UNITED STATES OF AMERICA

NUCLEAR REGULATORY COMMISSION

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PETITION REVIEW BOARD

CONFERENCE CALL

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WEDNESDAY

APRIL 5, 2006

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The conference call commenced at approximately 1:00 pm EDST on April 5, 2006 and was moderated by William Reckley, the NRC Petition Manager for the 2.206 petition filed by various parties requesting action to address ground water contamination from nuclear reactors.

Participants

Rockville, Md.

William Reckley, NRC/NRR

Donna Williams, NRC/NRR

Stu Richards, NRC/NRR

Stephen Klementowicz, NRC/NRR

Tim Frye, NRC/NRR

Stacie Sakai, NRC/NRR

James Shepherd, NRC/NMSS

Marvin Mendonca, NRC/NRR

Giovanna Longo, NRC/OGC

Scott Burnell, NRC/OPA

Lisa Regner, NRC/NRR

Theresa Valentine, NRC/NRR

Ralph Cady, NRC/RES

Jim Riccio, Greenpeace

David Lochbaum, Union of Concerned Scientists

Paul Gunter, Nuclear Information & Resource Service

Melissa Kemp, Public Citizen

Steven Dolley, Inside NRC/Platts

Ralph Anderson, Nuclear Energy Institute

Larry Haynes, Duke Energy

Mark Rigsby, Progress Energy

Mike Callahan, Governmental Strategies, Inc.

Ted Garrish, CH2M HILL

Deann Raleigh, LIS Scientech

Telephone

Marty Phalen, NRC/Region 3

Neil Sheehan, NRC/Region 1

John White, NRC/Region 1

Latif Hamden, ACNW

Zulima Farber, Attorney General for the State of New Jersey

Suzanne Patnaude, Board of Public Utility, State of New Jersey

Hal Dardick, Chicago Tribune

Sine Coor (PH), Boston, MA

Mary Lampert, Pilgrim Watch

Cindy Sauer

Jeffrey Brown, GRAMMES

Dr. Kim Harvin

Phillip Musegass, Riverkeeper

Brent Smith, Institute for Energy and Environmental Research

Molly Bartlett, Pilgrim Watch

Michelle Lee, Council on Intelligent Energy and Conservation Policy and Indian Point Safe Energy Coalition

Jim Warren, NC Warn

Jonathan Block

Suzanne Leta, New Jersey Public Interest Research Group

Eric Epstein, Three Mile Island Alert

Sheldon Toll

Rochelle Becker, Alliance for Nuclear Responsibility

Kathy Burns

Paula Gotsch, GRAMMES

Glenn Carroll

John McCann, Entergy Nuclear Northeast

David Robillard, Exelon

Maureen Brown, TVA

Mike Payne, TVA

MR. RECKLEY: Okay. We'll go ahead and form a roll call at this time.

VOICEOVER: There are currently 26 participants in your conference. The following people are in the conference.

MR. Dardick : Hal Dardick, Chicago Tribune.

Sine Coor (PH): (Inaudible) Sine Coor (PH), Boston, Massachusetts.

MS. LAMPERT: Mary Lampert, L-A-M-P-E-R-T, Pilgrim Watch.

MR. McCANN: John McCann, Entergy Nuclear Northeast.

MR. SHEEHAN: Neil Sheehan, NRC Region 1

MR. PHALEN: Region 3, NRC.

MS. SAUER: Cindy Sauer, private citizen.

MR. ROBILLARD: David Robillard, Exelon.

MR. BROWN: Jeffrey Brown, (Inaudible)

DR. HARVIN: Dr. Kim Harvin.

MR. MUSEGAAS: Phillip Musegaas from Riverkeeper.

MR. SMITH: Brent Smith, The Institute for Energy and Environmental Research.

MS. BARTLETT (PH): Molly Bartlett, Pilgrim Watch.

MR. HAMDEN: Latif Hamden, ACNW.

MS. LEE: Michelle Lee, Council on Intelligent Energy and Conservation Policy and Indian Point Safe Energy Coalition.

MR. WARREN: Jim Warren, N.C. Warn.

MR. BLOCK: Jonathan Block, environmental attorney.

ATTORNEY GENERAL FARBER : Attorney General for the State of New Jersey.

MS. PATNAUDE: Suzanne Patnaude, Board of Public Utility, State of New Jersey.

MS. LETA: Suzanne Leta with New Jersey Public Interest Research Group.

PARTICIPANT: Three Mile Island Alert.

Mr. Toll: (Inaudible.) Sheldon Toll.

MS. BECKER: Rochelle Becker, The Alliance for Nuclear Responsibility.

MS. BROWN: Maureen Brown, TVA.

VOICEOVER: Roster playback is complete.

MR. RECKLEY: Are there any other participants that were added after the playback began?

MR. EPSTEIN: No, but this is Eric Epstein from TMI Alert. My name wasn't added.

MR. RECKLEY: Okay, sir. Anyone else?

PARTICIPANT: Yes, I'd like to request a clarification. Who is the person from NRC Region 3 who is on the phone?

MR. PHALEN: NRC Region 3, Marty Phalen.

PARTICIPANT: Thank you, Marty.

MR. PAYNE: This is Mike Payne, TVA. I was just added during the roll call.

MS. BECKER: This is Rochelle Becker, Alliance of Nuclear Responsibility. Is anyone from Region 4 there?

MS. GOTSCH: Paula Gotsch, GRAMMES, New Jersey.

MR. MUSEGAAS: This is Phillip from Riverkeeper. Is anyone from Region 1 on the call?

PARTICIPANT: Yes, Phil. I think Neil

Sheehan said he was on.

MR. WHITE: Yes. This is John White, Region 1 also.

MR. MUSEGAAS: Oh. Hi John. Okay.

PARTICIPANT: Okay. Go ahead with the conference.

MR. RECKLEY: Okay. Thank you. My name is Bill Reckley and I'm a Petition Manager for this particular 2.206 Petition at the NRC. Since we went through this roll call and the crowd is manageable here, I'm going to go around this room have everyone introduce themselves.

For those keeping a list, this is going to be transcribed. All the participants will be listed as part of that transcription. Again, my name is Bill Reckley. I'm in NRR, Special Projects.

MS. WILLIAMS: This is Donna Williams, NRR and a 2.206 coordinator.

MR. RICCIO: Jim Riccio with Green Peace.

MR. LOCHBAUM: David Lochbaum with the Union of Concerned Scientists.

MR. GUNTER: Paul Gunter, Nuclear Information and Resource Service.

MS. KEMP: Melissa Kemp. Pubic Citizen

MR. ANDERSON: Ralph Anderson, NEI.

MR. HAYNES: Larry Haynes, Duke Energy.

MR. RIGSBY: Mark Rigsby, Progress Energy.

MR. Cady: Ralph Cady, NRC -

MR. CALLAHAN: Mike Callahan, Governmental Strategies Incorporated.

MR. GARRISH: Ted Garrish, CH2M Hill.

MS. RALEIGH: Deann Raleigh, Licensing Information Service, Scientech.

MR. MENDONCA: Marvin Mendonca, NRR.

MS. REGNER: Lisa Regner, NRR.

MS. VALENTINE: Theresa Valentine, NRR.

MR. BURNELL: Scott Burnell, Office of Public Affairs.

MR. SHEPHERD: Jim Shepherd, NMSS.

MS. SAKAI: Stacie Sakai, NRR.

MR. DOLLEY: Steve Dolley, Inside NRC --

MR. RECKLEY: Okay, and again all the -- Oh, I'm sorry.

MS. LONGO: Ginny Longo, Office of General Counsel --

MR. RICHARDS: Stu Richards, NRR.

MR. KLEMENTOWICZ: Steve Klementowicz, NRR.

MR. FRYE: Tim Frye, NRR, Chief of the Health Statistics Branch, NRR.

MR. RECKLEY: Okay. For those on the phone, we have posted the handouts on our website. If you go to the NRC public website, click on the Groundwater Contamination link, then go to Public Meetings, there will be a list in that table with today's date and the handouts will be there.

PARTICIPANT: Would you please repeat that?

MR. RECKLEY: Okay. If you go the NRC public website, on the first page at the top near the top is a link for Groundwater Contamination. Click on that and you'll have to scroll down a little bit and there will be a link called Public Meeting.

PARTICIPANT: And is that where the transcript will be put up today?

FACILITATOR RECKLEY: Well, it will be a couple weeks before we get the transcript made, but yes, we'll put it up on that same spot.

PARTICIPANT: Okay.

PARTICIPANT: And for those here (Inaudible.)

FACILITATOR RECKLEY: There's a sign-up sheet going around. Hopefully everyone here signed in. There's also a public feedback form and that is an opportunity for anyone from the public to give us feedback on how this meeting goes. For those participating, my email is wdr@nrc.gov. You can send me any comments or if you want to request the formal form, you can ask and I'll send it to you.

The format for this meeting is going to be that the NRC staff is going to give a relatively brief discussion of the regulations and guidance documents related to the control of effluents. We'll talk briefly about some of the ongoing programs. Then we'll open it up for questions. Questions will be first those in attendance in the meeting and then we'll go out to the phones and see if we can try to do that. Then the Petitioners have some presentations and discussions and the staff may ask questions of the Petitioners. And then as time allows, we'll just see what we think might be useful to do while we're all together, while we're all together, and we'll try to make the most of our time here.

MR. GUNTER: Bill, Paul Gunter, Nuclear Information Resource Service. Could we also have a

snapshot of where we are in the petition process?

FACILITATOR RECKLEY: Yes, I'll do that right from the beginning before we start the other part.

MR. MUSEGAAS: And, Bill, I'm sorry to interrupt. This is Phillip at Riverkeeper on the line. Is there a way since we have so many people calling in, is there a way that maybe we can organize how we make comments from the phone? Otherwise, it sounds like it might be a little chaotic.

FACILITATOR RECKLEY: Yes. What I tried to do in the past when we've done this is go by region.

MR. MUSEGAAS: Okay.

FACILITATOR RECKLEY: And so we'll try that again.

MR. MUSEGAAS: That's good for me that Region 1 goes first.

(Laughter.)

PARTICIPANT: Could we also please make sure that everybody identifies themselves?

FACILITATOR RECKLEY: Yes. Two mechanical things here. Since we're going to transcribe if you have a questions or your part of the discussion, please identify yourself and also we'll move around here a little bit in the room so the primary speaker can be as close as possible to this speaker phone.

MR. MUSEGAAS: Okay. Thank you.

FACILITATOR RECKLEY: And the second part is if you have the capability for those on the phone if you can put it on mute while you're not

talking that will also help. Before we then get into the part where we're talk about the rules and guidance related to this, I'll take briefly about the 2.206.

When the Union of Concerned Scientists and et al submitted the 2.206, the first part of the process is for the NRC's Petition Review Board to do an assessment and make a judgment as to whether 2.206 is an appropriate vehicle to address the public's concerns and I'll give an example where it wouldn't be. For example, if there are not current requirements and you are basically asking us to create a new requirement, then we would direct you to another process for that, a petition for rulemaking.

In this particular case, we thought it was fair that an enforcement action might be an appropriate vehicle to address the concerns and so we've accepted the petition and we are currently in the process of evaluating what the specific request is in the petition, which is to issue a demand for information to the licensees, which is an enforcement action, compared to what other vehicles we may have to get information should we decide we need information. So there's a number of things that we will need to decide and then that will ultimately go into the Director's decision which will be rendered on this specific petition.

The time frame for that is that we will likely issue the Director's decision sometime in the summer and the reason I'm being a little loose with that is there's a lot going on in this area and we're going to talk about the Agency task force and

some other items as we go along. Those will or could factor into the decision making and so we'll have to see how these things come together. But in any case, it will be sometime in the summer or early fall where we would render a Director's decision.

Any questions on the 2.206 process? Yes, Paul.

MR. GUNTER: Paul Gunter, Nuclear Information Resource Service. I assume that you could make recommendations with regard -- The set of recommendations by the Petition Review Board could come out of this meeting. Correct?

FACILITATOR RECKLEY: Correct.

MR. GUNTER: Okay. Would we have an opportunity to review those recommendations with the PRB in a subsequent meeting before a Director's decision?

MS. WILLIAMS: Right. A proposed Director's decision gives the opportunity for you to review the recommendations that we're making to the Office Director.

MR. GUNTER: Could we -- But would we be able to have another meeting let's say?

FACILITATOR RECKLEY: Possibly. I won't commit that we will definitely have another meeting, but there's nothing in the process and this particular issue, I think there's going to be plenty of meetings in the relatively near future. So how we can possibly include the Petitioners in some of those we're flexible. We can work it in. In any case, as Donna mentioned, even if we didn't have another public meeting, before the Director's decision is final, you'll get an opportunity to look

at and comment on the draft. Any other questions on the process?

MR. RICCIO: Jim Riccio with Green Peace. I'm just wondering how many of you folks were actually in the meeting with NEI last week. (Inaudible.) I was wondering what came out of that meeting.

PARTICIPANT: Is the public meeting we had down at (Inaudible.)

PARTICIPANT: Yes.

(Several speaking at once.)

FACILITATOR RECKLEY: Now that's something I should have probably referred to in answering Paul's question. It's not as if within the NRC you have PRB, the Petition Review Board, totally separate from those that are otherwise involved. We're all one staff and we're all involved in the different facets of this issue.

PARTICIPANT: Is there meeting summary on that yet or --

FACILITATOR RECKLEY: Not yet, but there will be.

PARTICIPANT: Okay.

FACILITATOR RECKLEY: Okay. If that's it on the process, the next item is for Steve Klementowicz to go over as background the NRC regulations and guidance documents that are related to this hopefully so that everyone is on basically the same page as to what the regulatory environment is. Steve's handout is on the website under Meeting Handouts. So if you want to click on that, you can follow his discussion. Steve, here. Why don't you (Moving of the microphone.)

MR. KLEMENTOWICZ: Good afternoon. My name is Steve Klementowicz. I'm a Senior Health Physicist in the Office of Nuclear Reactor Regulation. My specialty is the Radiological Effluent and Environmental Monitoring Programs and I apologize to those of you who attended the March 22nd public meeting. I will be repeating my same presentation about the rules, regulations and guidance that I gave at that meeting. I believe at this point though I will give a little condensed version of it, not the full half an hour or 40 minutes that I gave.

But anyway, the NRC does have many regulations, guidance, NUREGs, relating to radiological effluent and environmental monitoring programs. The top tier document is contained in our 10 CFR Part 50, Appendix A, the General Design Criteria 60, 61 and 64. Those are the overall controls that licensees are required to control radioactive effluents, monitor the effluents, perform radiological evaluations on all releases and to document this information in annual reports.

And it is important to note that it includes all releases whether they be normal or what we classify as an abnormal release, one that was not planned. So essentially, these requirements govern all releases. So these abnormal ones that the Petitioners are talking about here are not exempt from the regulations.

We have a tiered approach of dose limits. 10 CFR Part 20 is our overarching safety limits and that is 100 millirem to the members of the public from the operations of the licensed

facility. From there, we go downward. It's also contained in Part 20 of the EPA's requirement of 25 millirem to uranium fuel cycle. That is codified in 10 CFR Part 20 Section 1301. So that limits power reactors down to 25 millirem from the operation of their facility.

Then beyond that, we have an ALARA criterion which is in Appendix A to Part 50. That by itself is just the design objective and it specifies, and it's summarized in my handout here, that licensees have to establish a surveillance and monitoring program, provide data on all quantities of radionuclides released from liquid and gaseous effluents and it provides data on measurable levels of radiation and radioactive material in the environment. So we require that they monitor the effluents, report what they released, perform an assessment which means the dose and also do an environmental monitoring program to see if it's having a measurable impact in the public domain.

The Appendix I ALARA Objectives are put into each power reactor's license condition in the form of technical specifications and that effectively limits their liquid effluents to three millirem in a year and the gaseous, we have a little bit of a complicated scheme. We actually require an air dose limit, 10 millirad gamma air dose and 20 millirad data air dose. The provision in Appendix I says if you get close to these values, the NRC can impose a five millirem whole body dose limit, but if the point of discussion here, I'll just say it's five millirem from gaseous effluents. For three millirem from liquid, five from gaseous, this

includes all radioactive material released, no exceptions for abnormal discharges. So that's the top tier requirements for dose and our ALARA criteria that the actors are required to meet.

In the next section, I list the specific regulations and guidance. I would like to go to Part 20 and address it in relation to the situation that we have before us. Part 20 requires licensees to perform radiological surveys. That's in 20.1501. The regulations as written refer to the normal effluent release discharges. So it's what we evaluated in their license that they would have this discharge pipe into the river, the lake, the ocean and the gaseous vent would discharge into the air. So all of our guidance is designed to determine compliance based on the monitored gaseous and liquid discharges. So that's what's primarily here.

It's a maximum hypothetical calculation. So we give the licensees in Regulatory Guide 1.109 sets of parameters, how much fish a person would consume, the breathing rate, swimming, recreational use, also to maximum factors for reference standard man and they calculate maximum hypothetical dose from the radioactive discharges and that is what's used to determine compliance with Appendix I and also Part 20.

What we have in these situations, the leaks or the spills or unusual occurrences while this is outside of the normal process, it doesn't go out the normal pipe or discharge duct or vent, it does not relieve the licensee of still performing a radiological assessment, monitoring and reporting of what they discharged. That is covered in Part

20.1501, the requirement to conduct a radiological survey to determine the hazard from this material. So that's what the NRC will use on any situation. Has the licensee done monitoring as it performed an evaluation to determine the hazard and then it has to ensure that they comply with their license conditions to meet the Appendix I ALARA objectives. That's the three millirem and five millirem for gaseous.

So be it normal or an abnormal release, the NRC in its inspection program will look to verify that the licensee's effluent discharges are again surveyed, monitored, a hazardous assessment performed and then documented and reported to the NRC. I just want to make that really clear that these releases, the unusual spills and leaks, are not exempt from these requirements. They are not specifically written into our guidance. We envision that the plant would control their effluents and release them as described in their application and what we reviewed for the licensing basis, but they're still covered.

We have the Regulation 50.75(g) that does acknowledge there will be spills, leaks and other unusual occurrences and that the licensee needs to again survey, evaluate and document any of these spills and leaks, but the focus here is on decommissioning so that a licensee knows what areas of the plant there have been spills or leaks of radioactive material and that will aid in the decommissioning process.

But again, the same surveys and hazard analyses are required. They have to know what's

going on on their site when they have a known spill or leak. Again, with some of these situations, we look to that regulation to see that the licensee is keeping record so that when they do enter decommissioning they're not starting with a blank slate.

MR. BLOCK: Is it possible to interrupt a minute, this is Jon Block, to ask a question that is relevant to this point? It's going to get lost in the shuffle.

MR. KLEMENTOWICZ: Okay. Sure.

MR. BLOCK: I want to use an example and I'm going to name a concrete situation, but then let's treat it as a hypothetical because I don't want to get into the rights and wrongs of a particular site where they're working on this now. But Yankee Row had documented problems with leaking tritium going back to the 1960s into the 1970s. Everything was tracked and all the records were kept. Now it's the time in decommissioning where they're closing in on final site survey and here they have documented this huge bloom of tritium under the site. Theoretically, it's not escaped yet off the site, but there it is and the question is with all of this record-keeping that you're talking about, it doesn't seem to have helped either the Agency or the licensee in the end to come up with a solution for getting rid of the stuff and I'm wondering if you could be sure to address anything in your regulations or any NUREG that poses a means of dealing with the actual problem rather than just documenting the fact that it's continuing to build up over a 20 or 30 year period.

MR. KLEMENTOWICZ: Okay. We'll note that comment. I do have a -- We're currently working on a rulemaking in the Part 20 and it's specifically 20.1406 and that regulation, that's related to license termination and the regulation talked about the licensee when they submit an application needs to provide some information about how they're going to minimize and I think -- Ralph, can you remember the exact words?

MR. ANDERSON: Minimize contamination from the perspective of decommissioning.

MR. KLEMENTOWICZ: The rule currently says new applicants have to provide a plan that's going to minimize contamination from the operation of the facility. So that's a current regulation. We're now looking at it as revising that regulation based on some lessons learned that NMSS has happened from the results of these decommissioning processes. So that's the best I could offer you at this point is that we are looking into that regulation.

PARTICIPANT: Steve, let me explain and maybe you could help, Jim, but there are requirements to clean up the sites. There are certain dose rates before you can release them from restrictive use and terminate the license. Isn't that right?

MR. KLEMENTOWICZ: Yes.

PARTICIPANT: There's a whole science that goes along with it. There's REZ RAD (PH).

PARTICIPANT: Subpart E to Part 20 you find the criterion for license termination.

MR. BLOCK: But I think the problem there is that you're REZ RAD approach and MARKSIV

(PH) aren't designed to deal with groundwater contamination issue. They are really dealing with surface contamination and contamination within a certain depth from the surface.

MR. FRYE: This is Tim Frye, Chief of the Health Physics branch again. I was just going to add that I'm also on the Lessons Learned Task Force and this is clearly an issue that we'll be evaluating in the Lessons Learned Task Force. We'll be looking at the regulatory requirements and the decommissioning and what's required and if possible, we can recommend recommendations in this area. So it's something that we recognize is an issue and we're looking at it as part of the task force and we'll talk more about that later.

MR. KLEMENTOWICZ: Okay. Steve Klementowicz back again. So, yes, we do have all of these record requirements and monitoring requirements in Appendix I to keep doses low and the ways to calculate those from effluents as listed in all of these regulatory guides and then the NUREG that are listed are essentially the technical specifications where we impose the radiological effluent monitoring requirements and the environmental monitoring requirements.

On the last page, I've also, it's the EPA drinking water standards of the 20,000 pico-curies per liter of tritium which EPA associates with an annual dose of four millirem. The NRC has incorporated this into our Environmental Monitoring Program requirement that if the licensee take an environmental sample and exceeds the 20,000 pico-curies there, they do have to send us a special

report with an investigation of what happened, why is this occurring and what their plans are to rectify the situation.

Regulatory, this is a rather high level report. There's been -- that the states have been discussing to me the need to immediate report from any licensees on any spill. The criteria that we have in Part 72 and Part 73 refers to multiples of the NRC criteria, though it's a -- threshold where we believe the licensee needs to be report to us that we view it as a significant event requiring certification and again, that's in a graded approach of immediate notification down to 30 days reports.

Part 20 also has reporting criteria but again their multiples of Part 20 values, the Appendix B concentration and high levels. What we've heard from some states is they would like reporting on any spills or leaks regarding of the thresholds.

And then we have the routine NRC inspection, Inspection Procedure 71122, Public Radiation Safety that's the once every two years we go out to each plant and look at their effluent and environmental monitoring programs to determine compliance with all of our regulations.

As far as the Radiological Environmental Monitoring Program, the REMP, we have specific guidance to industry of what they have to sample. They had to have TLD, thermal luminescent dosimeters within their site for direct radiation. The licensee is required to take air samples, vegetation samples, drinking water samples, fish, invertebrates, essentially all of the pathways which

man can be exposed from any radiological effluents depositing on the ground, so you know the grass, the air, cow milk pathway, things like that, drinking water pathway.

It's important to note that it's an offsite monitoring program. As far as onsite monitoring, the NRC only requires that they perform an onsite water sampling program if the water is used for plant drinking water purposes. If the water is not for drinking water purposes, there is no onsite radiological requirement for monitoring.

So kind of jump into some of the issues here, when a licensee becomes aware that they have a spill or a leak, then Part 20 clicks in. They have to do the surveys, the analysis, the monitoring, reporting and all of that. But there is no onsite monitoring requirement to do this.

MR. RICCIO: Can I ask a question? Jim Riccio with Green Peace again. Does this help explain why we have at these utilities you basically don't run -- statute of limitations (Inaudible.) It's our understanding that none of these utilities have, they reported beyond the statute of limitations. So they may not be able to be brought to justice as it were by --

PARTICIPANT: Do you mean like in --

(Inaudible.)

MS. LONGO: For purpose of the statute of limitations if a violation is required to be reported and the licensee does not make that report, the statute does not start to run until the report is made. So if a release occurs say in the year 1950 and they were supposed to report it within 30

days, but they didn't report and we have no reasonable way to discover it, there's also due diligence required on our part, if it was not discovered until the year 2000 and reported in 2000 and we could not have reasonably done due diligence, discovered it, then the statute starts running in 2000. The (Inaudible.) starts in 2000.

MR. KLEMENTOWICZ: Steve Klementowicz back again. So that is the summary of our rules, regulations, guidance for effluent and environmental monitoring in the nutshell. Obviously, there is lots of specifics in each one of these rules and regulations, but I've provided just an overview and during this meeting, if you have additional questions, specific questions, I'll be happy to address those.

MS. BURNS: May I ask one quick question, this is Kathy Burns calling from Boston, just on the point you made most recently that testing is not required, if drinking water wells are not set up. Now does that mean drinking water wells onsite or does mean drinking water wells within a reasonable proximity of the property within the same aquifer let's say?

MR. KLEMENTOWICZ: The requirements for the offsite environment, the licensee shall take samples of drinking water in the public domain.

MS. BURNS: Are you talking about the onsite releases?

MR. KLEMENTOWICZ: I'm not -- That's the offsite environment.

MS. BURNS: Okay.

MR. KLEMENTOWICZ: So the public

environment, the program requires that the licensee has to take water samples from drinking water supplies that it has the potential to affect. For the onsite, if the licensee does not use any onsite wells, then there is no requirement to sample and analyze that water onsite.

So for offsite, it's required because it's in the public domain and that's what the purpose of the Environmental Monitoring Program is to see if there is an impact from the operation of the facility. On the onsite, there is no requirement if they don't have a well for drinking water.

MS. BURNS: So is the inference and assumption, I'm trying to make sure I understand this, that there would be no offsite migration of the water that moves down into the soil onsite?

MR. KLEMENTOWICZ: Well, again, we're requiring the offsite environment be monitored, the drinking water. So if there is material going offsite through some pathway that's where we look to those offsite wells to see if there is any migration.

MR. EPSTEIN: This is Eric Epstein from Three Mile Island Alert and the question I have is there any concern that the offsite migration may occur through the ingestion of animals or wildlife that occupy the nuclear power plant's immediate environment. TMI has a lot of wildlife that goes and comes and what provision do you have an animal that may be exposed to tritium and goes somewhere else and then it's ingested or is that not in your problematic analysis?

MR. KLEMENTOWICZ: This is Steve Klementowicz. We have in Regulatory Guide 1.109. That's the calculation of dose to man from routine effluent discharges. There is a provision in there that the licensee has to calculate the dose to an individual from consumption of fish, vegetation, milk, any local products. But, no, it doesn't relate to deer or wildlife. It's specific to commercial catches of fish and any dairy products, milk, goat milk.

MR. EPSTEIN: I guess what I'm saying is that this is a nesting area on TMI and we could have a contaminated exposed portal of water that is routinely consumed by migrating fowl and it seems to me that wouldn't be captured in your problematic analysis.

MR. KLEMENTOWICZ: Yes, this is Steve Klementowicz. The NRC regulations are designed specifically for the protection of man. We do not have specific criteria related to the dose to wildlife or aquatic creatures. So look at that for the licensing of the plant, but our focus is on the dose calculation for the protection of man.

MR. EPSTEIN: Steve, I'm not going to belabor the point and I understand what you're saying, but around here, out here in the country, we actually eat the geese. So there could be a human pathway. I'm not going to belabor the point, but I think there may be a portal of vulnerability there in your theory.

MR. BROWN: This is Jeff Brown from New Jersey. I don't know if this is too obvious a question, but since the water has to be onsite

before it migrates offsite, is the NRC considering requiring onsite testing of this water?

MR. RICHARDS: This is Stu Richards. One of -- As we mentioned before and I think we're going to get to here in a second, but we do have a Lessons Learned Task Force that's going to be looking at the broader regulatory framework and probably making some recommendations to the Commission as far as enhancements we can make in the area. But it's too soon to say what's going to come out of that.

MS. LONGO: This is Jenny Longo. I'm sorry to interrupt, but for the reporter's convenience when I answered that question about the statute of limitations, I didn't identify myself. Jenny Longo. Thank you. Sorry.

MR. WARREN: This is Jim Warren with N.C. Warn. A quick question to clarify. When you're talking about the offsite monitoring of drinking water, you're talking about surface waters only. There is no requirement that there be offsite monitoring wells. Is that correct?

MR. KLEMENTOWICZ: They also take samples of drinking water supplies. They can go to an intake. If there's a drinking water facility downstream, the licensee will take samples at the intake of that where they pull the water from the river or lake.

PARTICIPANT: But do they sample groundwater -- Right?

MR. KLEMENTOWICZ: They do, yes.

PARTICIPANT: Is that the question?

MR. KLEMENTOWICZ: It's not just surface

water. It's also drinking water.

MR. WARREN: Okay. But I'm still trying to clarify this. There are no requirements for monitoring wells for groundwater when you talk about monitoring equipment ringing the plant. You're not talking about monitoring wells --

MR. KLEMENTOWICZ: This is Steve Klementowicz. That's correct. They don't have to have a ring of monitoring wells around the site. They will take, they can take water from a local resident's well with the resident's permission or they can go to the municipal water supply that draws its water from the river or lake that the plant discharges into.

MR. WARREN: Okay. One final point, again not to belabor, are they required to check the nearby neighbor's drinking well? They can. Are they required to?

MR. KLEMENTOWICZ: I can't give you a definite answer right now. I'd have to go back and review the guidance. I know they do have to do a drinking water supply. That is a requirement.

MR. WARREN: Thank you.

MS. LAMPERT: Okay. This is Mary Lampert from -- Just to hammerize, in other words you're saying your system is a reactive for when there's a problem, but it's not a preventive to see whether anything goes offsite.

MR. KLEMENTOWICZ: This is Steve Klementowicz. I believe you're referring to that there are no requirements that have onsite monitoring wells.

MS. LAMPERT: Yes, and so the only clue

would be when it's already (Inaudible.)

MR. KLEMENTOWICZ: Yes.

MS. LAMPERT: Okay.

MS. GOTSCH: This is Paula Gotsch, Grand East, New Jersey. In reference to Regulatory Guide 1.109, you're saying that you're calculating the annual doses to man from reaching release of reactors. Now at this point, we all know that children and fetuses have a much, are much more susceptible to any toxins and since usually when something goes wrong, the miscarriages are the first thing that happens, why isn't this dose calculated for the least of that, you know, the most vulnerable of us and not just man because these should be calibrated to fetuses and children? Do you do that at this point?

MR. KLEMENTOWICZ: This is Steve Klementowicz. Yes, Regulatory Guide 1.109 has dose conversion factors and consumption rates and breathing rates for infants, children, teenagers and adults and when a licensee does their calculations, they are required to do the calculations for all of those potential age groups and report and determine compliance with the grouping that receives the highest maximum hypothetical dose.

MS. GOTSCH: Okay. Thank you.

MR. KLEMENTOWICZ: So in the reports, you will see doses reported to the teenager liver or the childhood thyroid or the adult and it's all factored in with breathing rates, food consumption, but again it's a maximum hypothetical dose and it could be infant for one pathway and teenager for another.

MS. LEE: This is Michelle Lee, Indian Point Safe Energy Coalition. At times when the dosage for fetuses and infants is too high, what steps are taken by the NRC for offsite?

MR. KLEMENTOWICZ: This is Steve Klementowicz. The NRC has provisions that if the licensee is approaching the Appendix I dose values or any other safety limit in Part 20, there is a provision in 20.1301 that allows that NRC to basically intervene and establish lower release limits or whatever criteria that we view as necessary for the protection of public health.

MS. LAMPERT: Right, but that you're talking about routine releases.

MR. KLEMENTOWICZ: No, I'm talking about any discharge. I said at the beginning that whether these are routine effluents or any abnormal spills or leaks, they are not exempt from the dose criteria. So we can say if we feel there is a threat to the public the NRC can issue additional controls on licensees.

MS. LAMPERT: How does that work when the leak isn't known where it's coming from?

MR. KLEMENTOWICZ: Well, I'm not saying, this is Steve Klementowicz, we haven't done this. We haven't felt that there is any significant public health threat at this point. So it's really a hypothetical of what we would do or could do.

MS. LAMPERT: Wouldn't any offsite, unplanned -- First of all, the NRC has acknowledged that there's always some effect to public health even from the regular allowable, legal, routine releases. But when you're going above those routine

releases and you don't know the extent of releases such as is the case in Indian Point, how can you protect public safety when you don't even know what the amount that is being ingested by infants and children and fetuses?

MR. KLEMENTOWICZ: This is Steve Klementowicz and well, that's where we do require licensees to sink additional wells and to perform additional monitoring so that we can have some reasonable assurances that these leaks are being quantified and then some bounding calculations. If we feel the licensee is not providing enough monitoring to adequately bound this abnormal leak, then we will require additional monitoring.

MS. LAMPERT: Mary Lampert. When is the NRC going to adjust its doses to the National Academy's Bier-7 because you seem to be behind the eight ball there?

MR. KLEMENTOWICZ: This is Steve Klementowicz. There are people in our Office of Research, who have reviewed that report and again we all acknowledge the NRC does use the linear no-threshold hypothesis in its regulations and we have ALARA criteria in Appendix I for three millirem liquid and five millirem gaseous. So I'm in a quandary what you mean by adjusted values. We already have --

MS. LAMPERT: Well, it seems that if you look at Bier-7 and if you look at your limits, your actual limits, not your wish list, that in fact it's about three times more damaging than what the National Academy which is sort of the premier group is saying it's harmful to health.

MR. KLEMENTOWICZ: Well, Steve Klementowicz, as I said, there are other parts of this agency that are looking at all the regulations and international guidance and national guidance and I know the Commissioners, I'm not aware of what's specifically being done, being done by other parts of our NRC. So I really can't address what our future plans are.

FACILITATOR RECKLEY: Bill. Just for people keeping track of time, that clock's out.

(Several speaking at once.)

FACILITATOR RECKLEY: Well, we're --

(Several speaking at once.)

FACILITATOR RECKLEY: Let's move quickly to talk about, this is Bill Reckley again, some of the actions that the NRC is taking in light of the events at Indian Point Braidwood and elsewhere and I'll ask Stu Richards and Tim Frye to talk about that. Then we can move on more specifically to the Petitioners' requests and their presentations.

MR. FRYE: Okay. This is Tim Frye. I'll try to go quickly through some of the actions, a couple of the actions, that are pertinent to the petition that we've taking since early in the year and as Bill just said, Stu with follow with a discussion of the Lessons Learned Task Force efforts.

One of the things that we have been doing since early January is working on generic communication to inform licensees of the groundwater contamination events, discuss the regulatory locations of these events and discuss lessons learned from some of the onsite contamination that

we've seen at decommissioned sites that we've already talked about. We're in the final stages of getting that together. This is being issued as a regulatory issue summary. We issue to all operating and decommissioned power reactors and research and test reactors and we expect that to be issued within the next month. So that should be coming out soon.

Also since the beginning of the year, we've been evaluating the need to revise the Power Reactor Baseline Inspection Program to enhance all review of spills and leaks. Some of the areas for inspection that we're considering for inclusion and this revision is still a draft but we're going to be looking at --

PARTICIPANT: (Inaudible.)

MR. FRYE: Okay. It's out for regional comment. So I'm not sure if it's publicly available or not.

PARTICIPANT: It's on their (Inaudible.)

MR. FRYE: Okay. Then you can look at it if it's out there on ADAMS.

PARTICIPANT: We'll check. I don't know.

PARTICIPANT: Yes, if you could give us the accession number.

FACILITATOR RECKLEY: If it is public and was meant to be public, we'll give it to you. If it is public and it was not intended to be, then --

(Several speaking at once.)

MR. FRYE: We'll figure that out, but we're looking to provide some additional guidance to the inspectors for verifying that the licensees are

analyzing the spills and leaks, but there are consequences and in fact, in the environmental, they're in line with what Steve just mentioned verifying that these spills and leaks have been recorded in the decommissioning files, the reference, and also providing some additional guidance to the inspectors to test the licensing knowledge of potential leakage sources. There's groundwater monitoring programs (Inaudible) and hydrology tests (Inaudible) and again this procedure is out for regional comment and it should be issued for implementation within a couple of weeks or a month or so I think.

MR.EPSTEIN: This is Eric Epstein. The question I have is did you study any of the lessons learned from the evaporation at 2.3 million gallons of radioactive water at TMI after the accident which contained tritium or was it limited to decommissioning experiences?

MR. RICHARDS: This is Stu Richards. That's not familiar to me. We only have a few people here in the room. So there are probably others in the Agency that have more knowledge of it. But we'll make a note of it and look into that.

MR. EPSTEIN: Yes, because we had a lot of problems.

MR. FRYE: Yes, I think we're familiar of the event and we'll review it and see if anything slipped into the Lessons Learned Task Force review.

MR. EPSTEIN: Thank you. I appreciate the response.

MR. RICCIO: This is Jim Riccio with Green Peace again. The generic communications had

that lovely little sentence at the end of them that said that it requires no act of the licensee to do anything.

PARTICIPANT: Right.

MR. RICCIO: Did the NRC require the licensee to do anything rather than informing them that we know tritium was leaking out from underneath a whole bunch of nuclear plants? The -- doesn't really require action.

MR. FRYE: What I can say is these are the actions that we have pretty well developed and we're ready to go forward with. I think as Stu or someone else said, actually Bill probably, the Task Force is doing some work and making recommendations, petitions, and reviewing the petitions and we will be responding to that and as Stu talks about the task force, the task force although it involves some of the similar people in this room, it doesn't supersede any actions that the Agency needs to take. As we identify new issues and new concerns arise, we'll continue to review and (Inaudible.) any additional action. (Inaudible.) the end of the actions that we're taking, but this is a summary of the actions that we have ready to go right now and you'll see soon.

FACILITATOR RECKLEY: And this is Bill Reckley. One thing to keep in mind on the information notices and regulatory issues they do have statements that no specific actions are required. The purpose they serve is to remind licensees often what the existing requirements are which they are required to be in compliance with and ways in which they might fall outside compliance

that they weren't aware of. So just because it said no specific action is required doesn't mean that licensee would not be expected to read it and take action when necessary.

MR. RICCIO: I understand that, Bill, and no offense, but I think the throve of newspaper articles might have already accomplished that task.

FACILITATOR RECKLEY: That could be.

MR. RICCIO: I don't think NRC information though is going to make them anymore aware that the tritium is leaking.

FACILITATOR RECKLEY: That may be true, but we tend to issue them in any respect.

MR. RICCIO: I just wished it required update of the licensee.

MR. FRYE: Right. One of the things that it will do is focus on the decommissioning aspect of it which I think will be of value and we're trying to take an agency-wide approach and it's just not power reactors for the -- It's also research and test reactors, both operating and decommissioned.

PARTICIPANT: Isn't that necessary to address ongoing reactors, I mean they are all being relicensed, if I have to wait for another 40 years.

FACILITATOR RECKLEY: Who is speaking?

MS. LAMPERT: That was Mary Lampert.

MR. RICHARDS: Are you done?

MR. FRYE: I'm done.

MR. RICHARDS: Yes, this is Stu Richards. Let me run through my list and see if we can answer your question. If not, we'll give you another shot to ask it again. Again, this is Stu

Richards. You know, the Agency I think believes that there are some lessons to be learned from all this and as such, we charted our Lessons Learned Task Force. I think the charter is on our website for anybody who wants to go take a look at it under the Tritium section.

We have about 12 NRC staff participating including people from research and NMSS. We also have a representative from the State of Illinois as a member. Some of the things we're going to look at is a historical review of events that have occurred, public health impact if any from the past, regulatory framework including the design, maintenance, surveillance, operation of these systems, the components that have had problems, the reportability aspect, decommissioning and a license renewal. We're going to look at the inspection enforcement program both pre ROP and what we are doing now presently under the ROP.

We'll also look at industry actions, what has the industry done to meet our requirements and what have they done beyond those requirements. Is there industry guidance that is out there that is beyond what we require. So we'll look at that.

We're going to take a look at the international perspective to see how other countries deal with similar issues, what kind of regulations they have. We also intend to look at the communications aspect of how we have communicated these kind of events to the public, the state and local officials and in particular, the reportability issues.

The charter requires us to have our

report to the EDO's Office by August 31st. So I'm not sure when the report would actually be issued, but that's the time line for the task force to actually complete their work and the task force is underway. As you might imagine, it's made up of a lot of the same people that are in the line organization, but we're trying to divide the action two ways. We have the line organization doing what we normally do anyway and then we have the task forces trying to step back, kind of look at the regulatory universe and see where we might have some of these gaps and make recommendations to the Commission about making changes.

One of the questions is what are we doing now about the plants that are having problems. As Steve laid out, there are a number of requirements that the industry is required to meet and we expect them to meet those requirements. There have been some special efforts. There of course was a special inspection at Indian Point that got quite a bit of visibility. I think the exit was last week there was a public exit.

There is a lot of special effort underway at Braidwood and other sites out in Illinois. We have increased our communications with the public. There have been public meetings that we've participated in. I'm sure there will be a lot going forward and as we've mentioned a couple of times, there is a website that we've stood up.

So to try and answer your question, Jim, what are we doing, well we're carrying out the inspection program trying to ensure that the regulations that are on the books right now are

being complied with and then we're also taking a step back with the task force to figure out if there are gaps in our programs or regulations and make recommendations to the Commission on what they might to do to address those long term.

MR. RICCIO: Actually, my question was what are you requiring of the licensee. I know you guys are busy, but I'm really wondering what is going to be required of the people that caused the contamination not the Agency being responsible for all having (Inaudible.)

MR. RICHARDS: Well, you know Steve laid it out in general terms. Again, this is Stu Richards, but obviously one of the conditions here is what if you have still onsite what are you required to do and what you're required to do is to analyze it, document it. You may remediate it, but it's not necessarily clear that you have to do that. There are reportability requirements you know. Are those at the right level? So we expect licensees that they know that they have radioactive material going into the environment that they meet the regulations which if it's not a monitored pathway, they're required to assess what the impact is.

Some of the people have asked, the obvious question is what if you have a leak and you don't know about it. Can this get out beyond the site boundary and how are you going to deal with that? Well, that's an issue, I think, that the Lessons Learned Task Force has their sights set on. Are the monitoring requirements that we have right now in effect adequate and is there something we should do more there? I don't have an answer for

you, but it's something that we're going to be looking at pretty hard.

PARTICIPANT: It will be coming out that LLTF will have something that may actually require the licensees to do more than what they're doing now to ensure that this event won't occur elsewhere.

MR. RICHARDS: Well, the Lessons Learned Task Force will make recommendations to our management to the Commission. The Commission has to sit down and look at it and say, All right. This is what we're going to do. So our task is to gather the facts and to present our view of where there is or is not improvements to be made. Then it goes through the normal regulatory process if we're going to put regulations in place.

MR. FRYE: I just want to add something to emphasize one of the things the task force is looking at. This is Tim Frye again and one of the things that is important to me, I guess it kind of gets overlooked in the task force review, is we seem to focus on the accidents and what's getting out in the environment and that's the effect. We're also focusing on the causes of these things and trying to determine what can be done to prevent this from happening and Stu mentioned very quickly we're looking at safety structures, systems and components, why they're degrading, why they're not functioning properly and looking at the maintenance requirements and surveillance requirements and the code requirements to see if there are changes we should be making in that area.

And one example to be a little proactive is Mr. Gunter has brought to our attention a report,

a previous public meetings. I believe it's briefly titled "Corrosion In -- Low Energy Radionuclides" and that's something that we have a copy of and we've brought into the scope of the review and evaluated for its relevance to these issues and we can certainly look at other pertinent information.

MR. RICHARDS: This is Stu Richards again. Obviously, there is the lessons learned here to be applied to future designs. If we can identify problems with the present systems and the way they were licensed, designed, whatever, it would be nice to know now rather than come along in the future.

PARTICIPANT: These are all inside NRC. Is there a mechanism or a point of contact for stakeholders to bring information or -- or whatever to the attention of the task force?

MR. RICHARDS: You can contact me.

PARTICIPANT: (Inaudible.)

MR. RICHARDS: I am the Lesson Learned Task Force leader.

FACILITATOR RECKLEY: You have Stu Richards who is saying to contact him. Okay. I think with that, it's probably a good time in the meeting to kind of turn it over and let the Petitioners talk about what they recommended in the petition and whatever else while we're here, so kind of move this to the other side of the plate.

PARTICIPANT: Do we have a break programmed in?

FACILITATOR RECKLEY: Why don't we take a break right now, about five or ten minutes.

PARTICIPANT: That's 20 after.

FACILITATOR RECKLEY: It's ten after

now. So we're going to take a break here for about five minutes. Well, let's say ten minutes.

PARTICIPANT: Five or ten.

FACILITATOR RECKLEY: We'll convene back at 2:20 p.m.

(Off the record discussion.)

MS. LAMPERT: Could you put Mr. Frye on the phone?

FACILITATOR RECKLEY: Yes, he's here. Do you have a specific question?

MS. LAMPERT: Yes, I want to know how you get a hold of that Corrosion Induced by Radionuclides report.

FACILITATOR RECKLEY: Okay. Well, this is Mary Lampert or who was asking the question?

MS. LAMPERT: That was Mary Lampert. I want to talk to --

FACILITATOR RECKLEY: We'll get to you directly on that.

PARTICIPANT: I'm sorry. I couldn't hear. What was your response to Mary?

FACILITATOR RECKLEY: That we will respond directly back to her.

PARTICIPANT: Could I get a copy too?

FACILITATOR RECKLEY: Okay. We'll post it on the website.

PARTICIPANT: Okay. Thank you.

(Several speaking at once.)

MS. LAMPERT: (Inaudible.)

PARTICIPANT: Gosh, you want everything, Mary, don't you?

MS. LAMPERT: I do. That's what my

husband says or maybe that's what he says. I don't know which way it is.

MS. BURNS: Mary, this is Kathy. I'd like to call you. Can you give me your number so I can put it in my cell phone now?

MS. LAMPERT: Oh sure. 781-934-0389. And Molly Bartlett who is the attorney for Pilgrim Watch is on the phone too.

MS. BURNS: Great. Is that line open now?

MS. LAMPERT: Pardon me?

MS. BURNS: Do you have two lines? Is that line open now?

MS. LAMPERT: I'm only on one line.

MS. BURNS: Okay.

MS. LAMPERT: Yes, but I really enjoy my --

MS. BURNS: I was going to call on your cell phone and just ask you a quick question now if you had a separate line.

MS. LAMPERT: Yes. Let me see.

PARTICIPANT: She could email you too. Right?

MS. LAMPERT: Yes, you could email me.

PARTICIPANT: She could email the question if she has a way of getting to a computer.

MS. LAMPERT: Wait.

MS. BURNS: I'm sitting at my computer, but I just thought, you know, it might be easier to have a phone conversation.

MS. LAMPERT: Of course, my cell is in my car.

MS. BURNS: Oh, that's all right.

MS. LAMPERT: But you could call me on 0414, 781-934-0414.

MS. BURNS: Great. Thank you.

(Phone call.)

MS. LAMPERT: Hello. How are you?

MS. BURNS: Oh hi.

MS. LAMPERT: That's weird.

PARTICIPANT: Did they mute us or is everyone on this that's still up from Riverkeeper?

MR. MUSEGAAS: Yes. We're all still here.

(Several speaking at once.)

PARTICIPANT: George is helping. He's especially quiet.

PARTICIPANT: Okay.

PARTICIPANT: This is right. This is not a private line.

PARTICIPANT: That's fine.

PARTICIPANT: Okay.

PARTICIPANT: I have a question for everybody and I don't know the answer to. Any of these plants that have current, ongoing leaks, have any of them been relicensed?

MR. EPSTEIN: Yes, I think some of them have.

PARTICIPANT: Okay.

MR. EPSTEIN: I mean I think that's an excellent point. This is Eric Epstein. I was going to raise that also.

PARTICIPANT: Yes.

MR. EPSTEIN: If some of these plants have gone through the relicensing process and then there's an issue. That's a question we had last

week on the BWR. I think they need to be retrofitted.

PARTICIPANT: Right, depending I guess what -- I guess that leads to another question. I don't know. I know here at Indian Point we're focused on spent fuel pools and maybe on waste water treatment storage tanks -

PARTICIPANT: Is this George?

PARTICIPANT: -- sources. I know that at Braidwood it sounds like it was the blowdown line and some other things. Is there a big variety from plant to plant about where these leaks are coming from?

MS. PATNAUDE: This is Suzanne from New Jersey. Hi. I know that with the Salem plant in Salem, New Jersey we still haven't found the source of the leak and it's been going on for a year.

PARTICIPANT: Wow.

MS. PATNAUDE: Yes. It seems like it's coming - I mean from the documents it reads that it's from the spent fuel pool.

PARTICIPANT: At Salem, okay.

MS. PATNAUDE: Well, it's from the spent fuel. I've heard a lot about that as being a major source.

PARTICIPANT: Okay.

PARTICIPANT: Is it just tritium there or are there other radionuclide in Salem?

MS. PATNAUDE: From what I know, it's just -- They've had other leaks, but the major one that they haven't figured out that they're still doing remediation on is tritium.

PARTICIPANT: Are there any plants where

it's not onsite?

PARTICIPANT: Yes, well at Three Mile Island we've had it onsite, but I don't know that that's -- I think our source is probably different than the plants out in Illinois and Jersey.

MS. GOTSCH: This is Paula Gotsch. Does any of this tritium leak have anything to do with the plants that have been put on power uprates? Like in Dresden, basically it's dealing with -- It has been uprated, our power rate there, in other words, when these things start to shake and fall apart.

PARTICIPANT: In most cases, the leaks have been going on for a long time before that.

MS. GOTSCH: Okay. Before that. Okay, before the uprate.

PARTICIPANT: Oh, yeah. In many instances, these are matters of longstanding and if one had the ability which has been taken away from all of us --

PARTICIPANT: Good afternoon.

PARTICIPANT: -- to go into the records that existed for these facilities prior to November 11th of 1999 when they took NUDOCs offline and there was a microfiche collection and when I started the Yankee Row docket, I began researching the late 1950s and I studied the complete docket through 1992 and what you find is in the mid '60s, late '60s and throughout the '70s, they had leaking fuel rods and that they had leaks through their fuel pool and their ionic exchange pit and they documented all of this exactly the way they're supposed to do in the regulations which is why I made the comment I did.

They documented it and they documented it and they documented it.

I'll bet you if you use -- There's something called -- There's a tool online and you can get the address from Dave Lochbaum. I think it's called Documentrix and it has what's left of the NUDOCs database. So if you know your license number like 50-271 is Vermont Yankee, each one of the plants has a number, you can put the number in and then use a search like tritium and it will turn up all of the times that there were reports filed that are part of the microfiche collection that deal with that. You can then order those through the NRC or if you know somewhere where there's a public document room that still exists with a fiche collection, you can get it that way and almost everyone of these facilities has leaks like that. There's no question about it.

MR. EPSTEIN: This is Eric Epstein. So essentially, because we did discovery a couple of years ago and one of the things we found is that Exelon for instance is destroying some of their records.

PARTICIPANT: Yes.

MR. EPSTEIN: That date back not so much to the '50s, but the '70s and '80s, looking for decommissioning studies. So I don't know if a similar negative trend would be occurring with tritium data, but it seems to me some of that record if it's not on microfiche it's nowhere.

PARTICIPANT: Well, all of it, it's on microfiche. It's all part of the stuff that they had to submit to the NRC. If it was things that

they had and they didn't submit, that's a whole other separate issue. I don't know how you would get a hold of that.

MR. EPSTEIN: Yeah.

PARTICIPANT: I mean you'd have to have a litigation against them. You'd have to get discovery and then they would have to be honest about complying because there is nobody to enforce. There's nobody to go in with a group of attorneys general and actually bring U.S. Marshals in and seize records.

MR. EPSTEIN: What I'm saying, John, I guess what I'm asking you is if they submit the documents to the NRC in their obligation to maintain a file, is that then negated? In other words --

PARTICIPANT: No, they still have record-keeping requirements.

MR. EPSTEIN: And those --

PARTICIPANT: You can see those in Part 50 and if you think records are being destroyed, the way to do this is to write a letter directly to Region 1 and cc NRR and say that you have some reason to believe that these records are being destroyed and you are wondering about compliance with and cite the reg in Part 50 that says they have to keep these records and they're supposed to maintain them. Now what they may be doing with the records, they may be scanning them and turning them into pdf files and then destroying the paper and personally I don't see anything wrong with that.

MR. EPSTEIN: No, I don't either and my experience was on decommissioning and the utility rate case where they were under no obligations to

keep the records. So what you're saying --

PARTICIPANT: Oh, no. Once the thing is over, once it's decommissioned.

MR. EPSTEIN: Yeah.

PARTICIPANT: The record, the whole obligation, changes and the record-keeping as I understand only applies up to decommissioning and then they don't have it anymore.

MR. EPSTEIN: Yeah.

PARTICIPANT: The only one I can see on the list here is Dresden. I think that's the only one where the application has been approved. It was on our list. We had Palo Verde, Byron, Haddonneck, Braidwood, Indian Point, Dresden. What's the other one now? I can't -

PARTICIPANT: Salem.

PARTICIPANT: Salem, yeah. Looking at BWX and Brookhaven.

PARTICIPANT: That's petition.

PARTICIPANT: And I only see Dresden on the list here, but I'm looking only at license renewal for power reactors, you know, from the NRC's website.

MR. GUNTER: Our concern is different than I think most of the other people on the call. Our concerns stems from the discovery of tritium in landfills and that goes back to state jurisdiction and that's why I'm concerned.

(On the record.)

FACILITATOR RECKLEY: Okay. For those on the phone, we're going to start back up.

PARTICIPANT: Was that Eric?

PARTICIPANT: Yes.

FACILITATOR RECKLEY: So if you can please restore your phone to mute so that we can proceed. Steve wanted to make one update and then we will turn it over the Petitioners.

MR. KLEMENTOWICZ: This is Steve Klementowicz and I just wanted to go back about the radiological and environmental monitoring program regarding the water sampling and I'll give you the Adams accession number up at branch technical position, but it does require sampling of surface water, groundwater and drinking water. So it does require all three in the offsite environment. It's a branch technical provision, Revision one, November 1979 and the Adams accession number is ML010710060. That's all I have to say.

PARTICIPANT: (Inaudible.)

FACILITATOR RECKLEY: With that, we'll turn it over to Dave Lochbaum and his slides are also on the website under Petitioners' handout or something like that. It's the other one. There are only two, so it's the other one. Dave, do you want to go ahead?

PARTICIPANT: Can I just interrupt? I couldn't find the documents on the website. I'm -- in Jeanette. I saw the notice of this meeting.

FACILITATOR RECKLEY: Right.

PARTICIPANT: This has meeting notice or more. Am I looking at the wrong place?

FACILITATOR RECKLEY: This says meeting notice and then it says meeting handouts.

PARTICIPANT: No, mine doesn't. It just says meeting notice.

(Several speaking at once.)

PARTICIPANT: She's under --

FACILITATOR RECKLEY: Go back to the main page.

PARTICIPANT: Okay.

FACILITATOR RECKLEY: The NRC Home Page.

PARTICIPANT: Okay. Yes.

FACILITATOR RECKLEY: Click on Groundwater Contamination at the top of the page.

PARTICIPANT: Okay. Yes.

FACILITATOR RECKLEY: Okay. Now scroll down a little bit and you'll find a place that says Public meetings.

PARTICIPANT: Yes.

FACILITATOR RECKLEY: -- Click on that one.

PARTICIPANT: Hm-hm and this is it.

FACILITATOR RECKLEY: There should be an item in the table with today's date. It has three items listed under it, the agenda, meeting handouts and petitioners.

PARTICIPANT: Okay. Yes. Meeting handouts.

FACILITATOR RECKLEY: And Petitioners.

PARTICIPANT: Okay. Thanks so much.

FACILITATOR RECKLEY: Okay. Go ahead, Dave.

MR. LOCHBAUM: Good afternoon. My name is David Lochbaum with the Union of Concerned Scientists. First, I want to start by I appreciate Bill Reckley setting this up. Working with you setting this up has been very smooth and I appreciate that. Also it's the second time I've heard Steve's comment and both times were very

informative and I appreciate both times.

MR. KLEMENTOWICZ: Hopefully, I said the same thing each time.

PARTICIPANT: We're watching you.

MR. LOCHBAUM: The way we tended to run the meeting was the people in the room would talk and then we would go to the petitioners on the phone if any statements or comments or questions they had and then after we're done here in the room we would go out to the phone.

With that, I'll like to point out by saying the Petition Supplement was filed in early February and today's slides don't show the UCS level for the very simple reason that this is not a UCS project. As the earlier questions and comments indicate, this is truly a coalition effort by more than two dozen organizations and individuals. It's not a UCS project although we're glad to be part of it.

The concern that we have is that the uncontrolled and unmonitored leakage of radioactively contaminated water from NRC licensed facilities is a very real threat to the public health and therefore, that warrants immediate action by the Federal Government to deal with that hazard. The NRC often talks about how well nuclear facilities are protected against unauthorized entries as recently as yesterday in a Congressional hearing, we feel that it is long overdue to make equally sure that the nuclear facilities are protected against unauthorized exits.

Our petition seeks to remedy this short sight and mediate the undue threats to public

health. Again, I can't emphasize enough that we feel this threat to be very real. One of the things we provided in the handouts here in the room is a March 30, 2006 letter from three doctors to the Illinois governor. Those three doctors looked at health statistics for the periods from early '90s to late '90s and it formed together that "The 24 communities within 15 miles of the reactors experienced a rise in the leukemia rate by 48 percent and then the rate of cancers of the nervous system by 75 percent," the reactors being Dresden and Braidwood.

The authors of that letter did not tie those increases to the plants and we're not doing that today. Our concern is that the uncertainty about what's happening where this kind of stuff can't be taken off the table. If we had better assurance that the only reactivity leaving the sites was from monitored controlled pathways, this kind of information would likely fall off the table early on.

So that's where we'd like to get at the end of all this effort is that these kinds of things which is known better whether it is or is not a contributor to these kind of health consequences. We don't feel that that state exists today.

Our second slide lists the -- reported leaks in the last ten years. Two of the reports came essentially submitted to the petition in late January. We understand from the NRC's Lessons Learned Task Force in its issue that one of the task items is to review the leak history of the past ten years and we invite the NRC staff to read Appendix A

to our petition. It does that and that would save who knows how many FTEs. We're not going to invoice anybody for that.

The third slide talks a little bit about the background of who in the industry has done the homework necessary to determine that there are no other leaks occurring or have occurred in the past. Our concern is basically nobody has done that homework. The ones that are found to date were basically found by happenstance. So there's no reason to believe that that's an unbridged listing of plants that have had leaks or are having leaks. We feel that it would be irresponsible to assume that one other leaks have occurred just because we don't know about it.

If every plant in the United States, every facility more broadly, had looked for leakage and only those reactors on the previous list had found leakage then we wouldn't be here today. But that's not the case. Few have found that due to happenstance. They did not need any skill or design and therefore, it's a very real potential in our minds that other plants if they do look for leaks will find leaks as well, hopefully not worst than Braidwood was.

Our fourth slide continued. We did look at the Lessons Learned Task Force data and we were prepared if we felt that all the issue in our petitions were addressed to withdraw the petition. As you may know, we have withdrawn petitions in the past when the underlying issues were resolved by some other means. We looked at the petition and didn't see that the issues, our concerns, would be

addressed.

I need to back that up a little bit. It's not that it won't. It's just not clear that we think it will. We wanted more assurance that it would cover those issues rather than hope that they would or - We can't preclude them getting there but it's not real clear from the charter that it would. Therefore, we're not withdrawing the petition.

We felt shuffling paperwork didn't fix the levies in New Orleans and right now, shuffling paperwork in the NRC won't protect the public (Inaudible.) So we think that the actions or questions of the Petition are still needed to protect the public. Slide 5 indicates that's what we think needs to be done now is to grant the petition and answer those five questions that we identified in the petition. We think that's vital to ensuring that there are ongoing leaks that haven't yet been identified and also to help ensure that there would be no long-standing leaks that occur in the future.

To briefly summarize those five questions which we still think are the questions that need to be answer, the first three questions basically seek to identify what are the potential sources of leakage and what would be the largest leak rate that you could have from those sources that wouldn't be detected right away.

For example, if a spent fuel pool would have a large leak, any number of means are available to tell about that right away. But history has shown a small leak from something like a spent fuel pool may not be detected for quite some time. So

those questions and answers attempt to identify what could be leaking and what could go undetected for a long period of time.

The first question wasn't specific but since in information we've learned since the petition we want to make it clear that that also includes temporary systems, interim systems, like what's being used at Braidwood right now. It's our understanding that Braidwood is seeking to deal with the mess it made at Braidwood by storing radioactively contaminated water in a temporary tank farm using plenty of duct tape. We want to make sure that the NRC doesn't permit companies to deal with problems on the cheap.

Slide 7, the final two questions, the fourth and fifth questions, they're related. They're kind of tiered. The first few questions give the foundation for hopefully answering questions four and five. Question four deals with if you were to have a leak from any one of those sources that wasn't detected right away what monitoring is done onsite so that you could hopefully known about it before it got offsite. And the fifth question is basically given all those four measures or four issues, what assurance is there that you won't have a leak of contaminated water in the ground that gets offsite before it is detected. That's happened at least twice in the past and it shouldn't happen anymore in the future.

Our concern is that so far it's been luck more than skill that's protecting the public and that we're thankful for the luck, but we want to reduce the reliance on luck in the future.

Slide 8, basically the concern that we have for the issue as we see it is that the Federal regulations if enforced prevent the unmonitored and uncontrolled release of radioactively contaminated water into the environs. The data and experience has shown that there's been numerous uncontrolled and unmonitored releases over a long period of time that basically show these Federal regulations aren't fulfilling the objective that was designed when they were set up. So therefore, what we're trying to do is have the NRC enforce the regulations that were established to protect the public.

We feel the American public will be much better served if the NRC put more effort into enforcing those regulations than into staffing Lessons Learned Task Forces. The goal isn't to have the most Lessons Learned Task Force's reports at the end of the day. We want to also emphasize that we do not believe this issue is (Inaudible.) of new regulations and higher standards. All we view it is is that the existing regulations are adequate enough if they were simply enforced and consistently.

So therefore, we're not here today in the petition or in today, we're not advocating rulemaking. Instead we're advocating an end to the rule breaking. The rules are articulated many different places. We're going to cite one of them just to illustrate what we think the position is and that's 10 CFR Part 20 Section 1302. The licensee shall make or cause to be made, as appropriate, surveys of radiation levels of unrestricted and controlled areas and radioactive materials in effluents released to unrestricted and controlled

areas to demonstrate compliance with the dose limits for individual members of the public.

When you have a long-standing leak that's uncontrolled and unmonitored that nobody knows about for a long, long period of time, you're not in compliance with that regulation. Once that leak as Braidwood and other cases have shown at the end of the day that if a member of the public didn't die, that in our view is the difference between a misdemeanor and a felony and not the difference between a crime and not a crime having occurred. If the law doesn't allow those kind of things, we want the NRC to enforce that regulation.

Our concern, on my final slide, is what happens if that continues the way it's not continued in the past. On January 17 of this year, the State of Pennsylvania's Department of Environmental Protection sent a letter to NRC Chairman Diaz begging for help. Their survey of Leachate from landfills in the state identified, I'll just read a paragraph from their letter and it's anonymous. I don't have the ML number but there's a six in it somewhere. "In the fall of 2004, there were 90 percent of the landfill Leachate samples had detectable tritium with over 50 percent having levels above the U.S. Environmental Protection Agency's Community Water System's maximum contaminant level of 20,000 pico-curies per liter.

Later in that letter, the State of Pennsylvania identified its (Inaudible.) by the Agency. It is apparent from the results of our landfill Leachate survey report that NRC's current regulatory program for these tritium agent signs is

not adequate to prevent the improper disposal of these devices.

We're not here today to expand our petition to cover the State of Pennsylvania's concern. They've done that very well themselves, but it's very parallel to our concern in that there's tritium in places it shouldn't be and there are NRC regulations that should have prevented that.

So both in the landfill at Leachate from Pennsylvania and elsewhere and our issue the regulations that are in place should have protected the public and should have prevented these (Inaudible.) They failed to do so. So that needs to be fixed. It's not new rulemaking. It's just enforcing the rules that are on the books to protect the public instead of having luck do that for the Agency.

So we're here today to reaffirm our request for the actions requested in our petition. We do not believe that the tritium policy provides equivalent measures. We want a prompt thumbs-up/thumbs-down decision on our petition and we understand the time line and that's (Inaudible.)

We don't want the petition to end up in limbo land because if the petition is granted, that's fine. The questions will be answered and people will be better off. If the petition is denied, then we will have exhausted our agency options and we can pursue this matter with someone who cares. So we need that thumbs-up/thumbs-down in order to take the next step and we feel the time has come. Well, the time frame will (Inaudible) to get to that answer. With that, I'd like to turn it over

to Paul Gunter, a fellow Petitioner.

MR. GUNTER: Thank you. My name is Paul Gunter. I'm Director of the Reactor Watchdog Project for Nuclear Information and Resource Service. What I'd like to do first of all is enter into the record the Godley (PH) Park District Resolution 061 which essentially supports the 2.206 Petition and they're (Inaudible) to the Braidwood site.

PARTICIPANT: Do you have a copy of that for us, Paul ?

MR. GUNTER: Yes, I don't have copies for everybody, but I just want to enter that into the record at this point. (Inaudible.) supports the petition and their concerns certainly have been at the forefront of - The overall issue here is that unplanned and unmonitored releases of radioactivity when we read Part 20 and it was further illustrated today that we're talking about monitored (Inaudible.) and the issue is that for at least more than a decade one facility has been having reoccurring, unmonitored pathways in which have now evidenced to have migrated offsite.

One of the big concerns that we have first of all is the difficulty as we understand it in accurately monitoring the amount of radioactivity and the various pathways that it could have moved not only offsite but as it constitutes both a vertical and a horizontal movement. We've noted that some of the earlier calculations show that the deeper you go the higher the tritium concentrations become. So that I think also speaks to the difficulty of accurately assessing just how far and

to what extent the radioactive migration has occurred at this particular site, namely the Braidwood facility.

But as the petition notes, there are also a number of other sites where we believe were still playing the game of catchup. But let me start first of all by saying that we remain alarmed by the continued reference to no public health threat. Given that again we're all digging for the truth here literally and figuratively and the answers are not in by any means either at the sites that we know of or the sites that we don't know of.

But we constantly hear from the Nuclear Regulatory Commission and the operators that there's no public health threat despite the evidence of these recurring accidents, the lack of industry reporting and the continued trivialization of the consequences of chronic exposure to tritium. At least since 1996, tritium still occurred in the groundwater around Braidwood, similarly still had occurred at the Dresden Nuclear Power Station in Illinois and the yet-to-be-determined number of other nuclear facilities.

Let me just say that we've often heard the Commissioners themselves identify tritium as an innocuous toxin or they don't even call it a toxin, innocuous substance, compound. Yet as we understand it, tritium is highly radioactive, albeit a low energy beta. The specific activity of this radionuclide which constitutes the amount of radioactivity per weight of the compound for tritium is 10,000 curies per gram or 57,000 curies per mole.

Now let's compare that to other

isotopes. Depleted uranium which is the subject of the Gulf War Syndrome and a growing health concern, $U_{238}$ is 0.3 microcuries per gram. Plutonium 239 another non-hazard to public health, 0.062 curies per gram. Cobalt 60 which is used for destroying cells in cancer treatment are 1,000 curies per gram. Radon 222, 154 curies per gram. Radium 226 22 curies per gram. What's clearly established here even by American Nuclear Society is that the shorter half life indicates species that are more radioactive and longer half life indicate those are that are less so.

Studies in the public domain indicate that low dose tritium can cause more cell death that stops in 1976, mutation and chromosome damage per dose than higher tritium doses. Tritium can impart damage which is two to five times greater per dose than either x-rays or gamma rays and I'm certainly open to if staff has any disputes with those. Let's bring it in to the table now. But clearly our concern and the growing public health concern is that tritium represents a biological hazard if received as chronic, low dose internal exposure which can incorporate at the most intimate level with the biology able to cross the placenta wall causing cell damage in developing fetuses and incorporating damage into DNA.

So what's so clearly the whole issue of the public health threat at least should be described as an open item and not a closed book. As such, we look to the NRC for more effective enforcement of its regulations to prevent these unplanned and unmonitored releases. And we see the

petition, fulfillment of the petition's main point, with regard to the importance of NRC issuing the demand for information as critical.

The industry analysis of their systems, structures, (Inaudible.) or stored tritiated water and other isotopes has not been consolidated by the industry or by the NRC. Industry assessments to the extent of groundwater contamination from these systems are haphazard at best, ignored or obfuscated at worst.

The industry has not performed the requested analysis. I think this was most clearly obvious in the hearings up in Peekskill, New York with regard to Indian Point where the special inspection essentially exited without identifying what the systems, structures and components that had potentially failed and are contributing to the groundwater contamination that's leaking into the Hudson River.

So again, this is more evidence that we believe that the petition is timely and the request is pointed. I guess we would like some answer to a basic question. If we can get it here, that would be good. But how does the task force currently determine to get its information on these affected systems, structures and components from industry? Without a demand for information, we believe the NRC Task Force action is doomed and insufficient.

We think that it's essential particularly in light of the fact that we have the clear examples of lack of accountability on the part of the industry, namely Exelon that you need to be issuing a demand for information under 10 CFR

50.54(f) which provides for the provision of the information under oath and affirmation and subject to perjury. Clearly, the public trust relies upon the Agency now to take action that gets to the issue as quickly as possible and we believe that issuing it under 50.54(f) would be most expeditious particularly considering we have these going back to at least 1996 and more than likely much earlier even that that.

So another question, what actions are the task force currently undertaking as part of a root cause analysis of these leaks that have occurred or could occur in the future without regulatory intervention? At this point, I would like to read into the record the study by Gilbert Ballinger (PH) entitled "Corrosion Induced by Low Energy Radionuclides: Modeling of Tritium and Its Radiological and Decay Products Formed in Nuclear Installations." The ISDN No. is 00804451, I'm sorry, 080445101 and as a point of beginning to look at the possibility that tritium itself is a culprit in initiating and inducing corrosion in these systems, structures and components.

Just briefly my final point and that regards enforcement actions. Now we've seen now that the State of Illinois is taking enforcement action. Violations are noted and are being issued to Exelon by the Illinois EPA for unplanned and unmonitored radioactive releases from Braidwood in excess of Illinois's Administrative Code limits for Class 1 -- resource groundwater. Most recently a violation was just issued to Exelon for tritium spills at the Dresden Nuclear Power Station. There

is litigation now open through the Illinois Attorney General's Office and at least Will County as well as litigation coming from private citizens who have addressed the concerns with health and property damage.

But where are the NRC enforcement actions? Now we know that no documentation at Braidwood exists for the analysis of the 1998 spill zone characteristics. We know that there was no remediation in 1998 and these disclosures come from a document recently turning up in a Freedom of Information Act that we have. The report date is January 13, 2006. It's a root cause report. It's entitled "Inadequate Response to Unplanned Environmental Tritium Releases from Braidwood Station Due to the Lack of Integrated Procedural Guidance."

But essentially this was obtained. This was in the possession of the U.S. Nuclear Regulatory Commission. Yet what the root cause report identifies is a direct violation of 10 CFR 50.75(g) which states "Each licensee shall keep records of information important to the safe and effective decommissioning of the facility in an identified location and total license is terminated by the Commission. If records of noted information are kept for other purposes, references to those records and their locations may be used, but information the Commission considers important to decommissioning consists of (1) records of spills or other unusual occurrences involving the spread of contamination in and around the facility, equipment or site. These records may be limited to instances when significant

contamination remains, after any clean-up procedures, or when there is reasonable likelihood that contaminants may have spread to inaccessible areas as in the case of possible seepage into porous materials such as concrete. These records must include any known information on identification of involved nuclides, quantities, forms and concentrations." Yet again, we know that by NRC's own documents and more forthcoming that violations are known and on record and where are the NRC enforcement actions?

We need to see that the Agency that is mandated by Congress for public health and safety begin to enforce its own regulations as that it is mandated. As much as we have a confidence issue now of the inability of the operators to timely report we are equally concerned that there is an inability of the Agency to enforce its own regulations. Thank you.

MR. RICHARDS: This is Stu Richards. I will answer one or two of this questions. You asked how are we going to get this information (Inaudible.) Part of this decision-making was to hear what you had to say today. So we appreciate your willingness to be here.

The second thing as far as what are we doing with Braidwood (Inaudible.)

PARTICIPANT: Excuse me. It's very difficult to hear you. Is there a way to get your voice up a little?

MR. RICHARDS: As we mentioned before, we're turning out the inspection program at Braidwood Facilities in Illinois and we'll follow

the enforcement process that is part of our program. So what we're doing there until it's made publicly available is predecisional, but we will carry out the program.

MR. LOCHBAUM: I just want to make one comment before we go to the phone and hear from any Petitioners on the phone. It speaks to something I raised probably and Stu mentioned.

PARTICIPANT: Who is this?

MR. LOCHBAUM: This is Dave Lochbaum. Thanks for the reminder. Missed my own guidance. I said in our remarks that today we're not here to withdraw the petition. We think it needs to go forward. I want to make sure this is in our final decision. If information comes forward that would show that our issues are being addressed, we would gladly withdraw the petition at some point in the future if it's before the Director's decision and things like that. Today isn't our final answer, but based on what we know today, that's the answer. I just wanted to make sure that was clear and we're going to revisit continuously as more information comes out.

MR. RICCIO: Again, Jim Riccio with Green Peace. We've had experience with (Inaudible.) task force in the past with Davis Besse. We hope this task force will be a little bit more circumspect about what it covers and what it actually intends to report to the Commission on its findings. We found a great disparity in the past between they would say inside the task force and what would be publicly portrayed on the outside. We found that out only later after (Inaudible.) But

we're hoping that this task force given the high level attention this has already gotten will be a little bit more circumspect about reporting out of committee or out of the job force that which we had spoken within the committee and the task force.

PARTICIPANT: (Inaudible.) You can go ahead and do that. It may work. If you have a system where you know ahead of time who --

MR. LOCHBAUM: This is Dave Lochbaum. I guess if there are any petitioners on the phone who want to supplement the remarks that were made here in the room?

MR. BLOCK: Yes, Jon Block calling in from Putney, Vermont. My experience was with Yankee Row and I had mentioned that before earlier in the conversation. I have several points that have come up during this process that I would like to see addressed. It's very clear and I think I don't tend to attribute bad faith to the licensees. I think that they would like to release a site like Yankee Row in the classic green field condition. I think they genuinely would like to do that.

What's made it difficult for them is a lack of a requirement that there be continuously onsite radiological monitoring of groundwater even when it is not being used for drinking. I mean this is a really shortsighted lapse in the requirements and it's something I would like to see remedied. After all, if they had been monitoring the site in that way, they would have realized that there is supposition that the leaks had stopped was incorrect because they would have been finding continued presence of tritium in those monitoring wells. The

wells did exist. So they didn't find it until it came time to decommission the facility. And I think that each one of these sites is suffering from that same condition. That's something simple that you could do to remedy that problem.

Another issue is there's an assumption that because the half life of tritium is what, twelve and a half years, that if you find it in 1968 or 1970 and you're not going to be decommissioning for another 20 years that you needn't really worry about it. By then, it will be below action level and in fact, I think that was a tact that was taken, the decommissioning plant at Yankee Row, that the stuff would have abated to a low enough level to be below action level concerns.

Well, again that supposition is fine if in fact the source isn't continuous. If you have a continuous source of contamination, then whatever was abating over time will be replaced by new stuff that's at the same level as before and again without those monitoring wells, you're going to have that problem.

So I think one of the things the Committee can come away with is that a rulemaking is needed that's going to supplement the existing rules so that you're going to have continuous onsite monitoring as if there were somebody who was going to consume the water. We're not saying that if you find it, you have to shut the place down.

But you need to make the regs in a way that would treat that water source in that way but rather that it be there so that there are warning indicators present just as you have warning monitors

elsewhere that would go off if there's some kind of an air pollution problem or some other kind of a pollution problem. A monitor would be set off. You have these wells and with the right kind of positioning you could dot the parameter with these kinds of wells and be able to detect the buildup of a plume underneath the site. So I think that those are some things that the NRC and the industry could take away from this that would be constructive and useful so that down the road you wouldn't end up with a problem.

I also think that the issue that Eric Epstein was raising about monitoring of deer and other wildlife is a very useful one even if it's not commercial catch, if it's not milk products, if it's not commercial fishing, if it's not commercial vegetation. You can learn a lot by monitoring the concentrations that are building up in game animals that are not commercially produced. And I think it's definitely useful to both the industry and the public that this kind of thing be built into the regs.

Those are the comments that I have and I commend to whoever is looking at this petition to take a look at the Yankee Row docket. There is plenty of information in there that you would find that's been gathered during the process of decommissioning that will be useful to you in formulating a response to this petition and hopefully ultimately some changes in the regs that will benefit the general public and the licensees in the process of trying to keep these sites clean and safe for everyone. Thank you.

MR. LOCHBAUM: This is Dave Lochbaum. Is there any other petitioners who have any comments?

PARTICIPANT: Yes, I do.

(Inaudible.)

MS. LAMPERT: (Inaudible.) Mary Lampert, Pilgrim Watch. My first comment has to do with root cause analysis of why there is leaking, factor into that something that seems to have been forgotten. A GAO 1990 report on counterfeit and substandard parts. I know of many of reactors, mine, the Pilgrim, was a potential for pipefitting and pipe flanges to be substandard and maybe if you have substandard parts, the probability of something going wrong and bringing on a leak would increase.

The second root cause is I know in reactors that are going through the relicensing process that they seem to be given a choice for underground piping, that they can check it out every ten years unless something earlier occurs where they happen to be in the neighborhood the pipe and they can check it out by either UT inspection or visual. UT inspection clearly only would provide the thickness of the pipe, not whether there was a hole in the pipe. So it seems to be very loose on what licensees are required to do to assure that the underground piping, tanks, what have you, are in good condition.

The other issue I bring forward is regulation to monitor and assure that there is not offsite accumulation or migration of radioactive materials. Yes, there are regulations, but I would refer to them as reg lite. I know since 2003 at

Pilgrim for example that they no longer have to test milk. (Inaudible.) They do not have to collect and analyze soil samples. There have been a lot of reduction in sampling from a rain. They don't have to do in-depth sediment sampling. No plutonium sediment testing. (Inaudible) fish, shellfish are now tested on a semi-annual basis, not the edible portions of shellfish and I think the worse part is that the licensee collects the samples and then sends it to their own laboratory for testing analysis and writing up the report and there are a lot of games that can be played with numbers.

So as a result of this, there is no assurance. I think to say that there is an offsite REMP program, Radiological/Environmental Monitoring Program, begs the issue. Those are my comments.

MR. MUSEGAAS: Okay. We're just continuing with comments and then we're going to questions later. This is Phillip from Riverkeeper.

MR. LOCHBAUM: Go ahead, Phillip.

MR. MUSEGAAS: Okay. My comment actually follows very well on what Mary Lampert had to say. I'm very concerned and I would like to urge the NRC to take another look at an apparent gap that exists between the two types of reports that the licensees are required to submit to the NRC on environmental impact and effluent releases and I'm speaking about the effluent release report and the REMP, the Radiological/Environmental Monitoring reports and I'll use Indian Point as an example because I think it's a worthy one.

Under the (inaudible) release reports that Entergy filed at Indian Point, it's regularly

described there and these are regulated releases, monitored releases, of high amounts of tritium and of strontium 90 either from (Inaudible.) and liquid ethanol releases to be clear. And they are routinely discharge high levels of tritium and strontium 90 in their liquid (Inaudible.) into the Hudson River.

On the other hand, when you look at their REMP program, where they do sampling of aquatic vegetation, Hudson River sediment, freshwater fish samples in the Hudson, off-shoreline vegetation, all these types of indicators, they only do sampling for gamma spec radioisotopes. They don't sample for tritium and I know there's problems detecting tritium in some things, but they don't do any sampling for strontium 90.

And just for John White and Steve Klementowicz, I think we went over this a little bit at the meeting here at Indian Point a couple of weeks ago. So I apologize for that, but I just want to ask that again to the rest of the staff dealing with these issues and I encourage you to look at that and I would like to hear what you have to say about whether you're going to look at requiring that additional types of sampling if these types of radioisotopes such as strontium 90 are starting to show up in this groundwater contamination and if strontium 90 is going to start showing up at other plants down the road given the time delay, then at that point this will become a national issue.

So I've given you the question. In the answer period, I would like to hear a response to that. That's my main comment in general. I support

the petition. We're very concerned about the levels of contamination. We're not so lucky in some ways because apparently all the contaminated groundwater here is going into the river bed. So it's very hard to detect the actual amounts of contamination that are happening to our environment. But we just call on the NRC to do what they're required to do under the law. Thank you.

MR. KLEMENTOWICZ: This is Steve Klementowicz and, yes, that is the part of our scope is to look at the existing program, what monitoring is required for what radionuclides and then as Stu Richards has already stated, we'll be making our recommendations up to the EDO.

MR. MUSEGAAS: I know that and I guess that just doesn't quite clarify to me why. If you're releasing strontium 90 into the environment, I'm sorry, this is Phillip Musegaas again with Riverkeeper, if those releases are routinely made, then why doesn't the routine sampling program account for that? There's a disconnection there between the REMP and the effluent release report that I find troubling and I think you gave a partial answer to that at the public meeting here in Peekskill and perhaps you could elaborate on that.

MR. KLEMENTOWICZ: Steve Klementowicz. No, there isn't any additional elaboration. It's something that we have to look at as part of this task force and that's really the only answer I can give at this point. It will be looked at.

(Inaudible.)

MR. MUSEGAAS: Will there be time for additional questions a little later given the time

or are we doing questions now?

FACILITATOR RECKLEY: We'll get through the Petitioners' comments and statements and we'll see if there is a little time left for additional questions. We can set up a mechanism if we run out of time.

PARTICIPANT: What time are we scheduled to go to?

FACILITATOR RECKLEY: Scheduled to 4:00 p.m. It's now 2:50 p.m.

MR. LOCHBAUM: This is Dave Lochbaum again. Any other petitioners with comments or questions?

MS. BECKER: Yes. This is Rochelle Becker, Alliance for Nuclear Responsibility and in California --

VOICEOVER: (Inaudible.)

MS. BECKER: -- we haven't had any leaks yet and our request would be that no license renewal by the Nuclear Regulatory Commission until this matter is resolved.

MR. LOCHBAUM: Thanks, Rochelle.

MS. BECKER: You're welcome.

MR. LOCHBAUM: Anybody else?

MS. LEE: Yes. This is Michelle Lee from Indian Point Safe Energy Coalition. I don't mean to be redundant but I just wanted to emphasize points that were already made, one with respect to the NRC needing to take a more proactive rather than reactive response. The best example is Brookhaven Lab where you now have a $86.8 million cleanup and have radioactive contaminants not only found in the soil around the reactor and in the reactor's

underground cooling ducts, but it reached the Peconic River's water and the soil that's sat.

Now it doesn't reach the water and the soil if it sat overnight at least, gradually, over 90 years during the many years of the leak which was originally evidently contained onsite and run over through decades with offsite. When you're talking about long-lived radioisotopes such as plutonium and strontium and (Inaudible.) the cumulative build-up in people cannot be dismissed any longer.

This is one point that the National Academy of Sciences emphasized. It's also a point that the European Committee on Radiation Risk emphasized that you might -- I don't know if anybody remembers the old movie "Arsenic and Lace." (Inaudible.) drop by drop by drop. So if you're looking at something from what's relevant each year, that's really relevant when you're talking about the long-lived isotopes. That's it.

MR. LOCHBAUM: Thanks Michelle. This is Dave Lochbaum. Anybody else? Any other Petitioners on the phone?

MR. EPSTEIN: Yes, this is Eric Epstein. I have two totally distinct issues as usual. The first is just - Again, and I know you said you would take into consideration the evaporation at Three Mile Island. I would just point out that there are resources available submitted to the Advisory Panel meetings and specifically Dr. Masnik. But we evaporated 2.3 million gallons here and it did not go well. I think about 221,000 gallons were never monitored. The process was six months behind schedule and about 658 curies of tritium was

released directly into the environment. So I know you've committed to look at it. I have chronology of information I'm more than willing to work with the NRC on. But I just hope folks don't have to replicate our experience.

The second issue and David articulated quite clearly the concerns that we have in Pennsylvania and I know it's not part of this petition but I just want to sensitize you to the fact that Pennsylvania is the largest importer of trash in the country and something that we're not real proud of. But most of the tritium that's showing up is showing up in landfill that either have no liners or a single liner. So this kind of echos something Mr. Block said before.

I think there is really a need for immediate intervention in Pennsylvania with real time monitoring and again I hope you'll heed the concerns of DEP and help us try to resolve that problem. Again if there's anything I can do I would be more than happy to work with you, but I think our concerns although similar are kind of divergent in that the tritium that's showing up in Pennsylvania is at the bottom of landfill.

MR. RICHARDS: Dave, this is Stu Richards. Just a clarification on that. I think you mentioned that the governor had sent a letter to the Chairman.

MR. EPSTEIN: No, not the governor. I think it was actually Dave O'Larson, DEP.

MR. RICHARDS: But there was correspondence from the State of Pennsylvania to the Chairman.

MR. EPSTEIN: Yes, it was back in January, but I mean the relationship between the Commonwealth and the NRC is not going to produce any children and I guess my plea to you is that we have a problem here that needs to be addressed irregardless of how you tract the issues in this petition. But the letter was docketed. It was sent to Chairman Diaz if my memory serves correctly.

MR. RICCIO: And I just have one more point. This is Jim Riccio again with Green Peace. Like I said before, we had an experience with the other task forces that NRC has put together, particularly the one on Davis Besse and even prior to the findings of the task force once an issue was discovered at Davis Besse the NRC required the licensee to go out and inspect. Now you seem to be requiring the licensees to do nothing other than to remind them that the regulations exist.

That is not sufficient. I guess what we're asking for is that you absolutely require them to inspect and insure that this isn't going on elsewhere. And until you do that, we're not going to withdraw the petition and we will seek other legal remedy.

MR. BLOCK: This is Jon Block. This is I guess their amending comments. I wanted to add one here amending mine earlier. I'm concerned also about exemptions that have been issued and I think this follows up on something that Mary Lampert mentioned, but she didn't indicate specifically the source of some of these changes and I think the Agency has been allowed both exemptions and amendments to technical requirements in licenses so

that the reporting requirements and the sampling requirements have been offset so that instead of them being annual some of them are now bi-annual or every three years, five years, seven years, nine years, ten years and all this does is put off the amount of time that it's going to take when something is going to turn up in a sample that would trigger a process that could save lives maybe in some cases but certainly cost to both the public and the licensee depending on how a facility is being regulated.

And so I would recommend that when the committee reviews this that you consider including in your recommendations that all of the issued exemptions on sampling and surveying for each of these facilities be reviewed by the licensee and that they be reported to the public and to the states and to the Agency so that you can review in this overall process whether in fact you may have being cautiously granted to them a protracted period of sampling and surveying that will not work well for protecting the public from the build-up of tritium and other sources underneath these facilities.

MR. LOCHBAUM: Thanks Jon. This is Dave Lochbaum. Before we go to the next petitioner on the phone, I think Stu Richards is going to address Eric's comment about the NRC's response to the State of Pennsylvania.

MR. RICHARDS: I just want to make sure we're clear on (Inaudible.) the envelope we're talking about here. The Lessons Learned Task Force has been charged to look at (Inaudible.) reactors

both operating and decommissioning. I think your petition is directed at (Inaudible.) in both categories. He brought up the issue of dumpsites probably with materials that the licensee (Inaudible.)

There may be lessons to be learned or information we can gather from that but I didn't want to leave Eric with the idea that we're the group responsible for looking at the Pennsylvania dumpsite issue. The Chairman will probably refer that to the Office of NMSS.

MR. EPSTEIN: Stu, I understand that. I just don't know that there's a clear cut black and white line because our landfills have also accepted materials from so-called decommissioned facilities. So, yes, this particular issue, I don't think pertains to you per se but I just wanted to draw it to the attention of the general audience because it is a persistent issue and look there may be something you can learn from the way you remediate the Pennsylvania sites.

MR. LOCHBAUM: Thanks, Eric. Any other petitioners with comments?

PARTICIPANT: Are you opening this up for non-petitioners eventually?

FACILITATOR RECKLEY: Yes.

PARTICIPANT: Who would that be?

FACILITATOR RECKLEY: We do have some time left and we can take some questions. To the staff and to the degree the petitioners want to chime in, they can participate as well. But we'll open it up for questions from the general public. But before we go, I guess I'll see if there's

anybody in the room first with questions.

MR. GUNTER: Yes, I would. Paul Gunter, Nuclear Information Research Services. You might know that. Again, I would like to see if I can get a reiteration on what other means the task force has been looking to get information on systems, structures and components from the licensees where they carry titivated water. The petition is quite explicit that we're asking for a demand for information. How else could you get the information with any reliability?

MR. RICHARDS: Well, without getting a lot of detail, one of the things we're looking at --

PARTICIPANT: Who is speaking please?

MR. RICHARDS: Stu Richards. The plants were licensed to be constructed and there's a lot of documentation that goes along with that. The systems were reviewed. The spent fuel pool was reviewed. The surface water blowdown system had some kind of a review. There were in some cases standards that were applied to the design and construction of those systems and in some cases not.

So one of the things that the task force wants to do is to go back and look at what level of quality do the regulations at the time require of those systems. If you have an underground pipe, you know, you brought it up already or somebody brought it up about license renewal. But the issue of does the maintenance rule apply. Are there maintenance requirements? Are there surveillance requirements? Is there any kind of ASME requirements on that piping systems that go along with some of the systems that we know contain radioactive liquid and

have leaks?

And looking backwards with that, what can we learn about it? If some of these systems are concrete pipes with no surveillance requirements, no maintenance requirements, they don't come under a lot of the normal rules, then we could say that maybe it's not so surprising if it leaks and it's not recognized for some period of time, then there might a lesson to be learned from that.

On the other hand, there may be some systems that do come under those requirements. The question is are they sufficient for what we're dealing with here? A lot of that information is already contained in the FARs and other regulatory information that's on file.

PARTICIPANT: So you're suggesting that staff time be dedicated to reviewing site by site just the structures and components that carry tritiated water?

MR. RICHARDS: No, we wouldn't do that site by site. We certainly don't have the time to do that and we don't have the staff to do that.

PARTICIPANT: I understand that.

MR. RICHARDS: But for instance, if you go back to one of these plants applying for a license, there are generic requirements for a certain system in the (Inaudible.) didn't have a whole new set of requirements for each plant. It may have evolved over time but by and large, there was a certain set of standards that applied. It's the same for a lot of the systems that we're going to take a look at.

PARTICIPANT: But there has also been a

number of modifications within those systems, structures and components through their operating license of the plant that would vary. It just seems to me that if we wanted to expedite this issue that the NRC through a demand for information issued by 50.54(f) that we could cut to the chase and get the companies on the record with their systems and structures and components and let's put this on some kind of timely track.

Our concern is that we don't want to embark on a decade long review when the leaks have been apparently occurring for at least a decade or more. So we're looking to the NRC to make some timely actions not only in discovering the problems but along the lines of the Enforcement Act meaningful enforcement action as well.

MR RICCIO: Before you chime in, I think some of the frustration you've been hearing in our voices comes from the fact that you seem to trying to learn lessons before you've actually got at the problem. You don't know what's out there yet.

PARTICIPANT: Who's speaking please?

MR. RICCIO: This is Jim Riccio with Green Peace. You don't know what's out there and you're already drawing lessons and you don't even know the extent of the problem. I was hoping you would actually identify the extent of the problem, take action where appropriate and basically get ahead of the curve rather than trying to excuse your way with a task force.

MR. BLOCK: Stu, this is John Block. Specifically when you look at the long term where these modifications have been incorporated in

exemptions of specific licensees and changes in their tech specs unless you have a demand for information, it goes to all of the licensees you're not going to find out which ones have made the kinds of changes that will push off detecting these problems until they're way, way too big to really do anything about.

PARTICIPANT: That's very true and I want to make a really quick comment following Jon's comment.

PARTICIPANT: Who is talking now?

MR. MUSEGAAS: This is Phillip from Riverkeeper. If you look at these issues generically, you're never going to find some of them and Indian Point II is a perfect example of that. It's the only spent fuel pool in the country as far as I know that has no leak detection channels between the concrete and the inner steel liner. So if you looked at pool designs and they showed that there should be a leak detection system that would show if there's a small leak from a spent fuel pool, Indian Point II would never come up on your radar. This has to be done site by site. Otherwise it's not going to be effective unless you can persuade me otherwise. That's all I have to say.

MR. FRYE: One of the things I tried to emphasize earlier is there is probably three things we're doing in parallel while we're evaluating the petition response. In parallel with that, we're running this Lessons Learned Task Force and in parallel with that, we still have our normal day-to-day regulatory oversight function that we're doing. We're (Inaudible.) to try to identify the past

historical events and analyze them and we're still trying to scope that out and depending on what we feel we can do, we're open to taking other actions if it's needed. What you've heard today isn't a complete set of actions that we're looking at.

PARTICIPANT: Yes --

PARTICIPANT: Okay.

MR. FRYE: The actions (Inaudible.) and the intersection procedure, those are actions that we've (Inaudible.) and we're looking to get out too. So that's why we talked about those.

MS. LAMPERT: This is Mary from Pilgrim Watch. I just wanted to add that in response of the NRC to the first question in the petition, what components carry radioactive water, I expect or hope that you would specify what those pipes are made of, whether they're metal, whether they're concrete, and so then how are they to be analyzed for any corrosion or what have you because I think that's a very important element.

MR. FRYE: This is Tim Frye again. I think we already mentioned as far as the task force the sections, systems and components and their code requirements, surveillance requirements, maintenance requirements as something that we're going to be looking at and think there are improvements we need to make in that area. So I think we have that included.

FACILITATOR RECKLEY: Okay. Were there questions from people not directly involved in the petitions, general public?

MR. CARROLL: Glenn Carroll from the general news covering Indian Point. Can I go ahead?

FACILITATOR RECKLEY: Yes please.

MR. CARROLL: Two questions. (1) Do we see any commonality in the plant that you're looking at that are leaking tritium and (2) do we have any reason to believe that behind tritium comes other things as it has in the case of Indian Point such as strontium or other radionuclides?

MR. RICHARDS: This is Stu Richards. I think it's at least from my own perspective it's too early to tell as far as the question about commonalities among plants. Regarding the question about are there other elements or other isotopes that you might find, I think at Indian Point as you're probably aware that there have been other radioactive elements that have come up. I think the leak is out of the spent fuel pool and because of the source of the leakage that I don't think is surprise.

PARTICIPANT: The other radionuclides?

MR. RICHARDS: Right.

MR. KLEMENTOWICZ: Region 1 has expanded -- This is Steve Klementowicz. Region 1 has expanded the scope of their splitting of samples with the licensee to look for additional radionuclides besides tritium.

MR. CARROLL: I'm aware of that. That really doesn't answer the question of whether strontium follows in any of these other locations or other elements follow.

MR. KLEMENTOWICZ: This is Steve Klementowicz. What we have -- What we need to look at or what the inspection process will look with the licensee for any of these situations is the

licensee's determination of where they believe the leak is coming from. Based on where the leak is coming from, the licensee has data on what type of radioactive material flows through that system or pipe and that would be the basis of fielding any radionuclide analysis. So it is really site specific.

MR. CARROLL: So it's not fair to say that tritium is a precursor to others.

MR. KLEMENTOWICZ: Steve Klementowicz. People have said that. That is a statement that you can hear from various health physicists since tritium is water. It flows like water and therefore it's going to be the first radionuclide be to transported through the ground and obvious any other radionuclide (Inaudible.) will not flow like water and will be held up closer to the source of any leak. So that's one of the premises that we are looking into is that if tritium is there, is there a potential for any other radionuclides.

MR. GUNTER: Could I -- Paul Gunter. Could I just ask? Are dissolved and entrained noble gases part of your assay?

MR. KLEMENTOWICZ: Steve Klementowicz. An entrained noble gas once it's open it tends to atmosphere. When a licensee does a routine effluent discharge, they have to consider entrained noble gases in the release because it's radioactive material being discharged. So if it's in this pipe, then it's required to be analyzed for it. But typically these are liquid systems and entrained noble gas is just part of that system.

MR. GUNTER: But it can dissolve too.

Right?

MR. KLEMENTOWICZ: Well, that's why it's dissolved in the liquid.

MR. GUNTER: Yes.

MR. KLEMENTOWICZ: But I'm saying that the licensee has to do their analysis to determine say if it's a -- Wherever the source of the material is, the licensee has to have data on what is in that tank or pipe.

PARTICIPANT: Who is speaking please?

MR. KLEMENTOWICZ: Steve Klementowicz.

PARTICIPANT: Okay. Thank you.

PARTICIPANT: Can I push back on that a little bit, Steve? I know from GAO reports that NRC allows burial of low level radioactive waste on (Inaudible.) sites until and through the '80s.

PARTICIPANT: Speaking please.

MR. RICCIO: So I don't know if that's -- Jim Riccio. I'm Jim Riccio with Green Peace.

PARTICIPANT: Thank you.

MR. RICCIO: With the GAO report (Inaudible.) the allowed burial of low level onsite, I don't suspect that that may be a problem that is experienced with tritium leaks, but I was wondering if that was going to be addressed. They were a part (Inaudible.) So I was wondering with your record keeping how you're going to be able to determine where the leaks are coming from onsite.

MR. KLEMENTOWICZ: This is Steve Klementowicz. I believe you're speaking to the old 20.304 and in fact that did require the licensee to maintain records of what they disposed of. The condition was that if the licensee disposed of the

material below specific levels, then the licensee needed to keep those records, but it did not need NRC approval. That regulation was taken off the books.

PARTICIPANT: What about the (Inaudible.)

(Several speaking at once.)

MR. KLEMENTOWICZ: Before my career.

MR. RICCIO: Yes, but you still have what you said was buried on the reactor site.

MR. KLEMENTOWICZ: But that is different from the question that Mr. Gunter has raised.

MR. RICCIO: No, I wanted to add to that because you said the only place we're looking is where it's coming from the pipes and from the system that are going underground and things of that sort. I just want to make sure that we didn't leave the impression that there was other contaminants onsite.

MR. KLEMENTOWICZ: Jim Shepard is going to weigh in. Jim is from NMSS and the Decommissioning group.

MR. SHEPHERD: Jim Shepard, Decommissioning. We have looked at onsite burials as part of decommissioning. The requirement to terminate any license is calculated dose of 25 millirem. The onsite burial contribution to that dose must be considered when the licensee comes to terminate its license.

PARTICIPANT: But is there any possibility that that contamination is contributing to the tritium leaking offsite?

MR. SHEPHERD: I don't know if it's contributing to tritium because as Steve said the

authorization terminated in 1981. It's unlikely that there's still tritium from pre '81 that would be contributing today.

PARTICIPANT: How deep did it have to be buried?

MR. SHEPHERD: There was no specification on how deep the bottom of the trench had to be. There had to be a four foot cover from the top of the trench to the existing grade level.

PARTICIPANT: So you would have to dig down below four feet to know where this stuff is.

MR. SHEPHERD: The sampling would have to be done below four feet.

PARTICIPANT: Okay.

PARTICIPANT: Jim, were there records required as to where it was located?

MR. SHEPHERD: Yes.

PARTICIPANT: That was your job.

FACILITATOR RECKLEY: Let me see. Additional questions from the public?

PARTICIPANT: (Inaudible.)

PARTICIPANT: Yes, this is -- Hello?

FACILITATOR RECKLEY: Yes, go ahead.

DR. BURNS: Hi. This is Dr. Kathleen Burns calling in from the Boston area. I was one of the people who prepared the letter summarizing the health damage (Inaudible.) of Chicago that was sent to the Illinois Governor last Thursday. I just have a couple of specific questions.

There was a comment made earlier regarding the dosimetry that was done and the way that standards are set and how we regard the hazard or lack of hazard with respect to tritium and the

other radionuclides and I believe it was suggested that these do take into account doses to the fetus, to newborns and to children.

I would like it if you could post the information that makes that clear on the website with a link to the site that you referred us all to on water contamination because having searched your site, I don't see something that reflects current knowledge of this. There's been a lot of research on this over the last 20 years and it's very clear what tissues are most sensitive. I haven't seen anything that indicated issues like the uptake by pregnant women of 50 percent greater fluid load which is obviously something that fetus is sitting in over a period of about nine months.

There is nothing related to that kind of information which is just medical common sense as well as something well documented in the medical literature reflected in the dosimetry calculation. So if it's there, I would really like to see it and I'm sure other people would as well. That's one way that we help understand what's going on with the Chicago which may or may not be related to radiation. We don't really know that as yet.

The other thing I would request is that if you have information showing a recent -- update that incorporates the empirical data that we're now seeing under the failures in the plants across the country that would be very helpful. You know -- analysis that I studied 20 years made certain assumptions about repair and what was going to happen to the different nuclear facilities. Those don't seem to be what has actually happened. So

using this -- information to upgrade and then to inform policy to require changes, to require self-puring systems and other things that people in this field like George Apostalokis and other nuclear safety experts have recommended would help us all to see what kinds of progress can be made on this.

MR. KLEMENTOWICZ: This is Steve Klementowicz. Addressing the -- It's Regulatory Guide 1.109 and that is included in the NRC --

DR. BURNS: I did look at that. I just didn't see what I was hoping to see there.

MR. KLEMENTOWICZ: (Inaudible.) that you're hoping to see.

DR. BURNS: Pardon me?

MR. KLEMENTOWICZ: It's from 1975 and it has dose factors for the infant, child, teenager and adult. It has nothing on the fetus.

DR. BURNS: And even based on our knowledge over the last 30 years of doses to women, infants and children, I think it's willfully inadequate and I spoke to somebody who does work on tritium dosimetry with the ICRP a few weeks ago. His understanding was that this wasn't taken into account. It's been three decades. I think this is long past due. Maybe there's something wonderful there and I just missed it.

MR. KLEMENTOWICZ: No. Steve Klementowicz. You didn't miss it. It's not there.

DR. BURNS: Okay.

MR. RICHARDS: This is Stu Richards. On the second item you were talking, the PRA.

DR. BURNS: Yes.

MR. RICHARDS: I didn't understand that.

Could you go over that again please?

DR. BURNS: In looking at the performance of nuclear facilities, we have the PRA systems that have been used, the programs developed for probabilistic risk analysis, extensive publications on this and many conferences and so on. These typically take into account certain estimates of where failures may or may not occur, under what circumstances is it a physical failure, is it something to do with human error and so on and provide backup that take these situations into account, different contingency plans and things like that. I just wonder if updating these based on the empirical information that we're now obtaining through observing, what is happening at reactors across the country, might be in order.

MR. RICHARDS: Yes, we'll take that comment, but there is kind of two different issues there in terms of the reliability of safety equipment and leaks from relatively, well, from waste systems and other cooling water systems.

FACILITATOR RECKLEY: Any other questions from members of the public?

MS. GOTSCH: Yes, Paula Gotsch, GRAMMES East. Okay. I want to go to a problem we had in Brick where we've had some studies done or have been done showing increased strontium 90 in the baby teeth of children especially in the town of Brick, North of Oyster Creek and these would have been strontium probably that they would have gotten as fetuses perhaps because of it being in their baby teeth. And I cannot tell how scathing the criticism was of that report as if we're trying to drag up

stuff from the nuclear testing done back in the '50s or something.

And what really irks me as a nurse is that here is a public health question. Why is strontium 90 showing up in the baby teeth of children around the plant and especially in Brick which is kind of where the wind blows? That's the way sea breeze blows a lot and if that is a question, why is it that private people with limited funds are trying to scrap up money except I want to say the State of New Jersey has furthered that report in the past, but the nuclear industry gave I heard millions of dollars to work against communities that are giving them trouble with relicensing. In other words, it was in that latest Energy Bill. That's not your fault. We'll take that up with Congress.

But what I'm saying is if there is a question of why a radioactive substance is showing up in children's baby teeth, that becomes something we have to prove. The onus should be on the nuclear industry to disprove it, not for us to have to prove it and they should be running their own study to see if they can, to find if that verifies not relying on some old radiation study that was done years ago as their proof that this isn't true and just to scoff at us and not to dismiss us.

I guess what I'm saying is when I'm listening to this call and hearing how the strontium 90 is getting into the Hudson River and no one seems to be alarmed about that is I guess I want to second the woman who said we shouldn't relicense any more plants, renew their license, until you guys get a

bigger staff because I am very aware you're tired and you're overworked. But you need to get more staff. You need to have more authority. And we need to be more respected for our concerns. Thank you very much for listening. I know that was an earful.

FACILITATOR RECKLEY: Okay. It was a very good earful. Thank you.

MS. BECKER: This is Rochelle Becker of Alliance for Nuclear Responsibility California and as the woman just spoke against relicensing without new studies, but also I would like to request. I'm a little concerned that the Region 4 is not on this call and I guess the regions that have the leaks are on the call, but the regions that don't have the leaks are not on the call. And I don't want to wait until there's a leak to get Region 4 -- to this issue.

FACILITATOR RECKLEY: No. Well, let me assure you. All the regions are involved in this. This is Bill Reckley. I might claim a little blame for that. I didn't coordinate with the regions and the right people from Region 4. Headquarters people are here. We communicate with the regions all the time and so participation or not participation in this phone call is not any indication of involvement, awareness or concern of the issue.

MS. BECKER: I have to question that because Region 1 is there, but our region is not there. So it really is a matter of priorities and if I can take several hours out of my day and pay to listen to this phone call and give my concerns I believe the paid people at Region 4 should be there

too and I'm not blaming your headquarters. But I am blaming Region 4.

FACILITATOR RECKLEY: Again, this will be transcribed. They can -- We'll send it to them and make sure that they read it.

MS. BECKER: Thank you.

MS. LAMPERT: Could I add one comment? This is Mary Lampert again in the Pilgrim area. In regard to monitoring, offsite monitoring, I think what also has to be addressed is the meteorological assumptions in monitoring that is or is not going on. There is an assumption that the wind blows in one direction. I know for our reactor there is one weather station at the reactor and what direction that is pointed. Then it flows from there.

That is the assumption that the radiation if there is a release will be in that direction which ignores contemporary knowledge of the sea breeze effect, the effect of varying topography and buildings and wind is very complex and hence where radiation goes is very complex and hence where the indicator and control stations are are based on false data. This is something that not only affects emergency planning based on false assumptions. It affects monitoring and it affects all your projections.

FACILITATOR RECKLEY: Okay. We'll pass that along. This is Bill Reckley again and some of the questions, we don't mind listening. Some of them are a little tangential to the specific issue of the petition and the task force in terms of groundwater and liquid effluents. But the concerns that we're hearing that go into different areas

we'll pass on to the appropriate people. To some degree, they're sitting here anyway.

MR. KLEMENTOWICZ: This is Steve Klementowicz. Mary, you're correct. The meteorological monitoring program is an integral part of the Environmental Monitoring Program, so that actually is within scope of the task force and so in the Branch Technical Position with the Adams number that I gave it specifically tells the licensee to look at the three sectors. So we realize there is some error in meteorological programs. So we don't have them pinpoint to one sector, but rather spread it out over three sectors when it's specific monitoring. But your comment is taken and it will be looked at as part of the rest.

FACILITATOR RECKLEY: Any additional questions from members of the public?

PARTICIPANT: Yes, this is Bryce (Inaudible.) I wanted to go back briefly to the Reg Guide 1.109 issue and just point out that as I imagine you're aware that there has been a lot of work on age-specific dose conversions that have been done since 1977 when the reg guide was published and the NRC has in other proceedings used the ICRP 72 age-specific dose conversion factors which are generally consistent with what the EPA adopted in 2002 and the ICRP has published dose conversion factors for the embryo/fetus in 2002 in ICRP 88. So these are available for use by the task force and it doesn't necessarily have to restrict itself simply to what was published in Reg Guide 1.109.

MR. KLEMENTOWICZ: This is Steve Klementowicz. Yes, that's true. The dose

conversion factors are from 1975 and obviously before that and we are aware, well aware, and Part 20 does use newer factors and, yes, we're aware that licensees can use the newer dose conversion factors. There is no prohibition against that.

PARTICIPANT: There's no requirement, is there?

MR. KLEMENTOWICZ: No, it's not a requirement. No. The Reg Guide 1.109 again as I stated earlier is meant to be a maximum hypothetical. So we've maximized all of the inputs into it and again it's for compliance with the Appendix I ALARA criteria, the three millirem and the five millirem. So it's not for the public health standards in Part 20 which is 100 millirem. So we believe down at these levels while it may be old, out of date, data, it is still protective.

PARTICIPANT: This is Bryce (PH) again. I just would point out that Reg Guide 1.109 for infants has infants consuming in their maximumly exposed recommendations no food, vegetables, meat. It has infants only consuming milk and water which is not consistent with EPA recommendations on exposure factors and I'm not sure that it is protective for the maximally exposed individual.

MR. KLEMENTOWICZ: This is Steve Klementowicz with -- Something we have to look at, the assumption back then was that they would be eating of canned baby foods versus having peas and vegetables grown from the local farm. So realizing times have changed. So again, you've heard this answer time and time again but it's part of our task force to make recommendations on updating any and

all of the guidance.

PARTICIPANT: (Bryce) And I would look specifically at that piece.

MS. BURNS: I have a quick comment on that. This is Kathy Burns again. I looked at a number of the parameters and many of them are seriously of concern. So I think this might change by orders of magnitude, but the EPA recently came out with guidance. The person that developed it is now at the International Agency for Research on Cancer suggesting an uncertainty factor I think, a factor of ten be applied to any carcinogens to which children are exposed. Is there a way that you can in the very short term add a few safety factors to the way this is approached until you have time to run through the entire dosimetry analysis which is likely to take a number of years?

MR. KLEMENTOWICZ: We'll take that comment, but I have no immediate response to that. That decision is not up to us.

MR. DOLLEY: Steve Dolley with Inside NRC. I guess I need some clarification maybe from Steve. Is it part of the task force's charter to consider a revision of the dose conversion factors that are in the 1970 regulatory guide, whether or not you (Inaudible.), what overall radioactive material health standards should be? In other words, are you going to consider things as broad as revising dose conversion factors (Inaudible.) things like that?

MR. KLEMENTOWICZ: Steve Klementowicz. In response, no. We would be making broad-based recommendations that say for example, Regulatory

Guide 1.109 needs to be evaluated to be brought up to current dosimetry standards recommendations.

MR. DOLLEY: Just a clarification. I don't understand why that's enough. You need to be making broad based recommendations on what needs to be evaluated so that the task force is --

MR. KLEMENTOWICZ: Yes, but I mean we would not be providing the answers. We would for example say Regulatory Guide 1.109 uses (Inaudible.) dose methodology. It uses Department of Agriculture data from the late 1960s. So our recommendation would be that this regulatory guide needs to be revisited, revised, to reflect more current data, more current statistics, dose conversion factors, methodology. So that would be our recommendation. But we would not be saying it needs to use ICRP 30 or 72 or to use this particular factor.

PARTICIPANT: That's a hypothetical. We haven't reached any conclusions.

MR. DOLLEY: But I'm just trying to get a sense of what is in the scope of this. Sounds like --

MR. KLEMENTOWICZ: Steve Klementowicz. Recommendations that this document needs to be -- We recommend that it be looked at and be evaluated and be updated, that type.

MR. FRYE: But it might not -- This is Tim Frye again. But it might not include solutions.

MR. KLEMENTOWICZ: No.

MR. FRYE: Specific ways to correct.

PARTICIPANT: I'm having trouble hearing you guys.

FACILITATOR RECKLEY: Basically the

answer is that it's not envisioned at this point that the task force would make very specific recommendations on what the latest version of the International Standards or whatever would be adopted and as Steve mentioned earlier, that's continuously ongoing of the NRC evaluating those things and what we adopt as the regulatory standard. So, Stu, do you want to add?

MR. RICHARDS: Yes, I just want to add something. I think where the question is coming from is that we're chartered as the Liquid Radioactive Release Task Force. So liquid radioactive release and we're starting to talk about gas and a lot of other things too.

FACILITATOR RECKLEY: Yes.

MR. RICHARDS: Our focus is on liquid radioactive release --

PARTICIPANT: Given that the (Inaudible.) in 2000 is being discussed right now with respect to doses especially to infants and children and the high rates of harm that we've seen near the facilities south of Chicago, do you think it's reasonable any longer to say that just because the levels are below a standard that's been established based on outdated science that the population in those areas is safe?

PARTICIPANT: Good question.

MR. RICHARDS: To try and answer the first question, Bill, the answer is we're going to stay within our charter and primarily focus on liquid radioactive releases. If as part of that, we recognize that there are other issues that need to be updated or we think should be updated such as

Steve mentioned, we may make that recommendation.

MR. MUSEGAAS: This is Phillip from Riverkeeper. Pardon me if I missed this earlier, but so Reg Guide 1.109 basically has not been updated since 1979.

MR. KLEMENTOWICZ: This is Steve Klementowicz. It's been not updated since 1975.

MR. MUSEGAAS: '75. Okay. Thank you.

FACILITATOR RECKLEY: Okay. We have a couple more minutes left. Any additional questions from members of the public?

MR. MUSEGAAS: I have a quick question. I don't know how quick it is but a simple question related to this issue and related to license renewal and these leaks. I just did a quick check online and the list of affected plants that are in the petition includes Dresden and it looks like Dresden's license was renewed late in 2004. Is that correct?

FACILITATOR RECKLEY: Unfortunately we don't have the people here that right off the cuff know the status.

MR. MUSEGAAS: Okay.

PARTICIPANT: (Inaudible.)

MR. MUSEGAAS: Well, it's pretty simple information. I'm looking at it on the computer.

FACILITATOR RECKLEY: Okay. If that's what it says.

MR. MUSEGAAS: I guess my question is it looks like from the petition that the contamination at Dresden was found in looks like in August and then some repairs were made in December. It looks like kind of coincided with the license renewal

process and I wonder how that's addressed. I mean I think relating to Indian Point if we have a license renewal process beginning next year and we have ongoing leaks from the spent fuel pools, if the source of the leaks is a system, structure or component that is subject to aging management review under the license renewal, then how will that be handled?

PARTICIPANT: Poorly.

MR. RICHARDS: Stu Richards. That's a good comment. We've noted that and we'll take that under consideration.

MR. MUSEGAAS: Okay. Can you hook me up with somebody that can give me an answer to that? I think it's an important question.

FACILITATOR RECKLEY: Well, what will happen is it will start as soon as the licensee prepares or makes an application is that there will be public meetings on the specific issues of license renewal and the processes will be described and what's in scope of that process and that would be the opportunity.

MS. LAMPERT: May I throw something in here?

MR. MUSEGAAS: I mean the spent fuel pool generally are considered nonmoving parts and are part of the plant that is subject to aging management review. Is that right?

FACILITATOR RECKLEY: And we don't have license renewal people here and so --

MR. MUSEGAAS: All right. I'll take it up with a different branch.

MS. LAMPERT: Let me just throw in.

This is Mary Lampert at Pilgrim. We're in the process right now and you might have some lessons learned by looking at the filings of reactors that are in the process or have completed the process and you'll see for example that they do have an aging management of underground pipes and tanks and of other fixed components and then you'll how they managed it. And I think the short answer is poorly.

FACILITATOR RECKLEY: Okay. We're reaching the end here. It's almost 4:00 p.m. So what I'll offer is that to the degree that anyone else on the line has questions or comments, go ahead and send them to me - wdr@nrc.gov - and I'll append them to the transcript and we'll try and capture them. If they are unrelated, we'll forward them to whatever group we think is appropriate to this position and we'll send them. I'm not going to swear to you that we're going to respond. We have mechanisms in place for some of these other issues that are coming up that are beyond the scope of this petition. Then I would try to steer you towards those other processes be it be rulemaking, be it licensing for a specific facility, be it another 2.206 petition if it's related to a totally different concern.

And with that, I'll give -- Stu, do you have any closing?

MR. RICHARDS: No, I appreciate your making yourselves available today and for your comments. It's been helpful for me and thanks for coming in.

FACILITATOR RECKLEY: And, Dave.

MR. LOCHBAUM: Appreciate it.

FACILITATOR RECKLEY: Okay, and then I'll echo that also. I think this has gone relatively well for having a large group, a large number of people, wdr@nrc.gov is my email. Just send it in and I'll append it in to the transcript. When the transcript is prepared which will be in a couple of weeks, we will post it with the other material from this meeting on the website. Thank you, everyone.

(Chorus of thank yous.)

(Whereupon, the above-entitled matter was concluded.)