petition review board will conduct its internal deliberations and develop a proposed director's decision that will be provided to the petitioners and the licensee for comment. The petition review board typically consists of a chairman, usually a manager at the senior executive service level at the NRC. And that will be me. It has a petition manager and a petition review board coordinator. Other members of the board are determined by the NRC staff based on the content of the information in the petition request.

At this time, I'll introduce the board members. We do have several people in attendance from the NRC staff that are not on the board. As I said, I'm the petition review board chairman. Jon Thompson is the petition manger for the petition under discussion today. Andrea Russell, to my right, is the Office's petition review board coordinator; Kamal Manoly from the Office of Nuclear Reactor Regulations from the Division of Engineering; Gurjendra Bedi sitting behind you is from the Office of Nuclear Reactor Regulations Component Performance and Testing Branch; Shih-Liang Wu from the Office of Nuclear Reactor Regulations, Nuclear Performance and Code Review Branch is sitting behind you; David Rahn from the Office of Nuclear Reactor Regulation, Instrumentation and Controls; David Pstrak and David Tang from the Office of Nuclear Materials Safety and Safeguards Branch, Spent Fuel Storage and Transportation; and Gerald McCoy from NRC's Region II's Division of Reactor Projects Branch 5. We also obtain advice from our Office of General Counsel represented today by Maria [Mauri] Lemoncelli sitting to my left.

As described in our process, the NRC staff may ask clarifying questions in order to better understand the petitioners' presentation and to reach a reasoned decisions whether to accept or reject the petitioners' request for

review under the 2.206 process. Also, as described in our process, the licensees have been invited to participate in today's meeting to ensure that they understand the concerns about their facility or activities. While the licensees may also ask questions to clarify the issues raised by the petition, I want to stress that the licensees are not a part of the petition review board's decision making process.

I'd like to briefly summarize the scope of the petition under consideration and the NRC activities to date. October 20, 2011 and supplemented on November 2, 2011, Mr. Gunter and Mr. Kamps of Beyond Nuclear and Mr. Thomas Saporito of Saprodani Associates -- I'm sorry -- Mr. Paxus Calta of Not on Our Fault Line, Mr. Alex Jack of Planetary Health, Mr. Scott Price of Alliance for Progressive Values, and Mr. John Cruickshank of the Virginia Chapter of the Sierra Club, who will be referred to as the petitioners, submitted a petition under Title 10 of the Code of Federal Regulations, Part 2.206, requesting suspension of the operating licenses for the North Anna Power Stations Unit 1 and Unit 2 until the completion of a set of activities described in the petition.

In addition, in the supplemental dated November 2, 2011, the petitioners asked for greater access to certain documents concerning North Anna 1 and 2. Subsequently, Ms. Eleanor Amanden [spelled phonetically] [Amidon], Ms. Arika Crutsmer [spelled phonetically] [Erika Kretzmer], Mr. Lovell King, II, Mr. David Levy [spelled phonetically], and Ms. Hilary Boyd [spelled phonetically] requested to be added to the list of petitioners for the above-mentioned petition.

A summary of the actions that the petitioners sought prior to the restart of North Anna 1 and 2 includes the following: the submittal of a formal

license amendment by the licensee for North Anna 1 and 2, reanalyzing and reevaluating the design basis for the plant, additional deterministic inspections and safety analysis for critical reactor components, reanalysis of the Lake Anna Dam, reanalysis and reevaluation of the North Anna 1 and 2 independent spent fuel storage installation. Several related issues were raised and discussed in the letters by the petitioners dated October 20 and November 2, 2011 and also in the December 12, 2011 meeting between the petitioners and the petition review board. A copy of the full petition and supplement is publicly available in the NRC's electronic library, ADAMS. A copy of the December 12, 2011 meeting transcript is also available in ADAMS.

The following is a description of the NRC activities to date. On October 27, 2011, the petition manager contacted Mr. Gunter by email to discuss the petition process and offered him an opportunity to address the petition review board by phone or in person. In a telephone conversation on November 3, 2011, Mr. Gunter requested on behalf of the petitioners to address the petition review board in person prior to the petition review board's internal meeting to make the initial recommendation to accept or reject the petition for review.

On November 7, 2011, the petition review board met internally to discuss the request for immediate action in the petition. On November 10, 2011, Mr. Gunter was informed the petition review board denied their request for immediate action. The petition review board denied the request for immediate action because there was no immediate safety concern to the plant or to the health and safety of the public. In addition, the requirement to demonstrate that no functional damage has occurred to those features necessary for continued operation of the reactors without undue risk to the health and safety existed or

exists in 10 CFR 100 Appendix A.

With respect to the independent spent fuel storage installation at the North Anna Power Station, interactions between the licensee and the NRC staff had not identified any immediate safety concerns. Therefore, the petition review board denied the request for immediate action.

On December 12, 2011, the petition review board met with the petitioners to hear additional information regarding the petition. The petition review board met on January 9, 2012 to consider the petition and formulate its initial recommendation. On January 19, Mr. Gunter was informed that the petition review board partially accepted the petition for review. On January 31, 2012, Mr. Gunter was provided additional information on which elements of the petition were accepted for review and which elements which were rejected.

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

Mr. Gunter, I'll turn it over to you in a moment to allow you to provide any additional information you believe the petition review board should consider as part of this petition. After your presentation concludes, I will allot the other petitioners additional time to address the petition review board. If any petitioner feels that they do not have an adequate opportunity to address the petition review board during this meeting because of time constraints, then we welcome any supplemental information that they can provide in writing for the petition review board's consideration. The supplemental information for the petition review board's consideration should be mailed to the executive director of operations by February 9. Mr. Gunter.

PAUL GUNTER: Thank you. Again, my name is Paul Gunter. I'm director of the Reactor Oversight Project for Beyond Nuclear. And I want to start by opening that we thank you for this opportunity and the transparency that this process provides to interested members of the public and as part of also establishing a record for the North Anna Nuclear Power Plant and the impacts and significance of the August 23, 2011 earthquake.

Let me start by saying that I'd like to just enter into the public record for those that may be watching that the petition review board has accepted a number of items that I would just like to acknowledge. Issue number one, the license amendment process is acknowledged as for further review by the board and the Commission. And we had requested that the applicant -- that the licensee make an application for a license amendment for any modifications and licensing changes as a result of the earthquake.

Number two, inspections at Unit 1 need to be of the same rigor as Unit 2 inspections. We maintain that that is part of a necessary process given the unprecedented earthquake. The board has at this point decided not to consider the licensee should be required to reanalyze and re-qualify the adequacy and condition of the Lake Anna Dam. We are going to offer a rebuttal statement and a clarification on a further requested action with that regard.

Number four, reanalyze and reevaluate the independent spent fuel storage installation to ensure that no threat is posed to the public health and safety by its operation. That's been accepted for further review. Reliability and accuracy of seismic instrumentation has been accepted for further review. Decisions should -- about the restart of North Anna 1 and 2 were hasty, and economic considerations were given priority in these decisions, and the long-

term action plan was not even complete before authorization to restart was given. This has been accepted for continued review.

Number seven, regulatory commitments are not an adequate regulatory tool for ensuring the critical long-term tasks identified in the NRC's confirmatory action letter of 11/11/11 are completed. This has been accepted for further review.

Number eight, the NRC should release records kept at the University of Virginia that are currently not publicly available. This has been recommended to be rejected. Number nine, concerns about the spent fuel pools at North Anna 1 and 2 due to the potential for both boil-down and rapid drain-down events has been accepted for further review. The long-term storage of spent fuel storage in both pools and dry storage facilities poses issues. This has been accepted for further review. Hardened onsite storage strategies should be used at North Anna 1 and 2. This has been accepted for further review. Concerns about age-related degradation has been recommended for rejection. Concerns about a prolonged station blackout has been accepted for further review. Current emergency evacuation plans need to be revised. This has been accepted for further review. Concerns about damage to the structural integrity of the spent fuel pool structure as represented on pages 41 and 42 of the NRC's technical evaluation dated 11/11/11 has been accepted for further review. And finally is concerns about lack of compliance with a public law requiring storage of potassium iodide in areas surrounding a nuclear reactor has been recommended to be rejected.

So, I think that it's -- you know, this board has really taken on quite a bit for review. We -- you know, we take note of that and recognize the task

before us. We wish at this point to supplement with written and oral comments. I've provided written comments of which I will now read into the record.

Beyond Nuclear submits the following comments on behalf of joint petitioners in the matter of the post-earthquake restart of the two-unit North Anna Nuclear Power Station owned and operated by Virginia Electric Power Company, VEPCO, also known as Dominion Virginia Power, Dominion.

The supplemental information and request for the emergency enforcement action provided by Beyond Nuclear comes in large part today by documents provided to us by Robert Alvarez of Takoma Park, Maryland. Mr. Alvarez is a senior scholar at the Institute of Policy Studies, Washington, D.C., on energy and environmental policies. Mr. Alvarez has also served as a senior policy advisor to the secretary and deputy assistant security for National Security and Environment as well as senior investigator for the U.S. Senate Committee on Government Affairs then chaired by Senator John Glenn.

The petitioners have asserted that the Nuclear Regulatory Commission approval for the restart in operation of the North Anna Nuclear Power Station was hasty and premature based in large part on financial considerations to the nuclear utility, particularly given many uncertainties arising and persisting from the unprecedented August 23, 2011 earthquake near the reactor site in Mineral, Virginia. The petitioners supplement the requested action for VEPCO to provide the NRC with the submission of a license amendment request for plant modifications and licensing changes related to the restart and continued operations of the nuclear power plant, including the adequacy, accuracy and reliability of the seismic monitoring equipment on site that provided data and the basis in part for NRC approval of restart.

Beyond Nuclear submits the account of the Bloomberg news article that documents an expert opinion presented to the NRC that North Anna Nuclear Power Station seismic equipment upon which NRC based its restart approval as, quote, “an older system from the 1970s and is not accurate within 10 percent and possibly as much as 20 percent, according to William Leith Earthquake Hazards Program coordinator for the U.S. Geological Survey said today at the Nuclear Regulatory Commission.” This is dated by article September 19, 2011.

The news account goes on to state, quote, “the lack of modern instrumentation, quote, ‘hinders a quick well-informed decision making,’ unquote, by reactor owners and the NRC, Leith said. It also, quote, ‘severely limits an engineer’s ability to understand,’ unquote how plant components react to ground movement, he said, citing Dominion’s assessment of the nuclear waste storage casks at North Anna that moved during the earthquake,” end quote. Dominion disputed this testimony.

There are seven known earthquake faults in the North Anna reactor site area. The board has accepted for further review the petitioners’ requested action that VEPCO submit a formal license amendment request for earthquake-related modifications and licensing changes rather than how the plant was actually allowed to restart with only regulatory commitments, which the petitioners have asserted do not represent an adequate enforceable regulatory tool.

The petitioners identify further the Wall Street article entitled, “New Quake Risks Seen for Nuclear Plants,” dated January 31, 2012, which states that “the NRC is acknowledging," quote, reactor -- "nuclear reactors in the Central and Eastern United States previously unrecognized threats from big

earthquakes, the Nuclear Regulatory Commission said Tuesday. Experts said upgrading the plants to withstand more substantial earth movements would be costly and could cause some to close," unquote. The article goes on to identify that it will require nuclear power plant operators to conduct new seismic studies that all 96 reactors in Central and Eastern United States that are predicted by the government's new seismic model. The petitioners submit that the article identifies that the nuclear industry lobbyists and the government are preparing to slow walk seismic upgrades over the next four-year period and perhaps even longer. The article provides the regulatory analysis of senior reactor safety director David Lochbaum with the Union of Concerned Scientists citing that, quote, "the NRC already has sufficient evidence to require immediate upgrades to dozens of plants," he said, adding that further delay amounts to, quote, "a bureaucratic stall tactic," end quote.

The petitioners further request that the petition review board of the United States Nuclear Regulatory Commission take enforcement action with regard to VEPCO to provide analysis and monitoring for the potential impacts of the Lake Anna Dam and the impoundment of water in Lake Anna upon seismic activity around the North Anna Nuclear Power Station in Mineral Virginia. The petitioners submit that the operators, as part of their original license condition, are required to analyze and monitor for the seismic impact for the impoundment of water created by Lake Anna Dam and its potential impacts on the North Anna Nuclear Power Plant. The petitioners present the case of North Anna Environmental -- the North Anna Environmental Coalition through petitioner June Allen [spelled phonetically] versus the United States Nuclear Regulatory Commission and the United States, respondents Commonwealth of Virginia,

Virginia Electric Power Company, interveners, which was in the United States Court of Appeals, District of Columbia Circuit, argued on November 20, 1975 and decided on March 3, 1976. Rehearing denied May 7, 1966 [1976]. We quote, "The coalition contends the creation and presence of Lake Anna creates an extra risk at the North Anna site. It is contended that it might induce reaction of the non-capable fault." The licensing board and the appeal board concluded there was reasonable assurance that the lake will not reactivate the fault. The finding is based on substantial evidence in the record.

Two lines of investigation were followed in evaluating the effect of Lake Anna, first an empirical investigation was undertaken wherein the investigators studied every one of the 12 documented instances worldwide in which reservoirs induced earthquakes and related those empirical findings to the conditions of North Anna. Secondly, a more theoretical investigation was conducted, which analyzed the conditions under the lake-induced seismic activity might be anticipated. The empirical study established that thousands of reservoirs have been impounded without event, including 28,000 in the United States alone. When a reservoir has been filled to trigger an earthquake, it has done so shortly after filling. In 12 such instances monitored, mentioned earlier, seismic activity began within one year after filling the reservoir. At North Anna, three years have passed already without incident. The theoretical study produced the same result. According to the conditions at the site, the risk of Lake Anna reactivating the fault is, quote, "vanishingly small," unquote.

However, even though the Commission argued with the results of the investigations, Virginia Electric Power Company has been required to install a microseismic monitoring network, which is expected to provide confirmatory

evidence or alert VEPCO to any possible change of conditions. VEPCO, through its early site permit application for North Anna Unit 3, Dominion Power provides statements to the USNRC which discusses the microseismic monitoring for the North Anna reactor site and the impact of the impoundment of Lake Anna's water influence on seismic activity in the region. VEPCO identifies that it has suspended the required seismic monitoring for the impact of the impoundment of Lake Anna water. They say at 2.5.3.3 correlation of earthquakes with capably tectonic sources, no reported historical earthquake epicenters have been associated with bedrock faults within the 25-mile radius of the early site permit site vicinity. Microearthquake monitoring for North Anna Power Station was initially conducted over a 2.5 year period, from January 21, 1974 to August 1, 1976 and was subsequently extended an additional year to August 1, 1977. The purpose of the monitoring program was to determine if seismic activity could be associated with faults in the site area or if Lake Anna was producing reservoir-induced seismicity.

Microearthquakes detected in the 3.5 years of monitoring could not be associated either with a fault in the site area or with the impoundment of Lake Anna. Quote, "Four stations of the original 17-station network were incorporated into Virginia Polytechnic Institute in the State University Central Virginia Monitoring Network for the specific purpose of monitoring any changes in seismicity in the region of the North Anna Power Station." Today, no changes in local earthquake occurrence have been observed that would alter the conclusions reached in 1977 regarding the lack of association of micro-earthquakes with the presence of Lake Anna or with faults in the site area. Microearthquakes observed in some area appear to be of or are occurring at a

level no greater than the spatial varying background activity found in the CVSSZ.

A webpage from the Virginia Division of Geology and Mineral Resources states, quote, “The Virginia Technical Seismological Observatory is one of the primary sources for data on seismic activity in the central east coast. In 1963, as part of the worldwide program, seismographs were installed at Blacksburg. And in 1977, several more seismographs were stationed in the Commonwealth and operated by the Virginia Division of Geology and Mineral Resources. Some of these instruments were stations around the North Anna Nuclear Power Plant, but in the 1990s, due to budget cuts, most of the North Anna sensors were taken offline.” The petitioners submit that seismic monitoring at and around the North Anna Nuclear Power Plant is therefore unreasonably degraded and unduly inadequate.

The petitioners submit that according to the various news accounts following the January 30, 2012 3.1 magnitude earthquake with an epicenter six miles southeast of Mineral, Virginia, according to USGS, there have been as many as 100 earthquake aftershocks recorded by the U.S. Geological Survey following the 5.8 magnitude earthquake on August 23, 2011.

Given the significant increase in seismic activity in the area of the North Anna Nuclear Power Plant and the recognition of potential seismic impact from the Lake Anna impoundment and given that NRC is calling for upgrades and seismic evaluations at nuclear power plants, the petitioners therefore supplement their emergency enforcement petition to request that as part of upgraded seismic reevaluation, modifications and monitoring for North Anna Nuclear Power Station that the operators be required to reinstall and resume the microseismic monitoring network as originally in the licensing agreement to

provide confirmatory evidence or alert VEPCO to changes in the seismic activity induced by the impoundment of water behind the Lake Anna Dam. This concludes my remarks.

PATRICK HILAND: Thank you, Mr. Gunter. Mr. Kamps?

KEVIN KAMPS: Thank you. I'd like to wish everyone a happy Groundhog Day. And that will be a part of my theme, is déjà vu and lessons learned or lessons that should have been learned. Just regarding, you know, Groundhog Day, déjà vu and earthquakes, I mean, we're coming up on the first anniversary of the Fukushima nuclear disaster, at least the beginning of it. It's an ongoing disaster/catastrophe. And certainly, we should take earthquakes risks seriously here in the United States at nuclear power plants, including on high-level radioactive waste storage, which is what I'm going to talk about. And the déjà vu theme also applies to high-level radioactive waste risks.

I first got involved in these issues nearly 20 years ago now in Southwest Michigan at the Palisades Nuclear Power Plant. And the reason for my involvement was concern about dry cask storage on the beach, 100 yards from the water of Lake Michigan at Palisades. And in 1994, shortly into my involvement in these issues, we learned from an NRC regional dry cask storage inspector, Dr. Ross Landsman, in a letter to the chairman at the time, Ivan Selin, that there were earthquake risks with this facility at Palisades. And he specifically alleged and has never backed down on his allegations that the dry cask storage nearest the lake at Palisades, which has been in place for nearly 20 years now, is in violation of NRC earthquake regulations. So, these issues of seismic risk to dry cask storage, I've been involved with for nearly two decades at this point. And certainly, the occurrence at North Anna with this earthquake on

August 23, 2011 just reemphasized the significance of these risks.

I'd like to point out on the record that the company took over a week to announce to the public that there was damage to the dry cask storage and, in fact, on the day of the earthquake, the day after the earthquake, the company, in response to questions -- direct questions from members of the media who were onsite at North Anna -- said that there was no damage to the dry cask storage. So, they provided false information the day of, the day after the earthquake to members of the news media who asked directed questions. And they took eight days to reveal the situation to the public.

So, the photos that we have been able to see showed visible damage to the dry casks at North Anna, the dry casks in the horizontal orientation. And, again, the company and even the NRC downplayed the significance of this damage, calling it cosmetic. And that was an odd way to describe it because I don't think there's too much cosmetics involved in dry cask storage. I think that structure and radiation shielding are pretty much what it's all about. There's not a whole lot of cosmetics involved in dry cask storage. And so, we expressed throughout not only this 2.206 process but even before when there was a public meeting at the North Anna Plant we were concerned about the structural integrity of these containers. We're concerned about the radiation shielding properties. And, again, as Paul said, we're thankful that you've agreed to further review many of these issues, including on dry cask storage. But this should not be done in a slow manner. And as I indicated, we've been concerned about earthquake risks at Palisades for 20 years now. So, these issues need to be addressed in the short term as quickly as possible. We're two months beyond the last time we sat down and met with you in this process, and every day the

reactors operate at North Anna. Every day the dry cask storage and pool storage continues. These risks are present, and it's serious. It needs to be addressed.

So, in terms of the pool risks, I would like to emphasize one of our demands is that the gauges and the monitors on the pools be significantly upgraded. So, these would include water level gauges, temperature gauges, radiation monitors of various sorts so that various sorts of radiation can be monitored, as well as seismic monitors directly on the pools. And the significance of this is that North Anna Nuclear Power Plant, as with pools across the country, are filled with many decades' worth of high-level radioactive waste, irradiated nuclear fuel. And the NRC itself has documented and reported upon the risks with the pool storage.

So, for example, a February 2001 report by NRC -- I believe it's NUREG-1738 -- it was about decommissioning reactors and the pools there, but it applies to North Anna. They looked at things like the drop of a heavy load causing a rapid drain-down in a pool. And the casualty figures possible were quite alarming. A ballpark figure of around 25,000 latent cancer fatalities downwind could result from a fire resulting from a rapid drain-down of a pool.

So, in addition to the monitors and the gauges to know exactly what's happening in a pool, we would also call for mitigation to be put in place, mitigation strategies, backup power to keep the cooling system working on the pool, makeup water on the pool. And, of course, the Fukushima Daiichi nuclear catastrophe just underlines these risks. I know there's a debate still about where there was even a fire in the Unite 4 pool at Fukushima Daiichi, but recent academic studies have shown that on March 19th, the radioactive cesium-137

emissions from that plant dramatically lowered by orders of magnitude at the exact same time that water was sprayed into the pool at Unit 4. Pretty strong evidence that there was a radioactive waste fire in the Unit 4 pool.

So, we need to be prepared for refilling the pools and, most importantly of all, preventing the boiling in the first place, because once the boiling begins and there's lot of steam in the pool area, that can short-circuit electrical circuitry that can be safety-significant in that area.

So, moving on, I would like to conclude my remarks just by emphasizing the importance of something that you've agreed to further review. And, again, I thank you for that, but, again, this needs to be done on a quick pace, and that is hardened onsite storage. Hardened onsite storage would not only improve the safety and the security and the environmental protection of dry cask storage in regards to accidents perhaps resulting from an earthquake, but it would also do so in regards to attacks, intentional attacks. And, just as importantly, given NRC's current study on perhaps leaving dry cask storage in place at reactor sites for at least 120 years, if not 200 years, if not 300 years, for environmental protection over time. So, the elements of hardened onsite storage -- and at our last meeting in December, I handed in a copy of the principles for safeguarding nuclear waste at reactors signed by nearly 200 environmental groups across the country. Those principles include the thinning of the pools. And actually, we would call for the emptying of the pools, but the thinning would refer to a low-density, open frame configuration, the original design of the pools in the first place. They were never intended, when they were designed, to be packed to the gills like they are. So, with that low-density, open frame configuration, if there is a drain-down of the water, air cooling may be sufficient to

prevent the fire from taking place. And this was comprehensively described in a study by Alvarez and other in 2003, January 2003. So, that's important.

But the casks that the waste would be moved to need to be quality casks, again, because they're going to have to be onsite for at least decades if not centuries. And those high-quality casks must be fortified against accidents, attacks and leaks. And, just as with pool storage, there needs to be monitors on the dry cask storage directly. There needs to be temperature monitoring. There needs to be pressure monitoring to make sure that the inert gases are still present and haven't leaked out. And also, given what's happened at North Anna, there needs to be seismic monitors.

And one last detail I'd like to discuss about the horizontally oriented dry casks at North Anna, we have had information for several years from a whistleblower in Florida who is concerned about corrosion in horizontally-oriented dry casks. We have concerns about the cradle that actually holds the very heavy inner canister in these horizontally designed dry casks. So, we're worried about the structural integrity of these cradles to begin with, let alone after a seismic event. And so I would call upon the NRC to carefully investigate the integrity of the cradles. And with that, I will conclude my remarks. Thank you.

PATRICK HILAND: Thank you. Mr. Saporito.

THOMAS SAPORITO: Yes, this is Thomas Saporito with Saprodani Associates in Jupiter, Florida. I have three quick issues to address -- the license amendment needed. The second one would be inspections at Unit 1 needing the same rigor as Unit 2. And the third item would be decisions about the hasty restart of Units 1 and 2. First of all, the license amendment request by the licensee is needed. A license amendment is needed because significant

changes and modifications were made since the [unintelligible] physical plant and specifically to the type of seismic monitor instrumentation and the physical placement of that seismic monitoring instrumentation.

In addition to the seismic instrumentation, other plant equipment, and/or equipment supports and the structure hasn't been modified or changed by the licensee. All the aforementioned changes were made outside the existing NRC license that was issued to the licensee were licensed activities that Unit 1 and Unit 2 of the North Anna Nuclear Plant and thus requires the licensee to submit a license amendment request. Therefore, petitioners request that the NRC require the licensee to submit a license amendment request for Unit 1 and Unit 2 to provide the public the right to intervene at a hearing before the NRC Atomic Safety and Licensing Board.

Issue number two, inspections at Unit 1 need the same rigor as Unit 2 inspections. The licensee failed to inspect the nuclear reactor internal to Unit 1 prior to the restart of the nuclear reactor and falsely relied on inspection activities at Unit 2 to support restart of Unit 1 without inspection or examination of Unit 1's nuclear reactor internal. This approach, which was subsequently authorized and accepted by the NRC significantly jeopardized public health and safety. Notably, at the onset of the earthquake event last year, both Unit 1 and Unit 2 nuclear reactors automatically tripped offline due to a negative reactor flux trip signal, which was apparently caused when the effect of the earthquake resulted in a significant movement of the nuclear fuel assemblies within the nuclear reactor vessel in Unit 1 and 2. Although the license [licensee] conducted extensive pre-start testing and surveillance testing with safety-related systems such as control [unintelligible] [rod] drop tests, such testing is not an acceptable

replacement to the physical and visible inspection of the nuclear fuel assembly support, instrumentation, et cetera, within the Unit 1 reactor vessel. The petitioners once again request that the NRC require the licensee to immediately shut down Unit 1 and require the licensee to inspect the nuclear reactor internal in a similar fashion and manner as the licensee inspected Unit 2's nuclear reactor internal.

Finally, this third item, decisions about the restart of North Anna Unit 1 and 2 were hasty. Economic considerations were given a priority in this decision [these decisions], and the long-term action plan was not even complete before authorization to restart was given. The licensee's initial response to the NRC to restart Unit 1 and Unit 2 was based on an email opinion received from an alleged licensee expert. The licensee's initial restart plan was to restart Units 1 and 2 even prior to the completion of the NRC's preliminary inspection team's inspection activities at the North Anna Nuclear Power Plant. And there's evidence of the NRC deal [zeal] to restart the -- both nuclear reactors without thorough inspection activities being completed.

And finally, on this point, NRC employee Eric Leeds is, in my opinion, to have too much authority in deciding when and if nuclear power plants can be restarted after a significant earthquake event. Such a significant event, in my opinion, requires thought processes of a panel of NRC experts, one of which should be a seismologist expert and not allow the public's health and safety to be pinged on the opinion of one individual. And with that, I conclude my remarks. Thank you.

PATRICK HILAND: Thank you. Ms. Gray.

ERICA GRAY: Thank you. This is Erica Gray. I represent the

Alliance for Progressive Values in Richmond, Virginia. We're a volunteer educational organization. I wanted to start off first by saying that it's good that the regulators are now focusing on the seismic research on the Central and the Eastern U.S., an area once seen as less active geologically than the West. Besides the recent Wall Street Journal article dated January the 31st, I wanted to bring to light that there was an article by the MSNBC dated 03/17 of 2011 by Bill Dedman. And the article was, "What are the Odds? U.S. Nuke Plants Ranked by Quake Risk. So much for San Andreas: Reactors in East, Midwest, South have highest chance of damage." And I quote, "The odds take into consideration two main factors: the chance of a serious quake, and the strength of design of the plant." And Virginia is on that list. So it's been almost a year and we're finally hearing confirmation from the Nuclear Regulatory Commission that indeed it's a fact.

APV wants to reiterate the state capitol in downtown Richmond with a population of 2.1 [1.2] million is 40 miles downwind from North Anna. We have been told by the city of Richmond Emergency Management coordinator, Mr. McLean, there is no evacuation plan because we are outside the official 10-mile circle surrounding North Anna. It has almost been six months since our 5.8 earthquake that exceeded North Anna's plant design followed by almost 80 or more aftershocks. APV is asking the NRC to promptly issue rules requiring the appropriate local, state and federal agencies develop comprehensive emergency evacuation plans for areas up to 50 miles from all 104 existing commercial nuclear power sites, including North Anna facility, and these plans to be made available to the public.

Ultimately, the NRC should recognize by now that North Anna

Nuclear Power Plant poses a real and serious threat to the people and the environment here in Virginia. Thank you.

PATRICK HILAND: Thank you. Mr. Blundell, did you have an opportunity to join us?

PAUL GUNTER: We've been communicating by email.

PATRICK HILAND: Okay. Well, you -- you're welcome to summarize his thoughts and, you know, have him review the transcripts to confirm if you have spoken to him or have emails from him in your concluding remarks there.

PAUL GUNTER: I don't think I can actually represent Mr. Blundell directly, but I can comment that there are concerns with regard to the -- if I could reference back here to the -- what you have accepted. My understanding -- and Mr. Blundell can present his remarks in writing to directly reflect his concerns, but you have accepted for further review the issue of current emergency evacuation plans need to be revised. And I would note that these have also been part of the near-term task force evaluation of the post-Fukushima accident, but it remains our concern that the potential for -- and any kind of external/internal event at the nuclear power plant, we now have in this post-Fukushima world recognized that the consequences can be far more reaching than the current plan provides. And the public is -- has a significant confidence problem with the agency and the industry basically holding what we believe to be a political line at 10 miles for evacuation and sheltering when in fact we've seen real life, real time events that dwarfed that plan with a light water reactor, you know, severe accidents at the light water reactors at the Fukushima Daiichi complex.

So, for many communities, as Richmond for example, if -- certainly

when they saw the State Department issue an advisory to evacuate U.S. nationals out to 50 miles around the Fukushima Daiichi plant, people took note here in the United States that our plans, even though our reactors are of similar design, and this certainly was not a fly-by-night operation under the ownership of Tokyo Electric Power Company and Japanese oversight, so this was a significant development. And, you know, we have now viewed this as a -- sort of the large elephant in the room for this agency's responsibility and its mandate to public health and safety where there seems to be a double standard for the same technology, depending on where you live.

But you know, I'm sure that the petitioners in view of the recognition by the agency that you're going to further review the adequacy of current emergency evacuation plans, that we would rebut the agency's refusal to -- with regard to not considering the potassium iodide issue, issue number 16, which you currently have recommended that it be rejected. So, clearly we've seen actions taken under the advice and the advisement of the NRC chairman through the U.S. State Department to U.S. nationals around nuclear facilities in Japan that we think would greatly be benefitted by the distribution and storage for handy, timely distribution of potassium iodide to populations out to 50 miles. I think these are reasonable. They are more than reasonable; they're now practical given the demonstration in reality of the hazard that all these reactor communities face, whether they're in Japan or in the United States.

So, and I would also remind you that we've made remarks as petitioners that the agency is under obligations of U.S. law through legislation that was provided and promulgated by Congress with regard to requiring the agency and the Federal Emergency Management Agency and the Homeland

Security to put in place through anti-terrorism and biological preparations that potassium iodide be stockpiled, I believe, to 20 miles around the nuclear facility. So, I think that what we're seeing right now is, again, a concern that harbors an inadequate plan and a -- in a time where we've been -- where we're seeing demonstrations, not theoretical applications that, you know, the agency should be making some timely action as per its mandate to protect the public health and safety.

PATRICK HILAND: Is that your closing remarks, Mr. Gunter or -- okay. Do we have any clarifying questions from the NRC staff present in the room here? Just clarifying questions.

DAVID RAHN: I have a question concerning the understanding the basis for your request, the new petition on installation of a microseismic monitoring network around the station. I think according to your testimony, there were two periods of monitoring done in which there was a network limited or so be it installed network of equipment that was there to specifically monitor for the impact of the Lake Anna impoundment around the vicinity of the plant. And the results of the installed equipment was that there was limited or no indication that there was a correlation of the impact of the impoundment on the microseismic events that were occurring. They were limited and found to be of a generic nature. And what I'm trying to do is understand the basis for the request to install a microseismic monitoring system.

PAUL GUNTER: Thank you. Again, Paul Gunter. Well, I think it's self evident with the increased microseismic activity that is underway around the North Anna Nuclear Power Station. It's -- you know, we're still looking to further clarify for the record how Virginia Electric Power Company exited its requirement

under the license condition to have and maintain the microseismic network as was part of the licensing edition and then was suspended. I think there were a number of assumptions with regard to timeline that now need to be reevaluated, frankly, because of the increased activity. And given the -- you know, that we're talking about assessing activity over geological spans of time, I think that it's a very, very short window geologically to say that the monitoring as required, you can now close this to, you know, based on a three-year, three-and-a-half-year monitoring period. I think in the overall scope of what we're dealing with in terms of geological seismic activity, that is not a reasonable assurance to monitor for three-and-a-half years.

So, I think that it's now a -- given and what we've introduced is that, you know, we've presented a snapshot in time where we now have, according to the USGS, more than 100 aftershocks following the August 23rd earthquake. So, I think that this is a reset button that we're asking the agency -- we're requesting the agency to take action for a license condition on a plant that we believe was not fairly licensed, cited [sited] to begin with. In fact, at our last presentation, we presented evidence that the agency and the industry did not adequately, fairly and perhaps even legally, according to the U.S. Department of Justice, license this plant according to the requirements for citing [siting] a plant and the seismological evaluation.

So, I think that, again, the agency has said that you're going to look at the upgrading, the requirements for the Eastern United States and Central United States. I think that part of that upgrade and what we submit to you today is to reset the button on the monitoring, analysis and reporting of this site as it has -- it is now demonstrating an ongoing issue, which is a part and central to our

petition. So, I want to make clear though that we're not presenting a new petition, that what we're presenting is a supplement to the current petition and that, more specifically, it's part of our interpretation of an assessment of the impact of the Lake Anna Dam but more particularly and with -- to update our request that it's about the impact of impoundment of the water in Lake Anna and the ongoing seismic activity that we're seeing following the earthquake of August 23rd.

I think that we've also raised some questions, and these are all, you know, I think ongoing in terms of how to answer, but it's interesting that all hundred whatever -- earthquakes, and there have probably been more, but you know, I think that there's a threshold that has been brought to our attention that doesn't get counted. You know, when somebody strikes a hammer on the ground, that doesn't necessarily constitute as a seismic event, but nevertheless, there's a measure. And what's being demonstrated around North Anna is that we need to hit the reset button on what was there at the original licensing.

PATRICK HILAND: Other questions from the room here, clarifying questions? Region II, do you have a clarifying question?

BOB TRIPATHI: Yeah, Jon, this is Bob Tripathi. As a NRC headquarters staff member, I have a clarification question for Mr. Kamps. During the earlier presentation, Mr. Kamps referred to some couple of items related to the ISFSIs. One was that he was concerned about corrosion within the new homes [NUHOMS], the horizontal storage module. And the second was that he was concerned about the structural integrity of the cradle. And my question is can you elaborate a little bit further on those two issues. What exactly are you concerned about corrosion of what structural material besides the rail, the

supporting rails? And what exactly do you mean by the cradle?

KEVIN KAMPS: Sure, yeah. What I was referring to is by calling it a cradle is the structure that actually holds the very heavy inner canister up off of the ground inside. And, as I mentioned, the reason I mentioned corrosion was that the whistleblower in Florida who brought this concern to our attention in the first place, was concerned about the environment in Florida being especially conducive to corrosion of these particular cask designs. But, of course, I think that issue should be investigated at North Anna as well, even though it's not as close to the ocean.

But in addition to those concerns of that particular whistleblower from Florida about quality assurance issues I guess you could say, we've had long experience with other cask designs that show that NRC has a real problem in the big picture on quality assurance when it comes to dry casks. So, I refer again back to Palisades, Point Beach, Wisconsin, Arkansas Nuclear One, which use -- still use a cask design called the VSC-24, ventilated storage cask. And back in the 1990s, we had a crash course on how bad the quality assurance on those containers is, was, and it was so bad actually and there were so many problems with these particular casks that their use in the future was discontinued, although there's dozens that are still deployed and fully loaded, as I mentioned, at those three nuclear power plants. And then more recently with the Holtec casks, another industry whistleblower, Oscar Shirani, who worked for Commonwealth Edison/Exelon, again, it was revealed that NRC has real problems enforcing quality assurance regulations. And those problems have not been fixed to the best of our knowledge. So, our concerns about quality assurance certainly apply to both the vertical and the horizontal casks at North

Anna.

BOB TRIPATHI: Just like you, Mr. Kamps, I was also involved with the Palisades. And I fail to see the parallel between the concern that the Palisades and North Anna, but we can get into the details later on.

KEVIN KAMPS: Well, could I just respond to that?

BOB TRIPATHI: I think both of your concerns can be wrapped up as a quality assurance concern. Am I right?

KEVIN KAMPS: Well, certainly, quality assurance is at the heart of these issues. If the casks were built with good enough quality assurance against seismic risks, then that would be a good thing. And they're not at this point. And that's the point I wanted to respond to your point about Palisades and North Anna. I think the lesson from Palisades is that NRC is not taking earthquake safety regulations seriously. And just to give folks, if you're not familiar with the Palisades situation, more information on what I mean, Dr. Landman's warning to Chairman Selin in 1994, February of 1994, was that if there is a strong enough earthquake at that location, a hundred yards from the water of Lake Michigan, you need to look at that situation in detail. The dry cask pad, this 3-foot-thick concrete pad is not anchored to anything. It is resting on top of 55 feet of loose sand. And if there's a strong enough earthquake, the sand could part, the lake could flow in, these containers could fall into the lake, and there's concerns not only about radioactive releases directly into the lake, there's even concerns about water infiltration causing a chain reaction in the uranium-235 and plutonium-239 that's in this material inside these containers. So, these are very serious seismic risks at Palisades that the NRC has brushed off for 20 years at this point. And we have taken every opportunity to address that at the NRC and

even in the courts, and we have found no relief. And those risks continue to the present day. And I think the lesson I'm trying to get across is that seismic risks with dry cask storage, with pools, with reactors are very serious matters that need to be taken seriously, and NRC needs to enforce its regulations.

BOB TRIPATHI: Thank you. That's all I have.

PATRICK HILAND: And as previously stated, the licensees are not part of the petition review board's decision making process. However, does the licensee have any clarifying questions for the petitioners or the petition review board?

MALE SPEAKER [PAGE KEMP]: No questions.

FEMALE SPEAKER [MARGARET EARLE]: No questions from me either.

PATRICK HILAND: I'll turn it over to you, Jon, for the…

JON THOMPSON: Sure. Thank you. I guess as a point of order, it's been indicated that if we have a time spot where the public's supposed to present that we're not able to conclude until we reach that time, which, per the agenda that we sent out, was 2:30 p.m. Headquarters operations officer, can you unmute the toll free line?

MALE SPEAKER: Yes, sir. It is unmuted.

JON THOMPSON: Are there any members of the public on the phone? Okay, so I'm not hearing any members of the public. There weren't any at the beginning of the meeting. I'm wondering whether.

PATRICK HILAND: We can take a 10-minute break.

PAUL GUNTER: Could I --

PATRICK HILAND: Or you can --

PAUL GUNTER: I don't plan to filibuster here, but I would just like to invite Mr. Richard Ball with the Virginia Sierra Club. He was a petitioner --

AUTOMATED VOICE: Please pardon the interruption. Your conference contains less than three participants at this time. If you would like to continue, press *1 now, or the conference will be terminated.

PAUL GUNTER: That sort of answers that question. I just wanted to give Mr. Ball an opportunity.

RICHARD BALL: I have no questions or further comments to make.

JON THOMPSON: Okay, so that was Mr. Ball. And my understanding was Mr. Ball said that he didn't have any more questions at this time -- or statements at this time.

PATRICK HILAND: Can we ask the headquarters ops officer to hit *1, extend the conference. We'll take a 10-minute break --

JON THOMPSON: Yeah, headquarters operation officer, if you haven't hit *1 already, if you could just hit *1 and we will take a 10-minute recess to 2:30 to meet our obligations or you know, I guess go the extra mile and make sure we meet them.

PATRICK HILAND: I'll make my closing remarks at 2:30. Is that acceptable?

PAUL GUNTER: That's fine.

JON THOMPSON: Okay, thank you.

[break]

JON THOMPSON: All right. We'll offer a brief opportunity for Mr. Kamps to supplement his remarks on the potassium iodide issue at this time.

KEVIN KAMPS: Thank you. For the record, Kevin Kamps with Beyond Nuclear. I just wanted to add to our rebuttal at your decision, your preliminary decision to reject the call for potassium iodide distribution. And what I'd like to share mostly has to do with the Chernobyl catastrophe. One of the, you know, first news items that really hit home hard after Fukushima began on March 11th, just in the first days, was that radioactive iodine-131 had appeared in the drinking water supply of Tokyo because of fallout onto reservoirs which were nearer to Fukushima Daiichi, but that water supply reaching people through their taps 150 miles away was contaminated significantly so. Infants were -- there were warnings given by the federal government of Japan to parents with young children and infants that they should not use that water for baby formula and it should not be given to young children. So, this is a serious issue. It extends to a long distance.

And I mentioned the Chernobyl catastrophe because there hasn't been time for the dust settle at Fukushima to know what impacts the radioactive iodine-131 is going to have on human thyroid glands, especially for young children, but at Chernobyl the evidence is very clear that an epidemic of thyroid pathology developed over time after that catastrophe. And the contrast between Poland and the former Soviet Union was very marked. In Poland, as soon as they knew about the Chernobyl nuclear accident, which was some days after it began because of the cover-up, they immediate [immediately] distributed potassium iodide to their population and prevented an epidemic of thyroid disease, especially in children. But in the Soviet Union, not only did they cover up the accident at first until it was announced to the world by Sweden, but they continued to keep their population in the dark. There was very little, if any,

potassium iodide distributed. And the consequences have been horrendous actually. So, a disease that perhaps there were a few cases in the country of Belarus among the entire population of childhood thyroid cancer before Chernobyl, afterwards now, there have been many thousands of cases of thyroid disease.

And I've heard the Nuclear Energy Institute spokespeople talk about thyroid cancer as not a big deal. It's treatable. Well, in a place like -- in the Chernobyl region, it is a big deal. The standard treatment is a scar that is from one side of the neck to the other. It's a terrible stigma for people to have that because it's evidence of their exposure to radioactivity. They're probably going to have trouble finding marriage partners. They're going to have trouble finding a job because employers are worried about their health, marriage partners about their perhaps genetic damage, their health.

So, it's a very serious issue, and I just remind everyone of the work of Peter Crane, an NRC staffer who, for many years on end, petitioned for rulemaking at the NRC that potassium iodide distribution be taken seriously here, be undertaken. And it's bewildering to many of our colleagues and our members across the country that even though there's a federal law requiring NRC to have potassium iodide distributed out to a distance of 20 miles, which may be inadequate given the lessons of Fukushima, that it hasn't happened. And this is several years, many years after the law was enacted. Congressman Markey, a Democrat from Massachusetts, back in May of 2011, a ranking Democrat on committees and subcommittees of jurisdiction over the NRC, has demanded to know why this law has not been enforced by this agency. And another personal experience of ours was a meeting actually held by the Federal Emergency

Management Agency at citizen request near the Calvert Cliffs Nuclear Power Plant several years ago where this law was already on the books. We asked FEMA what the situation was. FEMA did not even know what the situation was in terms of potassium iodide supply in that area. And we were just some miles from Calvert Cliffs at that particular moment. So, it's incredible that this issue is being slow-walked by the agencies responsible for its implementation.

And I'll close with this story from the thyroid hospital near Minsk, Belarus, that I visited in 1996. And I spoke to a young physician there and asked her, so, if potassium iodide had been distributed to the population of Belarus, then this epidemic would not have happened. And, very emotionally, she said, "Of course, that's the situation." And it was dangerous for her to do that, because I was an American, she was a Belarussian. Belarus is a dictatorship. And yet, she felt it important enough to communicate the truth that the government there had majorly screwed up for very bad reasons and now, especially children, are paying the price.

So, thank you for letting me make those remarks.

JON THOMPSON: Yes, are there any members of the public on the line? If not, then I conclude that there's not any reason to go through that step in the process, and I'll turn it over to the PRB chair for closing remarks.

PATRICK HILAND: Well, Mr. Gunter and Mr. Kamps, thank you very much for appearing in person.

JON THOMPSON: I'm sorry, Pat. I -- headquarters operations officer, is the toll free line unmated?

MALE SPEAKER: Yes, it is still.

JON THOMPSON: Okay, so it's still unmated. And there's still

nobody on the line. Okay, I just wanted to verify that so we didn't have this poor person shouting into the telephone and it was muted, so --

PATRICK HILAND: Yeah, we learn from our experiences, right, Jon? Thank you very much for your personal attendance today. I know it take a lot of effort to come down here, especially on the Metro. So, we appreciate it.

With that, this meeting is closed. Thank you very much.

[Whereupon, the proceedings were concluded]