NEW YORK STATE OF OPPORTUNITY. Department of Public Service

Three Empire State Plaza, Albany, NY 12223-1350
www.dps.ny.gov

May 25, 2023

VIA EMAIL

Hon. Michelle L. Phillips
Secretary to the Commission
3 Empire State Plaza
Albany, NY 12223-1350

Re: Matter No. 21-01188 – In the Matter of the Indian Point Closure Task Force and Indian Point Decommissioning Oversight Board.

Dear Secretary Phillips:

Please accept for filing in the above-captioned matter, the April 27 2023 Indian Point Closure Task Force and Indian Point Decommissioning Oversight Board meeting transcript. Should you have any questions regarding this filing, please contact me. Thank you.

Respectfully submitted,

Tom Kaczmarek
Executive Director
Indian Point Closure Task Force
Indian Point Decommissioning Oversight Board

4/27/23 - Indian Point - 21-01188

STATE OF NEW YORK

DEPARTMENT OF PUBLIC SERVICE

MATTER 21-01188 – In the Matter of the Indian Point Closure Task Force and Indian Point Decommissioning Oversight Board.

JOINT MEETING AND PUBLIC STATEMENT HEARING

DATE: April 27, 2023 at 6:01 p.m.

VENUE: ZOOM

BEFORE: TOM CONGDON, Chairperson

Reported by Danielle Christian

4/27/23 - Indian Point - 21-01188

(The meeting commenced at 6:01 p.m.)

CHAIR CONGDON: The Decommissioning Oversight Board. I'm going to ask Tom Kaczmarek, our executive director, to go through roll call.

MR. KACZMAREK: Thank you, Tom.

Good evening and welcome to tonight's joint meeting of the Indian Point Closure Task Force and Decommissioning Board. My name is Tom Kaczmarek and I serve as the executive director. As Tom mentioned, we'll quickly move through the roll call. In fact, in lieu of the traditional roll call for the sake of time, the attendance list you see on your screen --.

And can we enlarge that for the room?

The attendance list you see on the screen reflects those board members who R.S.V.P.'d for tonight's meeting and are present before you in Cortlandt Town Hall or joining us remotely via Zoom.

If you are in attendance as a board member, but do not see your name reflected on the screen, please contact me to ensure your presence is recorded for the record.

Before I turn it over to Tom Congdon, I want to provide just a few brief reminders to our

panelists and participants to promote a smooth meeting.

For our in-person Board members and guest presenters, please speak into the mic to ensure your comments are clearly heard and accurately recorded. For our panelists joining by Zoom, please keep your mics muted unless you are speaking. And to our Zoom participants, please reserve the chat feature for reporting technical issues to our audio-visual team. All other questions captured in the Q and A field are able to be saved and reviewed after meeting.

Finally, all speakers tonight are asked to state their name before making statements. This will support our court reporter with accurately recording tonight's meeting.

With that, I'd like to turn it back to you, Tom.

CHAIR CONGDON: Thank you, Tom.

If I could go to the next slide, please. So as Tom said, this is actually a joint meeting of the Indian Point Closure Task Force and the Decommissioning Oversight Board. In recent years, we've -- we've mostly had Decommissioning

Oversight Board business, but I do have a few Task Force related items to announce tonight.

As a reminder, the Task Force was established by statute. The membership of the Task Force overlaps with the Decommissioning Oversight Board with the exception of two individuals, our independent technical expert, Dave Lochbaum, and our Riverkeeper representative, Richard Webster, on the D.O.B.

The Task Force was charged mostly with working on the economic impacts associated with the closure of Indian Point, helping the tax base, working with the community, working with the employees on the -- the job transitions.

And we also helped advise the State of New York on how to spend money from the Entergy closure settlement fund. This was a $15 million fund that funds community and environmental benefit projects, and we announced awards from those projects a couple of years ago. And I have a number of important updates to bring to the table tonight.

First, the biggest award was to the Town of Cortlandt and Village of Buchanan, a $7 million grant for sewer infrastructure upgrades and

new connections. For that project to really get going, there needs to be an intermunicipal agreement between the town and the village.

And we're really pleased to report that the town and the village reached agreement on that agreement and the sewer project will be progressing. We're also very grateful to the town and the village; in the context of reaching that agreement, they also reduced the size of the grant by $250,000 to make funding available for workforce training.

There was an application for funds from the local steam fitters, Local 21. Tom Carey is here. And that $250,000 was awarded for purchase of welding equipment to do workforce retraining at their union hall.

And -- and lastly, Dr. Lauro is not here yet, but we're really pleased to be working with Dr. Lauro, the -- the interim superintendent of the Hendrick Hudson School District, who had requested that we examine opportunities for funding for performing an environmental assessment at the B.V. Elementary School.

This is the school that's located

4,000 feet or so away from the Indian Point site. And there is a number of active community members concerned about the environmental conditions at the school. We have established a -- a working group of the D.O.B. that is examining how to best do environmental monitoring throughout decommissioning, especially when the heavy demolition begins.

And that work is being funded now through the Department of Public Service, the agency that I work for. And we freed up the $500,000 grant that was going towards that purpose now for the school district to conduct the assessment that the parent community has been seeking.

So we're really pleased to support that effort.

Before I move on, any words from our Task Force members on this? Tom?

MR. CAREY: Good evening, everybody. First, I would like to thank the Community Environmental Benefit Fund. And I also want to thank, it's very important that I -- I thank Dr. Richard Becker and Mayor Theresa Knickerbocker, because without their help we wouldn't have gotten this funding that's going to be necessary to provide

training for the members of Local 21 Plumbers and steam fitters that no longer have work at the Indian Point Center.

The retraining tools will be … welding and some highly technical skill training equipment that will be needed for these members so I couldn't -- I couldn't to accept this without the help of Dr. Becker and Mayor Theresa Knickerbocker so thank you very much.

CHAIR CONGDON: Thank you, Tom.

Next slide please. So on to our Decommissioning Oversight Board business, for some of you tuning in for the first time, the Decommissioning Oversight Board was established --.

Dr. Lauro, welcome. Dr. Lauro, we just -- we talked about the $500,000 grant for the school district for the environmental assessment at the B.V. School. Sorry, I know you're just sitting down, but if you wanted to add anything about the school's plans regarding the assessment, I wanted to give you the mic.

DR. LAURO: Thank you.

Hello everyone. No, I'm just very pleased and want to thank the State for the

consideration. Concern of the community, particularly the school community, was about the safety, of course, but getting a benchmark in terms of our school and how it environmentally is safe.

So for two reasons, I'm happy about it. One, we would get that and I'd like to know that it's cleared. From that aspect of it, I thank the State and look forward to implementing. What we plan on doing is monitoring. We've been working with a company to look at something about the radiation and so on.

And our next step, knowing that we have the money, would be to move to a plan and put one in place so that it would be here well before any of the demolition.

CHAIR CONGDON: Excellent. Thank you. And we're -- we're going to talk more during the Holtec presentation about their schedule in the heavy demolition. And so I think that'll be important information to understand how we sync up the work that we're doing at the State for the community air monitoring and the work that the school is going to be planning.

So, thank you, and welcome and sorry -

- sorry to --

DR. LAURO: That's all right.

CHAIR CONGDON: -- jump right in --

DR. LAURO: That's okay.

CHAIR CONGDON: -- as you sat down.

DR. LAURO: There was traffic and I got stuck, but thank you.

CHAIR CONGDON: Parking is a bear, too.

DR. LAURO: Yeah.

CHAIR CONGDON: Okay. On the Decommissioning Oversight Board, we want to go over a few things. For the newcomers, what the D.O.B. is, the D.O.B. was established by the New York State Department of Public Service. It consists of the relevant state agencies that have a role to play, any role whatsoever to play in either oversight or assisting the community in transition during the decommissioning process.

We also have virtually all of the local and state elected officials that represent the host communities with us. And we really appreciate their participation. Our goal of the Decommissioning Oversight Board is help to ensure decommissioning is

safe, prompt, and thorough. Safe, prompt, and thorough, that's been our mantra.

Those were the principles that we -- we -- we agreed to when all of the parties involved in the Public Service Commission proceeding reviewing the sale of Indian Point, from Entergy to Holtec, kept in mind: safe, prompt, and thorough.

These were the key public interest principles that guided the agreement to allow Holtec to take control of the property. And that agreement was signed by every single party that was in that proceeding. And those included the State Department of Environmental Conservation, Department of Public Service, the Attorney General, Westchester County, Town of Cortlandt, Village of Buchanan, Riverkeeper, Public Utility Law Project, and others.

There are key conditions, public interest conditions included in the Public Service Commission sale, agreement -- I'm sorry, the -- the -- the approval of the sale. And for the Decommissioning Oversight Board, we want to make sure that we're living up to those principles.

Our success as a D.O.B. has really been built on mutual respect and communication.

Communication among the D.O.B. members, communication between state agencies, but most importantly, communication between government and the people we represent.

And we are working on always improving. We listen to the feedback we receive. We provide as much opportunity as is feasible for public comment and public participation. We've added number of meetings with public forums where there can be information exchanged and questions and answers.

We've worked with the parent teacher association to come into the community with our experts. We've added public statement hearing opportunities, including just a couple of nights ago, knowing that tonight would there be strong interest in public statement --.

(The meeting was interrupted.)

CHAIR CONGDON: That was strange.

UNIDENTIFIED SPEAKER: Two different meetings going on there?

CHAIR CONGDON: That was like a -- there was a parallel universe of, you know, maybe that was the Pilgrim Decommissioning Oversight Board or something.

But through that communication, as I said, we -- we listen, we adjust, and when the facts are presented that show there may be gaps in our oversight, we look to take action to fill them.

So, next slide, please. So just as some examples, through our discussions as a D.O.B., we understood Holtec made some filings with the N.R.C., seeking some exemptions. These are typical and common for most decommissioning projects because the N.R.C. regulations are really -- are really for an operating nuclear power plant, not for a decommissioning site. And so it's very normal, typical for decommissioning outfits to seek exemptions for things that, in their view, don't make sense to continue to be required to do.

We had a different view, disagreement with Holtec about some of those exemptions, and, as a body, expressed those concerns and, as the state agencies on this body, filed comments to the N.R.C., opposed to some of those license exemptions. And to date, no action has been taken, but that's an example of how these discussions result in certain actions.

Also, through these discussions, similar to the license exemptions, when the plant

goes from an operating nuclear power plant to a decommissioning project, N.R.C. takes steps to reduce their resource allocated to the site. And their full-time resident inspector was pulled. And that's also typical at decommissioning sites all around the country, but it was something that created some concern within the community that there wasn't a regulator onsite on a day-to-day basis. And we felt that's another thing where the State of New York can come in, we can fill that gap.

Department of Public Service hired a resident inspector, nuclear expert. He's here in the audience. Cliff is here and -- and works full-time from the plant.

Similarly, a great deal of concern within the community regarding the co-located pipelines. So longstanding issue in this community and we recognize that it was important during the decommissioning process that there be strong communication protocols between the owner and operator, Holtec, and the owner and operator of the pipeline.

And we -- we worked hard to ensure that there was a memorandum of understanding that

guided their communication, activities, and, most importantly, identified physical protections of the pipeline on the site.

Dust is another major issue of concern in the community. You're talking about massive structures that are going to be taken down and demolished. And frankly, there are decommissioning sites around the country where there are videos easily accessible through YouTube, where you can see other sites chose implosion to take down big concrete domes. And the images are -- are seared in -- in -- in some of our minds as something that we don't want to see happen here at Indian Point in a more densely populated region like ours.

So there are a lot of concerns about dust from demolition. And so we talked about what we can do at the state and local level. N.R.C. rules certainly prohibit the licensee from allowing anything to leave the site, but what could the state and local governments do. Well, we -- through our discussions with the D.O.B., Village identified the fact that they have to issue demolition permits for each of the buildings that come down.

Our Department of Environmental

Conservation on the D.O.B. also identified regulations that they have in place that are typically used after the fact if a project is causing a public nuisance in an area with dust for them to be able to enforce and get things under control.

But we said, why can't we marry those two and have the regulations be folded right in into the building demolition permits in the first instance, rather than be used after the fact. So there are conditions built into the permit requiring dust mitigation and it's an enforceable thing that the state and local governments can now do. We have our state resident inspector on site, we see any kind of visible dust issues, we can now call in the buildings department D.E.C. as necessary, and actually get issues under control.

Monitoring. So in addition to having the right regulatory, enforceable conditions on dust control and mitigation, we also have the additional protection of monitoring. We have, already in existence, a radiological monitoring system. It's been in place since the plant was in operation for many years. That's still in place and working and functional, a ring of monitors all around throughout

the community.

But as we progress with decommissioning and the spent fuel pool -- the spent fuel is now moving into dry cask storage, the risks will become more about the particulate matter in the dust that the community was concerned about leaving the site.

And so what is the right monitoring to use? What are the instruments that we need to have in the community to detect any concerns associated with the activities that we expect will be coming down the line? So we've been working at the Department of Public Service to get a consultant contractor on board to develop that community air monitoring plan that many of the agencies, Department of Health, D.E.C., the school district have been parties to advising how we conduct that R.F.P. to bring the consultant on board.

We're making progress. We still expect to have that plan operational end of year, early 2024, before the heavy demolition work commences. And as I just announced earlier on the earlier slide, the school is also going to be a big partner in this work, and they are going to be able

to test the health conditions at the school today.

What are the environmental conditions now before the heavy demolition commences? That's been something we've heard from the community that is important to do and we agree and the state provided the $500,000 to the school to do that.

Next slide. So tonight, we're -- we're really going to zero in on an issue that has generated a lot of -- a lot of interest. In fact, this water discharge plan is definitely generating the -- the most public interest to date of all of the issues that I just ticked through. As you can see, packed house, a lot of interest.

And what I am hoping to facilitate tonight and what I am urging all of us to try to live up to is that we review this issue through our core public interest principles of decommissioning. Does it help ensure safety? Is it going to help us get a prompt decommissioning? And is it going to help us get a thorough cleanup at the end of the day?

So we've been talking about this at our -- at our meetings since at least last summer, probably earlier than that. Back in July, when we started talking about the possibility, Riverkeeper --

Riverkeeper's representative, Richard Webster, had a really good suggestion. He said, you know, to put this into context, we really need to consider this, what it means compared to drinking water standards.

And we're going to talk about that more later this evening. And I thought that was a very helpful suggestion because it's, I think, a little harder for people to appreciate millirem dose counts and whole-body doses. But drinking water standards may be more relatable for folks to understand. And that was an important point.

David Lochbaum, at our February meeting, our independent technical expert, presented a number of alternatives analysis. This is another idea, actually, of Riverkeeper's from the July meeting. Could we establish and -- and bring an expert in to talk about what are the alternatives to water discharge?

And -- and Dave Lochbaum walked through a number of -- a number of -- of water disposal options for decommissioning. He looked at other sites, what has been done elsewhere. He walked through pros and cons. His slides are available on our website. I -- I recommend folks to look at

those. They were helpful to put things into context.

And from his point of view, it's not about which option meets a standard. Everything would meet a standard. It was what is the relative risk profile of each of the options. And from his point of view, based on the facts and experience around the country with dealing with this kind of waste, his recommendation was the plan to discharge in the river is actually the least risk to public health and the environment.

We also heard, at that same meeting, from guest presenters. We heard from a local attorney, Michelle Lee, and also a physician from Physicians for Social Responsibility, who both talked about the problem with the way standards have been set over time.

And in their view, pointing out there is no safe level of radiation exposure, and concern that the standards -- concern -- concern that the standards themselves are -- are outdated. And so that was also an important perspective for us to hear.

We then had a public forum at the request of the P.T.A. With the school district's

help, we organized a public forum where there was a good information exchange, a lot of questions asked and answered. We had our Department of Health present. We also had Dave Lochbaum.

And Dave actually presented a -- an additional PowerPoint, also available on our website, created a video actually, 10-minute-long video, I encourage everyone -- everyone to check it out, where he went through historical data. There is a treasure trove of data on the discharges that have been going on at the plant over the last fifty years.

So there's a lot to look at, a lot to look at in the data that's been reported to the D.E.C., but also the data that's been measured in the river itself over that time period. And -- and Dave helpfully put a lot of that data together, summarized it, and also tried to put into context what concentrations we are talking about here.

What are we talking about with the levels of tritium in the water, what kind of radiation exposure would that result in? And he concluded that the level of radiological exposure one could get from the historical discharges is actually less than the radiological exposure that one gets

from eating a banana. And that was a really compelling way to frame, I thought, the ...

Well, I -- I-- I appreciate -- everybody has a lot of passions, but I appreciate -- I -- I appreciate everyone in -- in the audience. And -- and I know how engaged everyone is and how passionate folks are. I'm just laying out the facts, right, and this is not a popularity contest. I know I'm not going to make a ton of friends on -- on how I present this information.

I -- but I think it's important that we get facts on the table and we have a mutual and respectful communication about the data.

Then, you know, back in the February meeting, Rich Burroni, presenting for Holtec, did give a presentation about the water discharges, highlighted the schedule that was planned at the time was an August-September release.

Richard Webster did a very good job, I think, of highlighting -- well, gee, you're permitted now and so how do we know you're not going to start discharging sooner than August or September. And -- and I really appreciated Richard chiming in on that. And he -- and he also pointed out, look if you -- if

you do go sooner, could you give us 30 days' notice.

Rich Burroni agreed he would give 30 days' notice, and he did in April. So early April, we get a notice that there would be a discharge in May, 45,000 gallons, lower the water level of the pool. That created a lot of concerns.

Created a lot of concerns in the community. People felt that they had an idea of the schedule, August-September, created a lot of concerns with elected officials who felt that they were in the middle of conversations with Holtec. And that -- that was -- that was frankly, my opinion, a bad idea by Holtec to move forward with that, given all the questions that were still outstanding.

Senators Gillibrand and Schumer had written a letter to N.R.C. at that point, looking for a number -- looking for answers to a number of questions that they had about the water discharges. N.R.C. has since responded to that letter. Thank you.

And thank you to the senators' offices for -- for also getting involved with helpfully, you know, helping to frame the issues.

But there was a lot of outstanding

questions that were out there. And -- and, you know, I think to Holtec's credit, they listened to the concerns raised by many of us at this table about the fact that they went forward with this before, you know, there was time for adequate discussion.

And so later in April, again to Holtec's credit, they -- they paused the May discharge. And that's going to give us time now to have this discussion tonight and probably several more.

And -- and so as we planned for this meeting, you know, knowing that there'd be strong interest, as I mentioned, we had a public statement hearing on April 25th. We had about 75 speakers, vast majority very concerned about the discharge, vast majority. And I think that we all benefit by having additional discussion and getting some good information on the table.

So in the spirit of how the Decommissioning Oversight Board has been working, listening, identifying gaps, there's some clear gaps on this issue. One, there needs to be more information exchanged. And tonight, we're going to start doing more of that. Two, there needs to be

independent sampling before any discharges commence.

Three, N.R.C. needs to engage with all of us. N.R.C. has primary jurisdiction over radiological water discharges. We are so grateful for your participation today. We will be introducing you when it's time for your presentations.

And Holtec needs to engage with the host communities. This is a massive project, massive undertaking. The relationships that Holtec has with the leaders in the host communities are really important to -- to maintain and to improve. And so I'm urging Holtec to reengage with the host communities.

So let's get to it, next slide. Tonight, we are so pleased to have the Nuclear Regulatory Commission with us. We Are also joined virtually by the United States Environmental Protection Agency. And we will also be hearing presentations from Department of Environmental Conservation, Department of Health, and the Attorney General's office.

All of this is meant to help answer the questions that have been presented through our earlier discussions. What's in the water? What's

the historical data mean? Who has jurisdiction over what? Let's get to those answers.

Then we're going to turn it over to Holtec for their typical operational update. It's going to be heavy on the water discharge, but we're looking forward to hearing about other activities onsite, what the latest schedule looks like, and an overview of any N.R.C. citations since the last meeting.

Then we're going to have 30 minutes for public statement hearing. We're going to try to get to as many speakers as possible. But again, the whole purpose of the public statement hearing on Tuesday was in recognition that we would not have time to get to many speakers tonight.

So with that, I'm going to turn it over to John Sipos, who is counsel to the Decommissioning Oversight Board and deputy counsel at the Department of Public Service.

John?

MR. SIPOS: Thank you, Tom.

And good evening. Very much appreciate everyone coming out in -- and the deep interest in this -- in decommissioning and in this

aspect of the decommissioning.

Before I get into more detail, I just want to reiterate a point that I made at the February meeting, that the overall risk to the communities in the 50-mile emergency planning zone around Indian Point progresses and continues to decrease. That is a benefit of the closure of the plant. And with the removal of the spent fuel in the unit three spent fuel pool, which is, you know, scheduled to take place this year, that risk will -- will further decline.

So I know folks are focused on the release of water to -- to the Hudson River. I would urge us all to keep in mind the larger issue, which is the reduction of risk to -- to the entire emergency planning zone.

One other just aspect, by way of background, I know we have some new people here. For 10 years I was the state's lead litigator in the license renewal proceeding with our federal colleagues at the Nuclear Regulatory Commission. I've been on both sides of atomic energy issues throughout my career, negotiated the Indian Point closure agreement, and -- and pursued a lot of

initiatives during that time, you know, just a whole host of different issues, design basis threat, waste confidence, and enforcing fire safety regulations.

And I say that just to provide context. As Tom said, you know, maybe we're not making friends here tonight, but we certainly see both sides of the issues. And I would like to just address a few questions, a few macro questions that we have seen.

First of all -- and the -- the issue here tonight is -- the precise issue is the controlled release of treated and diluted tritiated water from a federally licensed nuclear energy facility. That's the issue.

And there are questions about, well, what is the controlling law? I'm sure we will hear from the Nuclear Regulatory Commission and the Environmental Protection Agency. But in short, the controlling law is the Federal Atomic Energy Act. And that provides the oversight auspices for such releases and those releases take place under the auspices of the Nuclear Regulatory Commission.

The D.O.B. has seen questions about other federal statutes, such as the Federal Water

Pollution Control Act. There was a -- an opinion essay in the Times Union, last week, by Food and Water Watch which pointed towards the Federal Water Pollution Control Act. That -- that statute does not apply here.

And it is not just my opinion; it's not my feeling. It is the result of a 1976 United States Supreme Court ruling in the case of Train versus Colorado Public Research Interest Group. It was a unanimous decision, eight to nothing, authored by Justice Thurgood Marshall, one of the giants of the American Legal Community throughout our history.

And that ruling held that in a situation such as we have here, it is the Atomic Energy Act that controls, not the Federal Water Pollution Control Act.

I just want to briefly review the options that -- that are on the table here. The first one, which Dave Lochbaum spoke about, which Dave Lochbaum reviewed most of these, is the control release of limited batches of treated water to the Hudson River, consistent with the site's practice over the past several decades, utilizing existing systems that were built as part of the facility, as

part of the plant, and were designed to perform this intended function. That is what has been used for the last 50 or 60 years.

Another option is moving the water into trucks and then driving those trucks and that water out of state to an evaporation or solidification facility at another location such as Idaho.

A third option is to construct, install, and seek permits for the placement of heaters and evaporation beds, so that there could be a controlled evaporation of the water at Indian Point. That would lead to evaporation, would lead to the airborne emission into the air and to the surrounding community. That would likely require a license amendment from the Nuclear Regulatory Commission.

A fourth option is to construct holding tanks, possibly near the interstate gas transmission pipelines, moving the water into trucks, driving the water to the holding tanks, and then transferring the water into the holding tanks to store for 12, 24, 48 years until -- out to 48 years or even longer.

That option would likely also entail the airborne evaporation of tritium to the surrounding communities and four counties and would surely require a license amendment from the Nuclear Regulatory Commission.

A fifth option that has received some attention has been to load the water onto barges and to barge the water down the Hudson River, past New York City, through New York Harbor, out into the Atlantic Ocean, and draining it there into the ocean.

That last option is not legally realistic. There are both international law and domestic law obstacles. And there -- it -- it is -- it is very unlikely, it's highly unlikely that any of the conditions for that would -- would come to pass.

Another question that's come up is, well, is this a -- this is a new practice. And I think, as I've indicated just in our previous comments, this is a practice that has been going on since the facilities received their operating licenses from the Nuclear Regulatory Commission and the -- from the Nuclear Regulatory Commission and the -- and -- and the Atomic Energy Commission.

And this has been public. These releases have been public. They are in the water quality certification from the -- the closure agreement from 2017. If anyone wishes further details, they are in Exhibit I to that closure agreement. And that is available on the Riverkeeper website.

So I'd just like to -- we've had this chart up here for a little bit. And I -- it -- it is a simplified version of the information that Dave Lochbaum has presented in the past. D.P.S. staff has helped prepare this chart and it is -- really addresses the suggestion that Richard Webster and Riverkeeper made at the July 22, 2022 meeting.

It -- and at that meeting, Richard, who I've worked with on -- on both sides of cases, again, he suggested as Tom just mentioned, looking at the maximum contaminant level, the M.C.L. for drinking water standards.

And as -- as -- as was said at that hearing, last year, in reference to the 20,000 picocurie liter standard, quote, if you're to -- if you're discharging, you know, much below that -- and that meaning the 20,000 picocuries per liter standard

-- then I think it will really show that there isn't a major issue, certainly drinking water, close quote. That's at pages 154 and 155.

And so the top -- if you look at this chart, the red line is the E.P.A. M.C.L. standard, 20,000 picocuries per liter for drinking water. And we can get -- in our discussion, we can get into the assumptions that are behind that.

And the average for these 15 years, the -- at the bottom, we have 2005 to 2020, 15 years, the average for the -- over those 15 years is 519. So the average is 519 picocuries per liter and the E.P.A. maximum contaminant level is 20,000.

The releases -- and -- and this chart is based on submissions by Entergy to the Nuclear Regulatory Commission, federally required submissions to the N.R.C., and it represents how far below the M.C.L. standard the -- the releases have been.

And so the D.O.B. is attentive to community suggestions. This is what Riverkeeper and -- and Richard Webster suggested last July. And -- and this chart graphically represents how low those releases have been.

And I think, right now, I'll just

conclude there and turn it back to Tom.

CHAIR CONGDON: Thank you, John. Thank you.

I'd like to now turn over to the Nuclear Regulatory Commission. We're joined by Katherine Warner of the N.R.C. And I'd ask that you all introduce yourselves with your titles, please. Thank you.

MS. MARSHALL: I'm Jane Marshall, U.S. Nuclear Regulatory Commission, I'm the director, division of decommissioning, uranium recovery, and low level waste programs.

MS. RALPH: And I'm Melissa Ralph. I'm the acting deputy division director for Division of Radiological Safety and Security in the N.R.C.'s Region One office.

MS. WARNER: Good evening, everyone. My name is Katherine Warner. I'm a Senior Health Physicist, N.R.C. Region One, and I am the lead inspector for Indian Point.

CHAIR CONGDON: Thank you. Over to you, Katherine.

MS. WARNER: Let me know if you're ready? Hold on. We'll get it.

CHAIR CONGDON: I tend to move it down, like it might help.

MS. WARNER: Better?

CHAIR CONGDON: There you go, yeah. There you go. Thank you.

MS. WARNER: You all can you hear me okay?

CHAIR CONGDON: Yes.

MS. WARNER: Okay. Sorry about that.

So first I would like to thank the Decommissioning Oversight Board and Senators Schumer and Gillibrand for the invitation for this -- to this meeting, and for the opportunity to discuss our oversight program as Indian Point undergoes decommissioning.

We value these interactions and want to emphasize that we share a common goal to ensure that Indian Point is decommissioned safely. During this presentation, I will give a high-level overview of our regulatory program and a review of effluent releases from Indian Point with an awareness that there continues to be interest of how water, low levels of radioactivity that remain from the plant's operational life, including the spent fuel pools,

will be disposed of.

Please note that we'll try to address as many topics as possible, given the 20-minute time restraint requested for our presentation. I have 12 slides to go through and I ask that the Board hold their questions until the end of the presentation.

Next slide, please. The N.R.C. is the principal regulator for radioactive components for liquid releases. Non-radioactive components are controlled, in part, through the state pollutant discharge elimination system permit. If I could leave you with three important messages, it would be these.

First, there are no releases directly from the spent fuel pool. All water is treated by the radioactive waste system, re-circulated, analyzed, monitored by a calibrated radiation monitor prior to release. Spent fuel pool water is not significantly different than other waters that Indian Point was designed and licensed to process through their radioactive waste processing system.

Second, any effluent releases from Indian Point or other U.S. nuclear power plants must comply with federal limits, which are set well below

any expected health effects. Radioactive effluents and their limits are not unique to nuclear power plants. Hospitals and cancer treatment facilities also produce liquid effluents.

Third, any and all releases must be quantified in order with -- in accordance with N.R.C. licensed methodology and documented in reports filed with the N.R.C. We, in turn, make them publicly available on our website.

It's important to point out that Indian Point has performed liquid radioactive releases since the 1960s. This is throughout the course of the plant's life and similar to other reactor sites, including the release of water from the Unit One spent fuel pool.

Next slide please. So we're going to be discussing topics like radiation dose and units like a millirem. So I'm going to take just a little bit of time to go over some of these concepts so that everybody can follow along.

To help provide some context on radiation exposures, in 2006 the National Council of Radiation Protection and Measurements, N.C.R.P., evaluated the radiation doses to the U.S. population

from all sources of ionizing radiation and published their findings in N.C.R.P. Report 160.

The N.C.R.P. estimated that the average yearly radiation dose to the -- an individual in the United States is 620 millirem. Half of that, or about 310 millirem, is from natural sources with a majority being from radon.

The other half is considered industrial. The majority of that is medical exposure. Of course, that can vary quite a bit, but to give one data point, the average radiation dose from a single chest X-ray is about ten millirem. And I'll note that the effluent program is designed, at a nuclear power plant, to be below a three-millirem-a-year goal at the release point.

Next slide please. So we're going to spend the next couple of slides talking high level about N.R.C. regulations, and then two slides focusing on some specific parts of the regulation about effluents. Congress authorized the N.R.C.'s role to establish regulations to govern civilian uses of radioactive materials in the Atomic Energy Act of 1954 as amended.

The N.R.C. may enter into an agreement

with a state, such as it did with New York, to allow a state to regulate some materials licensees, but the N.R.C. retains authority over things like nuclear power plants. Of course, we interface with the state and the state inspector.

These regulations apply to all N.R.C. licensees, including thousands of industrial, medical, and R and D facilities, and research and power nuclear reactors. The dose limits that we're going to discuss were designed with several layers of protection. The most recent overhaul to the N.R.C.'s radiation dose limits was the 1991 revision to 10 C.F.R. Part 20. C.F.R. refers to the Code of Federal Regulations.

These regulations deal with the standards for protection against radiation. Now, these radiation limits are dose based. They're based on international recommendations which are often implemented by governments worldwide. The International Commission of Radiological Protection is where we drew this from, the I.C.R.P. They recommended 100-millirem-a-year limit after concluding that a lifetime of exposure at this level would result in a very small health risk, roughly

equivalent to background radiation from natural sources, excluding the radon.

Also note that the N.C.R.P. we talked about on the last slide also recommended a dose limit of 100 millirem per year. Now, that was in 1991. What have we done since then? We maintain awareness of international and national recommendations and reports to inform whether any updates to our regulations are necessary.

For example, in the 2008, 2015, 2016 timeframe, the N.R.C. reviewed whether an update to our regulations was necessary to align with more recent recommendations from the I.C.R.P. We concluded that no updates were necessary because the N.R.C. regulatory framework continues to provide adequate protection of the public, environment, and the workers.

We note that these most recent recommendations did not include a change to the 100-millirem limit. As you can see on the slide, the regulations we are discussing does not relieve the licensee, in this case, Indian Point, from complying with all other applicable federal, state, and local regulations governing other toxic or hazardous

properties of materials that may be disposed of in liquid releases.

Next slide, please. So this slide gets into some of the specific parts of Part 20. We have established three layers of protection to protect the public. Before I get into the public, I'm going to note, just for a reference point, the occupational worker limits are 5,000 millirem a year.

So the first layer of protection for the public is that 100 millirem a year I mentioned a couple of times. And then if you take a look, lower on the slide, you're going to see a blue arrow that the N.R.C. requires that licensees, including Indian Point, comply with applicable E.P.A. regulations.

Before we go on to the next slide, I'll note that the 100-millirem limit is the limit from all dose pathways. Whether or not you're ingesting, inhaling, direct radiation, it's from all those pathways have to add up to be less than 100 millirem.

Next slide please. Now, the E.P.A. is also presenting tonight, so I'm not going to try to steal their thunder. Just point out a couple of things that are most applicable to N.R.C.

regulations. We require nuclear power plants to meet E.P.A. limits. And E.P.A. sets a public dose limit of 25 millirem for planned discharges.

The N.R.C. regulations incorporated these E.P.A. standards in 1981. The N.R.C.'s "as low as reasonably achievable" objectives and what's incorporated into the site licensing basis are a fraction of these E.P.A. standards. And that is the third layer of protection.

Next slide, please. Now, let's switch gears a little bit. We're going to talk specifically about releases, how they work, and then two slides of some actual data.

So controlled releases of liquid and gaseous radioactive effluents from nuclear power plants occur throughout the life of these facilities and, again, must meet both N.R.C. and E.P.A. standards.

As I stated before, liquid releases from nuclear plants are filtered, processed, and placed in a storage tank where its contents undergo analysis for any radioisotopes present, including tritium. If, based on the analysis, it's determined that a batch or a gradual release of water from the

tank can be done, then the company may proceed.

The liquids are monitored by a calibrated radiation monitor during release, and concentration is reduced during this release, and then even further reduced in the Hudson River.

So how does the site calculate whether or not the -- the concentrations are low enough for release? It's based on evaluations using the site's Offsite Dose Calculation Manual, O.D.C.M. The O.D.C.M. specifies site limitations and methodologies that a licensee will use to maintain compliance below the limit. Again, water is not directly released from the spent fuel pool.

The water from decommissioning is no different than water used during operations, and is the same water that has been in contact to keep the spent fuel pool cooled.

Now, the spent fuel is made up of pellets and these pellets are enclosed in steel rods. The water is in contact with the rods, not the pellets themselves.

Also to touch on tritium a bit, tritium is a radioactive form of hydrogen, which for Indian Point releases is bound up in water. Tritium

is released at low concentrations, reduced at the release point, and further reduced in the Hudson River. And tritium does not typically bioaccumulate in the body.

MS. WARNER: Next slide. So this slide -- yes, thank you for blowing that up.

So we're going to talk a little bit about the data from -- that we gathered from the effluent reports submitted to the N.R.C. and available on our public website. As you can see, this runs from about 2005 to 2021, just to give a snapshot.

Indian Point has released liquid radioactive effluent since the first unit went into operation in the 1960s, similar to other New York plants.

So to point out some of the specifics of this graph, if you take a look at the purple bars, this relates to the volume of batch liquid releases. As you can see, we're talking between about 2 million and almost 5 million gallons a year just based on what's going on at the site.

And then, for a number of batches, those are the green dots, you take a look on the

right, that's number of batch releases. And it ranges between just under 100 to about 175 a year, just to give a little bit of an idea.

Next slide, please. Now, this slide is a comparison of total whole-body dose from liquid releases to limits at Indian Point, again, looking at the 2005 to 2021 timeframe. That top red dotted line shows that 100-millirem limit. Again, that's the 100 millirem is those from all pathways.

The lower dotted red line indicates the E.P.A. limits for whole-body dose of 25 millirem. The yellow dotted line near the bottom, just for a point of reference, is the typical whole-body dose that one would get from a flight between coasts. And that's about 4 millirem.

Near the bottom, you can see how Indian Point releases relate, and next slide please because I blow up some of those numbers. When you take a look at some of these numbers, this is in millirem, and it is very clear they fell well below the thresholds, less than 1% of the limits. For example, in 2021, it's about 0.011966 millirems calculated. Again, Indian Point is required to calculate these doses and submit annual reports to

the N.R.C., which are available on our website.

Next slide, please. Indian Point has a radiological environmental monitoring program required by our regulations that supplements the effluent monitoring program by verifying that measurable concentrations of radioactive materials and levels of radiation in the environment are in agreement with values predicted by the radiological radioactive effluent monitoring program.

The site's REMP program includes data gathering from various media, along with measurements of direct radiation. The Indian Point 2021 REMP report notes that environmental sampling collected in the vicinity of the plant and at distant locations included this media like air particulate filters, soil, drinking water, vegetation, Hudson River water, Hudson River sediment, fish, invertebrates, and Hudson River aquatic vegetation.

During 2021, Indian Point reported over 1,100 samples taken from the various media and over 164 exposure measurements for direct radiation. In evaluation of direct radiation measurements, environmental sample analysis, and dose calculations demonstrated that all applicable federal criteria

were met.

Next slide, please. A little bit on N.R.C. inspections. This is what I do day to day. The N.R.C. has a robust inspection program where we conduct observations of risk-significant activities and conduct programmatic reviews.

To focus in on our inspections for effluents, we first need to discuss the framework that the N.R.C. set up for nuclear power plants. First, we approved that Offsite Dose Calculation Manual, O.D.C.M., and the methodology. As we have discussed, that O.D.C.M. implements release criteria even further below the 100 and 25 millirem limits we've discussed.

We inspect the procedures implementing the requirements of the O.D.C.M., we review a sampling of activities and documentation. And we conduct walk-downs, which are visual assessments of the waste program and systems using risk-informed performance-based approach.

Further, we verify the results of the effluent program through our review of the environmental results and implementation of that program, as well. This is what gives the N.R.C.

confidence that what we expect from our review of effluent releases has indeed occurred.

Also, note that the N.R.C. will continue to inspect until decommissioning is complete. When the only thing that remains is the spent fuel storage facilities, we will still inspect.

Next slide, please. Quick summary slide here just to go over some of those numbers that we've talked about today.

An occupational worker limit is that 5,000 millirem a year. Average public dose from that N.C.R.P. report, 620. Hundred millirem annual N.R.C. public limit from all pathways. 25 millirem a year E.P.A. release limit, which is incorporated into our regulations from discharges. 3 millirem a year, which is in the O.D.C.M., which is part of the site's licensing basis. And then the 0.011966 millirem, which was the calculated dose to the public from liquid releases in 2021.

That's all I have for you today. Thank you.

CHAIR CONGDON: Thank you, Katherine.

I'd now like to -- well, before I turn to E.P.A., does anyone on the D.O.B. have any

questions for Katherine?

Yes, Senator?

SENATOR HARCKHAM: Thank you very much. Thank you very much for coming. Good to see you here. Thank you for your public service, although --.

MR. KACZMAREK: Senator.

SENATOR HARCKHAM: Yeah.

MR. KACZMAREK: There's a switch on the top.

SENATOR HARCKHAM: There we go. All right. Sorry about that. Thank you.

MS. WARNER: You still had better luck with your microphone than mine.

SENATOR HARCKHAM: Thank you. Well, thank you for your public service and I'm glad you're here. But I -- I just want to -- forgive me for being grumpy. You shouldn't have to be invited by the two federal senators from New York to be here. I think the feeling of the community is that-- that people want you here.

And you know, the first thing the N.R.C. did when the decommissioning process started was you pulled your resident inspector. And -- and

you know, I'm just speaking on behalf of the community. I'm not trying to single you out, personally.

But the reason this Decommissioning Oversight Board was started, and people asked me to draft the -- the legislation, and then, negotiated with the former governor to create this was that the community didn't trust the N.R.C. to protect their interests.

So I -- I just want -- I'm not saying that like -- like to be an idiot, but I'm just -- I just want you to know like how the community feels. So when they hear numbers coming out like this, you know, they sound cold and analytical. This is a community that didn't know this dumping was going on for decades. And so you know, this is news to the community.

And, you know, I -- I come from the point of view where no amount of pollution should be acceptable, you know. We've ... So I -- I guess, I'm -- and I'm not trying to make a speech. I'm not. But the question I'm asking you is -- is and -- and you know, for instance, dumping may be the best of a lot of bad alternatives. That -- we may get there.

But as -- as Tom mentioned, and thank you for mentioning this, we need to have conversations with lots of folks with lots of stakeholders. And you -- you cite 1991 standards from -- and then, 1981 E.P.A. standards, four decades old.

There's a lot of new research on the cumulative impacts of pollutants. We are exposed to hundreds of toxins a day. So there may be an acceptable level of one substance. So my question is when was the last time, as an agency, you looked at cumulative impacts? When was the last time you looked at the regulations that are 30 and 40 years old? And how do we know that that -- that those standards are still safe today based on what we know about cumulative impacts?

Thank you.

MS. RALPH: Thank you so much for that. The N.R.C. has technical staff with expertise in this area, who are -- who serve as part of international bodies looking at the effects of radiation and standards committees, et cetera. So we're -- we're continually looking at this issue.

And were we to contemplate any change, that would be considered as part of our rulemaking

process which is open for -- for public input and certainly any member of the public can petition the agency to -- to make changes to our regulations.

And in terms of -- some of the specifics in terms of some recent updates to -- to standards, I'll let Katherine weigh in a little bit of that if you have anything to add, but I think, you know, at a high level, we're looking at this all the time, with our experts sitting in -- in these members of these international groups.

SENATOR HARCKHAM: But I -- I guess, if -- if I just focus on the specific -- focus on the specific question, 30- and 40-year regulations are not worth updating? You haven't -- you haven't learned anything in 30 and 40 years in terms of data that would warrant updating your -- your regulations?

MS. RALPH: So I believe Katherine mentioned in her presentation about a review that was conducted in the 2008 to 2016 timeframe, where we did contemplate change to our regulation, and concluded that the current standards are, indeed, protective of public health and safety.

MS. WARNER: I'd also add that when we take a look at whether or not we need to update our

regulations, we look at if there's going to be a measurable impact to safety. And so far, we have not concluded that that's the case, and that our standards remain protective of the public, occupational workers, and the environment.

DR. BECKER: I'd like to follow up on that.

CHAIR CONGDON: Yes, you can answer. So I'm going to -- I'm going to turn to Supervisor Becker, and then, Susan Spear, and then, Richard Webster has a question online. And then, Katherine. Okay.

DR. BECKER: I just want to follow up on what the Senator said. And again, not personal, as he said. I know you're scientists and you're dedicated and you're doing in your heart what you think is correct. I'm a scientist, too. I'm a physician. And as much as these agencies, your agency, the E.P.A. try to do their best, science changes over time.

So I'm a physician, I'm guided by the Food and Drug Administration. In the last 10 years, drugs that I've taken have been withdrawn from the market even though they went through phase one, phase

two, and phase three studies, and were tested in hundreds of thousands of people. Common examples, you may have heard of, Vioxx, a pain pill, like -- like aspirin or one of the NSAIDs, removed from the market because it caused strokes.

Zantac, been on the market for 20 years, withdrawn from the market because of fatalities and cancer risk. Quinine, Celebrex, aspirin, which was used to prevent heart disease. Now, they thought maybe not -- can't give it to kids either because it causes Reye's syndrome, can't give it to people over sixty-five because it causes strokes, not prevent strokes. The science changes.

And as far as the E.P.A. and other environmental things, a lot of the communities around the country now are dealing with P.F.A.s, which are polyfleoralkylides. This is the stuff that's in Teflon, Scotchguard, all the fabrics we wear to protect us.

Well, when the E.P.A. released it, they didn't know that it was an environmental hazard. Then they came out and started to realize that it was, and they set the limit at 70. And then, when they found that there were cancer risks in the

communities where these P.F.A.s were manufactured, they lowered the level to 40. Now, there's talk about lowering it to four, and that's parts per trillion, not parts per billion.

So the science changes, best efforts. And I'm also a little skeptical, and this is just my judgment, that when a company is asked to monitor one industry in the case of the N.R.C., nuclear power plants, in the case of the Food and Drug Administration, pharmaceutical companies, in the case of the F.A.A., Boeing, they release planes that crashed, and then they admitted later on that maybe they were a little too cozy, and they had to have inspectors onsite.

So I'm a little skeptical. And I think that the science, although you're trying to be precise, and you'll measure accurately and you'll get very specific numbers, sometimes precision and is not the same as accuracy.

And sometimes the things that we do today are found to be different later on. So this -- you know, I'm listening to this. And I'm a strong believer in what the senator said. You know, when you say that this is less than a banana or this is

less than you get here, what you said is true. It's all cumulative.

We can't escape getting X-rays and other medical tests because the risks and benefits that the physician makes are in favor of having tests to prevent and treat diseases. And background radiation, we'd all love it to be zero. It's not -- it's not okay to say this is no worse than background. This is going to add to the background.

And -- or to say that it's worse than being on an airplane flight coast to coast, or 15 minutes in the air. This is in addition to it because people are going to take plane rides, and they're going to drink the water. And there are seven communities to the north of us who get their drinking water.

In fact, either -- so I think if you ask me what I would like to happen, and what the outcome would be, but not to say not to do this, believe it or not, I'm not necessarily against it. I want to pause. I want to take a year, at least, to come up and see if there are other ideas.

We heard about the four ideas, you know, you -- you can't boil it or evaporate it, you

know, but you can't ship it elsewhere because there's no place else to ship it. But I do believe that there are other alternatives, perhaps that we haven't thought of yet. I don't understand why it can't be shipped out to sea and left deep in the ocean, where it's going to end up anyway if the river was really a river. But it's not. It's tidal. It goes back and forth.

So I think we need to have a timeout, a period of a year. If, after a year, there's no better solution found, and -- then, maybe we do it. And after a year, maybe there's a way that we can add to the dilution process, so it's even less toxic. Maybe we do a little each year. And the delay not only is helpful in giving us time to ponder and consider and come up with better alternatives, but it allows the nuclear material to decay. There is no harm in -- in waiting. There is no gun to anyone's head. If it costs more money to do it, so be it. Let the government give them more money.

There is no rush to do this now. And -- and I think -- I'm going to end now, because I know I'm taking too much time. But I think the optics of this are very important. The public does

not trust this and that is a very important factor.

The public needs to have trust that there are safe -- that there is no alternative to this or that this is the best alternative. And I think this was the mistake the nation -- I was like one of the first lineup to get a vaccine. But the public was never convinced of it. And because of that, I think millions of people died and didn't get their vaccinations.

I think if we take time and study it, we can come up with a solution. Again, time, that's all I'm asking for. Thank you.

CHAIR CONGDON: Susan?

MS. SPEAR: Thank you so -- thank you so much for the information. I have -- two quick questions. First one is when you determine the allowable exposure, is that based on an adult man, or is that based on female, children, and how would it be different in terms of the size of an adult man versus a child?

MS. RALPH: Katherine, would you like to take this one?

MS. WARNER: I got this. So the international standards that are dose limits are

based on -- is based on what's called reference man and reference woman. However, it's stated in there that they believe that these recommendations, which we put into our regulations as limits, would also be protective of other populations.

Further, when we talk about the effluent limits, like the limits for releases of liquid and gaseous into the environment, the N.R.C. also reduced those by a factor of two, so by 50%, to also take into account any different effects for age and different populations.

MS. SPEAR: Thank you. Second question, do you know why the N.R.C. exposure limit is different than the E.P.A.'s? You're at 100 and the E.P.A. is 25.

MS. RALPH: So I'll let Katherine again provide a clarification. There's slightly some nuance here to -- to what the limits are characterizing.

MS. WARNER: So I would let E.P.A. speak to their limit, but I would say for our limit, the 100 millirem, that is the limit from all pathways. So that's direct radiation, ingestion, inhalation, all those kinds of things have to add up

to be less than 100.

I do believe that this -- the 25 millirem is due to liquid discharges. That's what it stated on my slide. I would let them talk to their numbers. Thank you.

CHAIR CONGDON: Richard Webster is online, virtually. Richard, do you have a question?

MR. WEBSTER: Yes, thank you, Tom.

Just a quick question, what are the -- what are the basis of these limits and what are we trying to get underneath? Is -- is it a cancer risk that we're trying to get underneath? And similarly for as a cancer risk for -- for -- for whom, so is there a -- is there a male cancer risk, a female cancer risk, reproductive health cancer, or reproductive health risk? What -- can you give us what's underlying these -- these millirem per year exposure numbers?

MS. RALPH: So I can take that. At a high level, our regulations are designed to provide reasonable assurance of adequate protection in public health and safety. So that is from all known health effects of radiation to all populations. So we set the limits to protect all members of the public to

provide that reasonable assurance of adequate protection.

Do you have anything to add?

MS. WARNER: When we took a look at promulgating or creating these regulations and were implementing these I.C.R.P. recommendations, those recommendations did take a look at health -- health risks and cancer effects.

And so with the limits in place, there's two kinds of effects that you can have from radiation. One is called non-stochastic, so that is physical effects to the body. And those would have, say, a threshold like cataracts or anything -- if you think of the atomic bomb survivors, that -- those are the kind of non-stochastic effects.

Our limits are well below what any of those kinds of effects would be expected. So we're really talking about cancer risk. That's what it's called stochastic. I know I'm using some technical terms and I can explain any more if need be.

But when they take a look at these potential cancer risks, they're trying to set them at a lower level. And we took into account what the I.C.R.P. said at the time and we believe that it

still continues to be protective.

Also, when we looked at promulgating these regulations, we looked at what would be safe in our industry versus other safe industries from like an OSHA perspective, so we tried to take a look at it from that perspective as well.

CHAIR CONGDON: Thank you.

MR. WEBSTER: Right, but I still don't really hear an answer. I mean, I hear a quote from the -- from the ... that is the agency's remit, I understand that. But my question is at what level, is it ten to minus six risk, ten to minus four risk, you know, given each -- each exposure, how does that translate to -- to a cancer risk?

MS. RALPH: Bruce is on the line. Do you have a --?

CHAIR CONGDON: Bruce from N.R.C., you might need to unmute your line.

MR. WATSON: Yes, this is Bruce Watson from the N.R.C. -- N.R.C. headquarters. The limits take into account that there is a minimal risk of cancer based on radiation exposures within the limits.

So the occupational exposure limit of

5,000 millirem takes into the accumulative account that if a worker would work for a lifetime at that level, and that -- at that -- at that point, his risk would be -- of cancer would be insignificant.

But -- and so we're looking at effluent releases and also at releases to the general public, which are well below those. And those would also be in line with a minimal effect of cancer risk, if existed -- if it was to be existent at this point.

So we're talking of, you know -- as Mr. Webster mentioned, we're -- we're talking minimal levels along the lines of one in a million, one in ten million, one in a hundred million. So the cancer risk is extremely low, especially when it comes to environmental issues. So thank you.

CHAIR CONGDON: Thank you, Bruce. I'd like to try to get to two more questions, and then, we need to move on to the E.P.A. presentation, so Catherine Borgia?

MS. BORGIA: Thank you. A lot of my questions have been answered, but I want to make sure that I understand something on your summary chart. So could you explain to me, please, the difference between the 620 average public dose per year and the

100 annual N.R.C. public dose limit?

MS. WARNER: I'll -- I'll take that. So the 620 millirem a year is what the National Society determined was what the average person is getting a year just by being alive.

MS. BORGIA: Right. So why aren't we more concerned that -- that is so much higher than the dose, the 100 millirem that you're saying is the effect -- is a safe effective dose, because it seems to me that the -- if the -- if the change in society, for lack of a better word, now gives people this higher level of risk from 1981 or 1991, that -- that the additional, it -- it seems like there's a big change then to say another hundred can be safely layered on to what a normal person would get.

So I guess I'm curious about when you did this review of the -- the 2008 to 2016 review of what the standards were going to be, did you take into account the fact that people's exposure had gone up so much in the intervening decades between 1981 and 1991 and today?

So was that cumulative external, the fact that more people are flying or have radiation risks because of medical tests, or all the other ways

that we might have radiation risks? Was that part of what you looked at when you said, okay, the -- the standards are still okay.

MS. RALPH: So I think -- we're not saying that the -- that that 600 number went up, that that was at the time, the -- the postulated average. We --we don't have an estimate for an earlier average dose, your annual dose.

MS. BORGIA: I don’t think that's what I'm asking. I think what I'm saying is if you have this average dose, and let's assume that a -- that's a correct dose for what people are exposed to now, because of the way life is now. My question is did you look at the fact that that might be different today than it was in 1981 and 1991, when you were evaluating the regulations?

MS. RALPH: I'll let Bruce take this one.

MR. MARSHALL: Yes -- yeah. Bruce, do you mind answering that one for us?

MR. WATSON: Sure. You know, the -- the 620 millirem is the average of existing here on the planet. So living here on the planet, you're going to be exposed to a variety of things from

natural background. I think Katherine touched on radon. There's other issues, other exposures that we'll all get, whether they're from average medical exposures, from medical procedures to, you know, natural potassium 40 in our food supply, such as bananas.

But we continue to look at the 100 millirem and as the potential for increasing the risk of that exposure in comparison to the 620 and as -- so we continuously look at that. We've evaluated that numerous times. We -- it's an ongoing issue.

We also follow the recommendations, as Katherine and company have mentioned, with the International Council on Radiation Protection and the National Council on Radiation Protection.

And I'll just point out one other thing. And I think it was slide two or three that Katherine presented. You know, living near -- near a nuclear power plant will increase your dose by about one millirem per year, which is also consistent with the effluents that we're talking about in this -- in this meeting.

So the incremental risk of going above that background level is kind of inconsequential to

the average background radiation we all receive every year by, you know, existing on the planet. So I hope that answers your question.

MS. BORGIA: It doesn't. It's really a yes or no question, I think. The -- the question is did you take into account, when you chose to say, after this pretty extensive review, if it was 2008 to 2016 that's a -- that's a long number of years.

Did you take into account the fact that people's baseline radiation exposure might have increased? Was that a factor in the -- whether or not you say the -- your regulations need to be increased? That's -- that's my question.

MR. WATSON: I would have to answer the question with yes, we have because the actual incremental risk of, you know, being exposed to additional radiation is taken into consideration by all the scientific bodies. And the scientific bodies have -- have demonstrated to us, through their studies, that the science hasn't changed.

So yes, this is an ongoing review and that we take those -- those considerations and their reports seriously. And we -- as Katherine has mentioned our radiation exposure limits are very

protective of the public that -- you know, the environment, and of course, our workers so.

CHAIR CONGDON: Thank you, Bruce.

If we could get --?

MS. BORGIA: Just the one --.

CHAIR CONGDON: Go ahead.

MS. BORGIA: Just one final question and this might -- you can -- you can ding me if you want, Tom, tell me if you want to add -- ask this some other time.

But since you are the monitoring -- since you are our monitoring person, could you explain to us or to me the scheduling of decreasing monitoring that the N.R.C. will -- will do as the decommissioning project goes forward, and when the plant is completely decommissioned, what that schedule will be of N.R.C. monitoring of the site.

MS. WARNER: Sure So to touch on our decommissioning program, we use what's called a risk-informed performance-based approach. So every year, I do certain programmatic and -- and I should say, it's not just me.

We bring in experts and specialists in all different areas like, for example, security and

fire protection, to be able to look at these different things. But we conduct programmatic reviews, and then, also we're taking a look at activities based on risk.

So right now, for -- as I'm sure Rich will go over, they're segmenting the internals of Unit Three. Risk significant activity, we're onsite. Right now we're onsite about a couple times a quarter. We are trying to focus in on those risk significant activities.

And as the site -- as the site continues to decommission, we -- we are able to adjust how much we're on site, more, less based on those activities while continuing to do our programmatic reviews.

MS. BORGIA: Just a very fast follow-up on that. So if something, during the decommissioning process, where to go awry, how do you -- what's the mechanism for you to get called to look at what could potentially have gone wrong?

MS. WARNER: So we have periodic meetings with the site. Right now, we're doing about weekly to get an idea of what's going on, what issue reports, so what things have been reported in to

their corrective action program.

And from those indications, we plan our inspections accordingly based on the risk and any issues identified.

CHAIR CONGDON: Okay. Assemblywoman Levenberg, and then, we'll go to E.P.A. Assemblywoman?

ASSEMBLYWOMAN LEVENBERG: Thank you so much for all the questions that -- a lot of my questions were also answered. I do -- I am still curious how you get to that three millirem estimate. I mean, as who's doing the actual monitoring in the Hudson? Who is actually looking at those numbers? I mean, not looking at them, pulling them.

MS. WARNER: So the framework that we have in place is the N.R.C. originally approved that Offsite Dose Calculation Manual. And that is what gave the licensees -- incorporated those three millirem limit into their license.

And then, the licensee has to take certain samples to be able -- and then, evaluate the dose from the samples from what the concentrations are to determine if they meet that limit.

ASSEMBLYWOMAN LEVENBERG: Okay. So

just to be clear, so Holtec is monitoring Holtec?

MS. WARNER: Holtec is taking the samples, and then, we perform review of the numbers. And that's what gives us confidence.

ASSEMBLYWOMAN LEVENBERG: But they're the ones collecting the samples?

MS. WARNER: They're the ones collecting the samples.

ASSEMBLYWOMAN LEVENBERG: Okay. I just wanted to be clear on that.

CHAIR CONGDON: If I may add to that, we're going to hear from --

ASSEMBLYWOMAN LEVENBERG: Yeah.

CHAIR CONGDON: -- Department of Health --

ASSEMBLYWOMAN LEVENBERG: Yeah.

CHAIR CONGDON: -- later. There are split samples that had been taken throughout the history of the operations that D.O.H. also analyzes on a monthly basis.

ASSEMBLYWOMAN LEVENBERG: Okay.

CHAIR CONGDON: And they've taken monitoring samples out of the Hudson River, as well, which they will speak to. So go ahead.

ASSEMBLYWOMAN LEVENBERG: Okay. But when we're looking -- when you're looking at the Hudson, I guess, is there -- is there an actual way to determine cumulative impact to the Hudson, itself, and what we actually know about long-term impacts to a body of water, whether it be a tributary like the Hudson or anything else? Do we have any type of, you know, solid over time impacts?

MS. WARNER: Okay. So the environmental monitoring program, that's like that sister program that also verifies what the effluent program has -- the numbers are for. And the environmental program was designed to take a look at any of those cumulative effects.

So the site is required to take samples of various media, like water from the Hudson, sediment, and those numbers would help determine whether or not that's taking place.

ASSEMBLYWOMAN LEVENBERG: And is that also two -- two part -- I mean collection? There are two different agencies collecting?

CHAIR CONGDON: Yes, there are -- there is surveillance happening by the Department of Health, which they will speak to at their

presentation, so if we could hold off on that. Were you referring to cumulative -- accumulating -- accumulating toxins, accumulating radionuclides?

ASSEMBLYWOMAN LEVENBERG: Correct, yes, so in other words --.

CHAIR CONGDON: Because Dave -- Dave Lochbaum is on the line and --

ASSEMBLYWOMAN LEVENBERG: Okay.

CHAIR CONGDON: -- and one of the various presentations, he's given us through various slide decks, did a comparison of the historic monitoring data from D.O.H. and from Entergy, prior to Holtec, as well as looking at a different power plant that's on a lake, versus a river.

And you see the cumulative impacts on the lake over the historical reports to the N.R.C., but you don't see that accumulation happening in the river. And that's logical because it's a river.

David Lochbaum, you're on the line. You want to add to anything I just said about your analysis?

MR. LOCHBAUM: No; that -- that was the reason I looked for the sampling results that Katherine spoke to earlier, was to see if the amounts

that are being released annually are below the limits but are they bio accumulating or otherwise causing more harm down the road?

And the data just didn't show that, as opposed to the lake in Kansas, where it was steadily climbing towards the 20,000 picocuries per liter drinking water standard over time.

ASSEMBLYWOMAN LEVENBERG: The only thing I would -- just wanted to add is that, you know, to sort of echo the senator and supervisor's comments, I think that, you know, we've seen these cozy relationships over time and, certainly, that's something that the N.R.C. has been known for. And I think that that taints the process in terms of collection of sampling.

And I'm glad to know that there's -- that there is another, you know, agency that's also been looking at this. I think that's important that we have that information. But also, you know, in terms of level setting, I think that, you know, we've heard from some other experts about what that level setting really looks like.

So I think that's something that would be worth digging into a little bit more, maybe

separately, where we can really look at the impacts that we're hearing about tritium and get some answers to questions that have been asked in the past at this table.

CHAIR CONGDON: I -- I think I understand and I totally agree with the perception that's out there about Holtec taking its own sample and reporting it to the N.R.C. And I think that's been something we've heard loud and clear as one of the gaps, right.

And -- and the State has talked to the Department of Health. We've talked to Holtec about our desire to get our own sample in our custody at our lab at the state and verify what is in the tank before the discharge occurs.

And they have agreed to that. We're still working out all the details, especially as an -- a going-forward basis for all the batches. So that's still work being worked out, but at a baseline, we're going to get in there, get the test and the analysis done before any discharge happens. And it'll be independently verified by the Department of Health.

So with that, I -- I would -- we're

way behind schedule, which is typical. So it's because we have good discussions and good questions.

Alyssa Arcaya from the Environmental Protection Agency, are you still with us?

MS. ARCAYA: I am here. Can you hear me?

CHAIR CONGDON: Yes, we can. Thank you very much for your patience. Please go ahead.

MS. ARCAYA: So thank you to the Decommissioning Oversight Board for asking E.P.A. Region Two to participate here tonight. I'm Alyssa Arcaya and I serve as the deputy director of the water division at E.P.A. Region Two.

Region Two serves New York, New Jersey, Puerto Rico, the U.S. Virgin Islands, and eight federally recognized Indian nations. And I'm sorry that I can't join you in person this evening, but I'm pleased to have the opportunity to participate virtually.

I'm here tonight to briefly discuss the water regulatory landscape surrounding Indian Point and clear up some points of potential confusion because the question of which agencies are responsible for what here can be confusing.

And before I get started, I'd just like to clarify that E.P.A. does not have a direct role in regulating Indian Point. And I'll get into some more detail about that in a moment.

Next slide, please. So the four things I'll cover in my brief time here tonight are, first, the role of New York State D.E.C. and E.P.A. in implementing the water permitting program authorized by the Clean Water Act called NPDES.

Second, clarification on the role of E.P.A. versus the Nuclear Regulatory Commission, or N.R.C., on radio -- regulating radioactive materials in wastewater. Third, clarification on E.P.A.'s regulatory authority over radioactive materials under the Clean Water Act, versus the Safe Drinking Water Act. And finally, explaining a few key differences between the situation here at Indian Point, versus the Pilgrim Nuclear Power Station in Massachusetts.

Next slide, please. So first, New York, like many other states, is authorized to implement the National Pollutant Discharge Elimination System, or NPDES, permitting program.

The name and the acronym is a mouthful, but essentially and, as many of you know,

the NPDES permitting program addresses water pollution by regulating the discharge of pollutants to the waters of the U.S.

The NPDES permit program was created by the Clean Water Act and is authorized to many state governments by E.P.A. to perform permitting, administrative, and enforcement aspects of the program.

And as most of you know, in New York, New York State D.E.C. is the permitting authority for the NPDES program. And since the permits they issue are state permits, in New York, the program is called the SPDES program, or the State Pollutant Discharge Elimination System Program.

E.P.A. retains an oversight role over authorized state programs. So what does oversight look like? We conduct periodic reviews of overall -- overall program health, ensuring that the state programs meet all Clean Water Act requirements. We review and comment on certain draft state permits and sometimes identify issues that must be resolved before the permit is finalized. We also provide technical assistance and training to state programs.

Next slide, please. Secondly, I'd

just like to touch on the role of E.P.A. versus the N.R.C. when it comes to effluent discharges. And this has been covered several times tonight already. The term pollutant, in the Clean Water Act, excludes radioactive materials which are regulated by the N.R.C. under the Federal Atomic Energy Act.

And for this reason, NPDES permits issued by E.P.A. and SPDES permits issued by New York State D.E.C. do not regulate these radioactive materials. But water stored and used in nuclear power generating facilities does contain Clean Water Act regulated pollutants and these are the focus of New York State D.E.C.'s SPDES permit to Holtec.

So I'll just note that in her presentation, Katherine Warner of the N.R.C. referred to E.P.A. standards, which are part of our Air and Radiation program. And I'm here from our Water Program and so I can't -- I'm not going to be able to answer many specific questions about these standards, but I just want to clarify that they -- the presence and the existence of those standards does not give us jurisdiction to regulate radioactive discharges under the Clean Water Act.

Next slide, please. So as I mentioned

a moment ago, under the Clean Water Act, E.P.A. does not regulate the discharge of radioactive materials to surface water because it is the purview of the N.R.C. But E.P.A. does have a role in regulating certain radioactive substances under the Safe Drinking Water Act, specifically under a drinking water rule called the radionuclides rule.

The Safe Drinking Water Act authorizes E.P.A. to set national health-based standards for drinking water to protect against both naturally occurring and human-made contaminants that may be found in drinking water.

We do this, in part, through national primary drinking water regulations, which set enforceable maximum contaminant levels, or M.C.L.s, for certain contaminants in drinking water.

The E.P.A.'s radionuclides drinking water rule has established a standard for beta emitters, a group of contaminants which includes tritium, of four millirems per year, you've heard before tonight. And for tritium, this corresponds to a derived level of 20,000 picocuries per liter.

However, this role that E.P.A. has under the Safe Drinking Water Act does not translate

into an authority for E.P.A. to regulate radioactive discharges under the Clean Water Act for wastewater.

And finally, I should mention that, under the Safe Drinking Water Act, most states have been approved for something called primacy, meaning the authority to implement and enforce the Safe Drinking Water Act within their jurisdictions. In New York, the New York State Department of Health is the primacy agency for drinking water.

Next slide, please. So now that we've covered these issues, I'd just like to touch on the differences between what is happening here with Indian Point and what is happening in Massachusetts with the Pilgrim Nuclear Power Station. As many of you know, the Pilgrim Nuclear Power Station in Plymouth, Massachusetts is also in the process of being decommissioned by Holtec.

E.P.A.'s Region One office, which is in Boston, is playing an active role with the Pilgrim facility and this has caused some confusion and raised some questions about E.P.A.'s role and, in turn, New York State D.E.C.'s role in permits for Indian Point.

So I'd just like to note a couple of

things. First, unlike in New York State, Massachusetts is not authorized to implement the NPDES permitting program. Because of that, E.P.A. issues the NPDES permit to Holtec. But as we know in New York State, New York State D.E.C. is the permitting authority.

Second, just like New York State D.E.C.'s permit to Holtec, Region One's NPDES permit to Holtec does not regulate radioactive discharges, but rather other possible contaminants covered by the Clean Water Act.

The permitting timeline with the facility -- the Pilgrim facility is also different. Region One issued the current NPDES permit to Holtec in 2020 for the Pilgrim facility. NPDES permits have a five-year permit term, so it is an active, or as we call it an effective, permit.

The New York State D.E.C.'s SPDES permit to Holtec was issued in 2017. So we're now past the five-year window of the permit term. But because Holtec applied for a permit renewal in a timely manner, the SPDES permit is now what we call administratively continued, or as New York State calls it SAPA extended.

And the difference is significant because, under the Clean Water Act, we can modify or change an active or an effective permit, but not an administratively continued one. So both Region One and New York State D.E.C. are working on permitting actions for Pilgrim and Indian Point, but the Region One action is a permit modification, while New York D.E.C. is working on a renewal permit.

So now that we've covered this, so what is happening at E.P.A. Region One? When Region One issued their NPDES permit to Holtec in 2020, they drafted the permit so that it would cover discharges related to the operation, but not the decommissioning of the facility.

Why did they do this? At the time the permit was drafted, Region One did not have sufficient information about the non-radiological pollutants that would be released during the decommissioning process, including from the spent fuel pools.

This is because the permit renewal application did not include sufficient information on the nature of this and other waste streams during decommissioning.

So Region One included a permit condition that prohibited the discharge of effluent from spent fuel pools. Region One will address decommissioning discharges via a permit modification. Holtec has applied for this permit modification and Region One is in the process of reviewing these materials now.

These materials will include a detailed characterization of the pollutants in the spent fuel pool water, which is critical for E.P.A. Region One to be able to draft a permit modification that meets Clean Water Act requirements. But again, neither the current program permit, nor of the permit modification, if it is issued, will address radioactive discharges.

In contrast, the New York State SPDES permit to Holtec does not include this key prohibition on spent fuel pool discharges. I know New York D.E.C. is in attendance tonight. So I won't speak about the permit for which they have so much expertise.

But this key provision impacts how both agencies, E.P.A. Region One and New York State D.E.C., have communicated with Holtec about the

decommissioning discharge.

So I just wanted to, again, thank the Decommissioning Board for inviting us to share these clarifications about the federal E.P.A. and state rules of play here for the water discharges from Indian Point. Thanks very much.

CHAIR CONGDON: Alyssa, thank you very much. And can I confirm that you'll be able to stay on for the Q and A? I -- I'd like to allow the state agency presentations to go next, and then, we'll go to a Q and A?

MS. ARCAYA: Yes, I can stay until the end. Thank you.

CHAIR CONGDON: Thank you very much.

Next up we have Alex Damiani from the New York State Department of Health. Alex?

MR. DAMIANI: Thank you. How's that?

CHAIR CONGDON: That's better.

MR. DAMIANI: Okay. Thanks.

Thank you for the invitation to come here tonight. I appreciate it. And what I would like to discuss is the New York State Department of Health's radiological surveillance program that we conduct.

Now, this is a statewide program. We do it around the state at a number of sites, but what I'm going to go over are just a few of the points we -- we collect data at here, around Indian Point.

So if we look at the map, you'll see there are four blue dots. We actually collect only three of those at any given time. We -- we had one at the intake originally, one at the point of discharge, and one at the, I believe, the Verplanck marina.

Once the plant shut down, we switched that intake point up to Roseton, which is, I had it on the map 20 miles, but that's as the crow flies. If you do what's called river miles, I believe it's closer to like 30 to 35 miles. So there's a lot of water between -- between here and there.

We also -- not that they're as relevant to this discussion, we also collect an air sample, as well as three T.L.D. sites, or just ambient gamma radiation. And those were more relevant when the plant was operational, but -- but not something we -- we have seen anything on in any case, right.

Next slide, please. So the Department

of Health's laboratory does perform a comprehensive radiological analysis of these water samples. This analysis includes tritium, gross alpha, gross beta, and gamma-emitting radionuclides.

Samples taken at the point of discharge in Roseton are composite samples of water that are representative of the contaminant levels throughout the month, whereas the Verplanck is a grab sample.

And all of this data, if you want to look at it, is on Open Data, right, everything can be found there. There's a link on the D.O.B.'s website to the Open Data in the New York State Health Department's Open Data site.

MR. DAMIANI: Next slide, please. So the tritium measurements near Indian Point, results, you know, just to be clear, we've been through a lot of units here. We've talked about radiation dose. We're talking here about a concentration, right. So we're looking at an amount of radioactivity in a given volume of water. And the way we measure that is picocuries per liter.

When we look at those numbers, the only isotope that has ever resulted in any sort of

above-background readings have been the monthly tritium numbers. And just -- okay, so what is background?

I -- I think Katherine might have mentioned it, but just in general -- we'll -- we'll put -- to put it very simply, background is just that level of radioactivity which is seen at unaffected locations around the state. We can -- we can use that as a characterization of it.

So most of our tritium results are consistent with measurements taken at the background. They're -- they're -- they're generally, you know, background levels. However, we do find about a quarter of them are elevated. And those are principally ones at the point of discharge and a few at the -- at the Verplanck Marina.

Okay. So if we go back to the maximum contaminant level -- maximum contaminant limit of the E.P.A., the drinking water standard is 20,000 picocuries per liter, right. And that's -- that's what we -- we look at.

The highest result we've ever seen in the past 15 years of operation has been this 3,800 picocuries per liter, which was at the point of

discharge. So that's roughly 20% of -- of the M.C.L., right.

Next slide, please. So where are we going from here? Well, as Tom mentioned and -- and -- you know, others here have mentioned, we are working with Holtec to -- to do some additional sampling including, you know, the tanks prior to discharge to do a better characterization, a more thorough complete characterization of that.

So we will take those. And we're still working out that timetable and the logistics of that, just exactly how we're going to do this. These samples, again, they're going to be analyzed for -- for the tritium, the gross alpha, the gross beta, fission products, your -- your gamma spec basically. But these also will wind up having samples for some non-radiological hazards. But I'll -- I will let Kelly from the D.E.C. discuss some of that as part of the SPDES permit.

The Department of Health will review these results and we will share them with the Decommissioning Oversight Board and hopefully that information can get posted in a relatively timely manner.

I will note that the lab takes approximately two weeks to do a complete analysis of everything. We can get a few things a little quicker, but for the most part, to do a lot of these analyses, there's a lot of wet chemistry that goes on. So it will take a little while. You're not getting real time results here, for -- for these samples.

So -- and while we talk about this future sampling, this is additional sampling. We're going to keep the surveillance program going. We're going to take the Verplanck sample. We're going to take the Roseton sample. And we will continue measuring at the point of discharge. That will not change.

CHAIR CONGDON: Thank you, Alex.

MR. DAMIANI: Thank you.

CHAIR CONGDON: Welcome to the D.O.B.

Kelly? Kelly Turturro from the Department of Environmental Conservation.

MS. TURTURRO: Thank you, Tom.

So I've talked for a couple meetings about our SPDES permit process. And I'm -- I'm just going to go high -- talk high level about where we

are in that process. There will be more to come in the future, as I've talked about in the past. I also want to hit on a -- a -- a few items that were raised through the E.P.A. presentation.

So as has been mentioned, Holtec operates pursuant to a New York State SPDES permit. That SPDES permit governs non-radiological discharges from the facility. Currently, this -- the existing SPDES permit is SAPA extended. So the SPDES permit expired in 2022 and, because Holtec filed a -- an -- an application within the correct timeframe, that permit has been extended.

D.E.C. received a full application from Holtec at the end of January of this year. Our staff is going through that application and reviewing that application. As soon as we find that the application is complete under our regulations, we will draft a SPDES permit and we will put that SPDES permit out for public notice and comment.

So at that time, the community will be able to review a draft SPDES permit. I don't yet have a timeframe on that, but I will certainly keep you updated, especially at the next meeting.

Just a few things that I wanted to

follow up from E.P.A.'s presentation on. As D.E.C. reviews SPDES permit applications, we review a variety of pollutants that could possibly be in discharges. It -- they are called criteria pollutants and it's a list of about 126 pollutants that -- that E.P.A. has. Those pollutants are reviewed through our application process for any facility.

Secondly, Alyssa mentioned a distinction between the -- the Pilgrim facility NPDES permit and the D.E.C. SPDES permit in terms of how the renewal process goes. And I just wanted to mention that, under D.E.C.'s regulations, the regulations that govern how we process permits, they have timeframes in there. They essentially set the rules of how D.E.C. process --- processes a -- a permit application.

It allows D.E.C to change renewals. So we are able to modify permits when we are going through a renewal process. It's -- it's a small distinction, but I -- but I thought it was important for the community to hear.

And then, finally, in terms of split sampling, as Tom mentioned and -- and as Alex

mentioned, we -- we are working with the Department of Health to participate in the split sampling on the non-radiological side, in terms of the criteria pollutants that I mentioned.

Thank you, Tom.

CHAIR CONGDON: Thank you, Kelly.

And next, we have Lisa Burianek, who is an Assistant Attorney General in Attorney General Tish James's office.

MS. BURIANEK: Good evening. I'll be brief because -- and I -- we're over time from -- off the agenda, yes. I would be getting kicked by Tom if I was sitting next to him. And how often have you heard that from a lawyer, I'll be brief?

The Attorney General's office continues to be committed to help ensure that the decommissioning of Indian Point is safe, rapid, and complete. We have a long history, as Mr. Sipos mentioned, of working to protect New Yorkers' safety, the health and New York's environment during Indian Point's operation.

We repeatedly used our legal authorities to defend D.E.C. permits and also the D.O.S. Coastal Zone Management Act resource

designation from challenges by Entergy, which was Indian Point's former owner.

For more than a decade, we participated and challenged the -- and opposed the relicensing of the Indian Point facility based on public safety and environmental concerns. We negotiated the agreement for closure of Indian Point that led to this decommissioning process that we're talking about tonight.

At the time of Holtec's purchase of the Indian Point facility, we worked very closely with state agencies to -- and -- and Holtec, actually, to work through legally defensible and protective decommissioning conditions for -- and as well as site cleanup that were actually -- they -- they exceeded the regulatory requirements of the N.R.C.

While you've heard tonight that the State does not regulate effluent from a nuclear power plant, there were other things that, creatively, we could do. And those creative things that -- that were really the first of their kind in the United States included heightened financial assurance, management of the trust fund expenditures, and

project benchmarks that were incorporated into the P.S.C.'s 2021 order.

As you've heard already this evening, the State doesn't regulate the effluent. That said, O.A.G., on behalf of the various state agencies that we represent, as well as the people of the State of New York, we continue to work in our role as the State's lawyer to ensure compliance with the existing law, federal and state, and to support our sister state agencies in the safe, rapid, and complete decommissioning of Indian Point.

With that, I'd be happy to answer any questions from the D.O.B. and the public. Thank you.

CHAIR CONGDON: Okay. I know there are a few questions. Thank you very much, Lisa. Thank you, Kelly. Thank you, Alyssa. And thank you, Alex.

Just a quick sort of summary observation from me and then I'll get to some questions. I think there's been a lot of talk about what's going on at Pilgrim, versus what's going on here at Indian Point.

And I want to highlight what I just heard, which is both E.P.A. in the context of

Pilgrim, and D.E.C. in the context of Indian Point are regulating the non-radiological discharge; correct? Alyssa, right? The non-radiological pollutants?

MS. TURTURRO: Yes.

MS. ARCAYA: Sorry, I had trouble coming off mute, but yes, that is correct.

CHAIR CONGDON: Right. Thank you. And -- and the other, I think, perception here in New York is that E.P.A. took a stand to prohibit the discharge in Massachusetts. And that's not entirely accurate from what I heard. It sounds more like there's a permit application pending E.P.A.'s review and the difference there was simply one of timing and a permit that expired, versus here having an a -- a permit that was renewed by timely application.

And so is that -- my -- did I get the understanding correct, Alyssa?

MS. ARCAYA: Yeah. I think that's correct. And I would just add, and I mentioned this, but I'll just clarify that for the Massachusetts's permit, when E.P.A. Region One received the permit application from Holtec, it just didn't contain enough information about the decommissioning process

for them to draft a permit, that also addressed those discharges.

And so the permit that they issued was for the operation of -- of the facility. So it wasn't just a timing issue; it was also about the information that they had available to them at that time --

CHAIR CONGDON: Uh-huh.

MS. ARCAYA: -- to -- to draft a permit. But yes, and it's also a -- a timing issue. That -- that -- that is also true.

CHAIR CONGDON: Thank you.

And Rich, I don't want to put you on the spot. I know you're not the Massachusetts's Holtec representative, but I was concerned to hear that Holtec paused for four years decommissioning at Pilgrim, paused for four years at Oyster Creek. This was announced by Holtec last month.

Can you explain why Holtec paused at those two locations?

MR. BURRONI: Part of the --

CHAIR CONGDON: Mic.

MR. BURRONI: Yes. So part of the reason is because they can't discharge to Cape Cod

Bay, right, they put a pause on. And eventually that led to laying off some of the people at the Pilgrim station.

CHAIR CONGDON: Okay. But you did the same thing at Oyster Creek and you've already did -- dewatered those pools; right?

MR. BURRONI: I wouldn't -- I don't know all the details about Oyster. I don't.

CHAIR CONGDON: Okay.

MR. BURRONI: But I can tell you at Pilgrim, because they can't discharge to Cape Cod Bay, that's why they put the pause in. That's one of the major reasons.

CHAIR CONGDON: Okay. Thank you.

We have some questions?

MS. TURTURRO: There's somebody that might want to speak.

CHAIR CONGDON: I'm sorry. Do you have more to add to what Rich said? This is Pat O'Brien from Holtec.

MR. O'BRIEN: Pat O'Brien, I'm the Director of Government Affairs and Communications for Holtec and cover not just decommissioning but our entire company.

So, yeah, Rich is right. Part of the reason for the delays at Pilgrim is related to water discharge. But really, the other two sites, where they are in the process, a lot of it has to do with inflated costs.

Obviously, we've all seen the effects of inflation, both materials and labor, and -- and honestly, market performance with the trust funds. So we didn't want to lock in those losses. So we -- we have extended those projects out from 8-year -- 8-year timelines originally, to 12-year timelines.

CHAIR CONGDON: Thank you.

Could I -- Senator Harckham, I believe, had a question for the E.P.A.?

SENATOR HARCKHAM: I -- I do. Thank you. And just in -- in the spirit of a news flash, I think the governor is announcing a budget deal now. So many of you at the table will get paid next week. Just thought we would announce that.

Alyssa, a question that -- that for -- for E.P.A., again, similar to the question that I asked the N.R.C. about cumulative impacts and the M.C.L.s. You set maximum contaminant limits per substance, but just very briefly, you know, one study

showed 80% of Americans have the active ingredient of Roundup in their urine. A hundred percent of Americans have plastics in their systems, PFAS, pharmaceuticals, endocrine disruptors, heavy metals.

One study that I was involved in funding showed that the average American, at least in the study group, had 120 chemicals in their system at any given time.

Are we taking into account, with our federal water standards, cumulative impacts, as opposed to just an acceptable substance -- a standard per substance? Thank you.

MS. ARCAYA: Thank you for that question. I -- I appreciate it. And I'll try my best to answer it, but I'll -- I'll also note I'm here from a regional office where our job is to implement the program, and our headquarters office, they are the ones that both develop and -- and revise drinking water rules and M.C.L.s.

So if I -- if I can't address everything in your question, I'll be happy to take this back to our headquarters office and come back to the Decommissioning Board with more details. But certainly, it's an important question, and -- and we

learn more with each passing year, as the science evolves, about health impacts of substances in our environment.

There was a speaker on the Decommissioning Board, earlier, that mentioned PFAS and per- and polyfluoroalkyl substances. We weren't worrying about that 30 years ago. Now, we're in the process of developing M.C.L.s for this.

So I'll just say, in our -- in our drinking water rules, we revisit those standards on a regular basis. So the radionuclides rule is one of E.P.A.'s national primary drinking water regulations. The Safe Drinking Water Act requires E.P.A. to review each existing primary drinking water regulation every six years. We call it the six-year review.

And as part of that six-year review, E.P.A. evaluates any newly available data, information, and technologies to determine if regulatory revisions are needed. And any revision that we -- that we finalize must maintain or increase public health protection.

So you know, reviewing the latest science is part of our regular review of our drinking water rules, but in -- in terms of the specifics

about how we look at cumulative impacts, especially from other contaminants, I would have to get back to you with more details. And I'd be happy to do that.

SENATOR HARCKHAM: Yes. Thank you. I -- I'd really appreciate that because I -- I appreciate the -- that you update your regulations, but unless we're specifically studying cumulative impacts, which -- which there is a growing body of medical evidence to suggest, has an -- can have an adverse impact on human health.

You know, we'd just love to know what -- what the Federal Government is doing in that arena. Thank you.

CHAIR CONGDON: Thank you, Senator.

MS. ARCAYA: Thank you.

CHAIR CONGDON: I believe Supervisor Becker, Mayor Knickerbocker, and possibly Richard Webster online have questions.

So go ahead, Supervisor Becker.

DR. BECKER: Thank you very much, Tom.

My question actually comes from the audience. I've been getting texts and emails, so this is directed at the D.E.C. And I must say Kelly, publicly, thank you for all your help here in the

Town of Cortlandt.

For those who don't know, we had a dusting incident from another company that was putting out gypsum dust into the air. And the D.E.C. was all over it and helped get us to a good resolution. I'm sure that Mayor Knickerbocker would support me in that thank you.

Anyway, the question is did the D.E.C. use a SPDES permit to close the plant, originally, to help during the shutdown? What authority did they use -- what if it wasn't radiological, it had to do with the treatment system. Why was it a problem then, and it isn't a problem now? Why was the permit renewed if the D.E.C. in New York State through the -- thought that the system was safe?

MS. TURTURRO: I will start the answer to that question. And then Lisa and John can weigh in if they'd like.

DR. BECKER: Okay.

MS. TURTURRO: So the basis for the D.E.C. litigation to close the Indian Point Plant was based on both a SPDES permit and a water quality certification. And it took into account and was focused on, not the discharges from the facility, but

the way the facility was pulling water into the facility from the Hudson River.

We had argued that there was an impact on species in the river, and -- and that was the basis of our lawsuit. So it -- it surrounded a -- a water quality certification based on pulling cooling water into the facility and not based on the discharges.

There was a second part of your question that I don't remember.

DR. BECKER: I guess it's why isn't it relevant now? But that may explain it.

MS. TURTURRO: Okay. John or Lisa, did you want to add anything to that?

MR. SIPOS: Just in brief, that litigation, which went on for, I think, you know, 13 or 15 years, as -- as Kelly indicated, it did involve a cooling water intake system, or CWIS, and what was the best technology available to protect fish in the river and also, you know, to -- to -- to ensure that they were not -- not harmed.

And so it was a -- it was really a different aspect. And again, that is set out in the Indian Point Closure Agreement from January 2017,

it's on Riverkeeper's website, and it's Exhibit I to the closure agreement.

CHAIR CONGDON: Thank you.

I believe Richard Webster online has a question.

MR. WEBSTER: Yes. I have a question probably for -- for E.P.A. and D.O.H., which is, you know, I -- I -- I made the very bright suggestion that John was crediting me with of comparing with the 20,000 picocuries per liter standard. But then when I looked to that standard and people point out to me in the community that it's not clear on what basis that standard was made.

I'm looking at an old Scientific American article here, where an expert on risk analysis, from -- of cancers from tritium says it's not a health-based standard, it's based on what was easily achievable.

So I just wanted to get the opinion. Is it a health-based standard or is it not a health-based standard? If it's not a health-based standard, do we have any health-based standards, and do we have standards that protect the most vulnerable of populations?

MS. ARCAYA: I can -- I can -- this is Alyssa from E.P.A. I can -- I think I can address some of those questions. So and I just want to zoom out a little bit from the radionuclides rule or the standard for tritium, and just talk about how we establish M.C.L.s for drinking water contaminants. And I -- I think this may get at some of your questions.

So as part of our process, our regulatory process for establishing M.C.L.s, we first review health effects data. And we use that information to set what's called maximum contaminant level goals, or M.C.L.G.s. So these are -- these is -- these are the maximum level of a contaminant in drinking water at which no known or anticipated adverse health effect on healthy persons would occur. And it also allows for an adequate margin of safety.

And when they -- these are called M.C.L.G.s. When they're developed, they also take into consideration exposure to infants, children, the elderly, and the immunocompromised. So these are non-enforceable public health goals and they consider only public health and not, for instance, the levels -- the limits of detection or treatment technology

effectiveness.

So therefore, they're sometimes set at levels that water systems can't even meet because of technology limitations. So once we have an M.C.L.G. determined, E.P.A. then works on setting an enforceable standard. And in most cases, the standard is a maximum contaminant level or M.C.L., which we've been talking about tonight. And the M.C.L. is the maximum level of a contaminant in water which is delivered to any user of a public water system. And it's set as close to the M.C.L.G. as feasible.

So I think this gets into your question of are these health-based standards or are they something else because the M.C.L. development process does take factors like cost and feasibility into consideration. We also have to look at feasible treatment techniques.

So we -- we look at -- for feasible treatment techniques, we look at the -- the level that can be achieved with the best available technology or treatment approaches. And, of course, the development of M.C.L.s also requires public notice and public engagement for any of you who are

following our M.C.L. developments that's going on right now for PFAS.

So -- so are M.C.L.s health-based standards? Not necessarily. The M.C.L. goals are, and the M.C.L.s themselves also need to take factors like cost, treatment feasibility, and other factors into consideration. But they are set as close to the M.C.L.G.s as feasible.

So that's -- that's for all of our M.C.L.s and that's for all of our drinking water rules. And I'm sorry for getting in -- a little bit into the weeds on our regulatory development process there, but I -- I hope that gets at, at least, some of your question.

MR. WEBSTER: Right. So what's the M.C.L.G. for tritium?

MS. ARCAYA: You know what, I don't have that in front of me, but I will get back to the D.O.B. with -- with that information.

MR. WEBSTER: Thank you.

CHAIR CONGDON: Thank you. Any --

MS. KNICKERBOCKER: Yeah.

CHAIR CONGDON: -- any other questions? Ms. Knickerbocker?

MS. KNICKERBOCKER: I have some questions. So this is for Alyssa. I know we had slides up earlier about the levels in the water. And what I want to understand is the data -- the data that's been collected, is this -- this drinking water standards what comes out of the plant? So after it's processed, goes into the discharge canal, what standard is that -- that at, the water that comes out of there?

MS. ARCAYA: Okay. So -- so as I said before, so my expertise here extends sort of as far as the Clean Water Act and Safe Drinking Water Act. So you know, for -- for our purposes for the drinking water program, we're looking at the -- the point of the drinking water intake and then what -- you know, what is distributed to the public, and is it -- is it meeting M.C.L.s. The N -- the N.R.C. speaker, Katherine Warner, she -- she referred to E.P.A. standards in her presentation that are not part of the Clean Water Act or Safe Drinking Water Act that -- that are part of our Air and Radiation program. And I -- I'm sorry, but I don't have the expertise to speak to what -- what those look like at the point of discharge for a facility like Indian Point.

What our water program is looking at is -- is -- I -- in this case, upstream, for the drinking water systems at their intake and what the -- what -- what the drinking water monitoring data is telling us there.

MS. KNICKERBOCKER: Okay. But what my question was, I was trying to get to was --

MS. ARCAYA: Uh-huh.

MS. KNICKERBOCKER: -- that it has been said that the water is toxic that is being released.

MS. ARCAYA: Uh-huh.

MS. KNICKERBOCKER: So I was trying to get to what was measured and -- and you know, to -- to address that because the level was -- was pretty low of what was measured.

MS. ARCAYA: Yeah. I -- I -- and, you know, I was --.

MS. KNICKERBOCKER: ...

MS. ARCAYA: Oh, I'm sorry. Did somebody say something?

MS. KNICKERBOCKER: No -- no. It was just me. It was -- it was just a question, I think, that -- that needed to get answered for the public.

MS. ARCAYA: Yeah. I was listening in on Tuesday night to all of the public statements and -- and you know, I did hear that, you know, reference to, you know, toxic -- toxic waste in our drinking water. And you know, I -- I -- I will just say, you know, I -- I wouldn't -- I wouldn't characterize the -- the drinking water that meets all M.C.L.s as -- as -- as toxic waste.

The drinking water -- the drinking water that meets all federal and state standards are -- are based on M.C.L.s that are protective of health. And so I just went -- just in speaking about the -- the drinking water program and the -- and what we're seeing in terms of levels of -- of tritium that are well below the M.C.L.s., I -- I would -- I -- I don't think it's accurate to characterize it -- this as -- this as toxic waste in our drinking water.

Like, so I don't know if that -- if that gets at your question?

MS. KNICKERBOCKER: Yes. That's good. Thank you.

CHAIR CONGDON: Any other questions from D.O.B. members?

MR. WEBSTER: Could I just have a

quick follow-up on the --?

CHAIR CONGDON: Richard, I'm sorry, there's one question here that hasn't been asked yet --

MR. WEBSTER: Okay.

CHAIR CONGDON: -- and then I'll -- I'll come back to you.

So Assemblywoman Levenberg.

ASSEMBLYWOMAN LEVENBERG: Alyssa, thank you so much. I just wanted to see if, maybe you already answered this, but how the goal, the M.C.L.G., differs from the M.C.L. for tritium?

MS. ARCAYA: So that question did come up. I think Richard had asked me what was the M.C.L.G. for tritium, and I did say I don't have that number in front of me, but I did promise that I would get that to the D.O.B.

ASSEMBLYWOMAN LEVENBERG: Okay. Yeah, I -- I think just knowing what that differential is would be interesting.

MR. ARCAYA: For sure, I will happily follow up.

ASSEMBLYWOMAN LEVENBERG: Thanks.

CHAIR CONGDON: Thank you very much.

And with that I'm going to turn to the next item on our agenda. I'm sorry? Oh, Richard, did you have another follow-up? I'm sorry.

MR. WEBSTER: A quickie.

CHAIR CONGDON: Yeah. Just go ahead.

MR. WEBSTER: I'm just doing a quick look at goals for tritium. And I see on a -- on the N.R.C. website, it says, the California E.P.A. adopted a public health goal of 400 picocuries per liter for tritium in drinking water. Is that correct?

MS. ARCAYA: So when you say California E.P.A., I -- I think you may be speaking about the state regulatory agency for California.

MR. WEBSTER: Correct.

MS. ARCAYA: So states, both under the Clean Water Act and the Safe Drinking Water Act, are able to adopt standards that are more stringent than the federal government. California has done that in -- in a lot of cases across many environmental programs. And so I -- we -- in E.P.A. Region Two, we -- we don't work with California directly. But I'm -- I guess I'm not surprised to hear that they may have -- have different standards than -- than the

federal levels, and they are allowed to do that.

Primacy agencies can adopt more stringent drinking water standards if they choose. They just have to be as standard -- as stringent as the federal government.

MR. WEBSTER: Right. If I could just editorialize quickly, I think this is one of the difficulties of this area is that the standards that are set vary so widely and I think it's quite confusing for the public.

So could you comment on the basis of the California standard? Is that based on a different basis than the -- than the E.P.A. 20,000 picocuries per liter standard?

MS. ARCAYA: I don't have any background in this. I'd be happy to follow up with E.P.A. Region Nine, that does serve California, and see if I can get that information. I'd be happy.

MR. WEBSTER: Well, let we broaden -- let me broaden the question --

MS. ARCAYA: Okay.

MR. WEBSTER: -- and then have a follow-up, which is -- could we look at all the -- I mean, is it possible to get a -- a survey of

standards that are being used within the U.S.A. and, you know, the basis on which those standards are set? Because I think it's important here to be able to set some standards that people are comfortable with. And at the moment, I don't think we're -- be -- we're -- I don't think we're achieving that, honestly.

CHAIR CONGDON: Well, Richard, I -- respectfully, I think -- I think we -- we have talked about the standard that's in -- in place for New York. And -- and I think that that's a good question, though. What are other jurisdictions doing? Dave Lochbaum actually looked at other jurisdictions and saw a range of standards for tritium.

I don't know, Dave, if you wanted to add to this discussion at all on what you've seen in other jurisdictions?

MR. LOCHBAUM: I looked at the -- worldwide. I didn't look at across the United States, but looking worldwide, only the European Union countries had lower drinking water standards for tritium than United States.

Many other countries had standards that were much higher than those here in the United

States. The 20,000 picocuries per limit is what I'm speaking to.

CHAIR CONGDON: Thank you. Anything else, Richard, or shall I go on to Holtec's presentation?

MR. WEBSTER: Sorry, Tom. I'm sorry to hold you up. That's all.

CHAIR CONGDON: That's okay. Thank you -- thank you. No, I appreciate your questions.

Rich Burroni is here, Site Vice President for the Indian Point site, on behalf of Holtec. We appreciate your attendance. Rich?

MR. BURRONI: Thanks. Is this on?

CHAIR CONGDON: Yeah.

MR. BURRONI: Like Tom said, I'm the site vice president at Indian Point.

Next slide, please. Quickly, the agenda will just compare activities that we've done since the last D.O.B. meeting, which was February 2nd, up through what we plan to do through January 15th, which is the next D.O.B. meeting.

So I'll cover the dry fuel project. We'll have a discharge discussion, vessel segmentation, building demolition, N.R.C. inspections

and activities, N.R.C. severity level four violations, and industry safety information.

Next slide. So briefly on the dry fuel project, the project concludes with all fuel from both spent fuel pools transferred to the independent spent fuel storage installation known as the ISFSI pad, and the protected area fence, nuisance fence, and vehicle barriers system that has to be installed.

So the dry fuel project is projected to be complete by the end of the fourth quarter of this year.

Next slide. With regards to the ISFSI pad, the -- the ISFSI pads, those are actually two right now, it'll hold 127 casks. We've had this discussion in our previous D.O.B. meetings. The initial pad will hold 75 casks. The new pad will hold 52.

Since the last Oversight Board meeting, the vehicle barrier system installation, the construction bid has been awarded and installation of the support structure is in progress. And we also removed the condensate storage tank. That has been removed.

Our projected activities through June 15th, we'll continue installation of the support structure. And then we'll commence demolition of the Energy Education Center Theatre. And I'll discuss that.

E.E.C. and the C.S.T. demo pics, there'll be in the demo section. So within the ISFSI pad, there's a -- there's a building that we have to put in place. We're in the process of doing that construction work. That's on schedule; everything's working fine.

Next slide. From a Unit Two, spent fuel perspective, as I've told you previously, all of the fuel is out of the Unit Two spent fuel pool. Since the last oversight board meeting, we have surveyed the fuel racks and did a visual inspection and verified previous fuel moves and verified where nonfuel waste cans were located.

And then, through June 15th, the Hi-Trac with nonfuel M.P.C. will be loaded in preparation to transport to the ISFSI area. That was actually done today.

We'll transport the Hi-Storm canister to the nonfuel material to the ISFSI pad, and

complete the fabrication of the rack lifting device. We expect a May delivery there, right, and then, we'll start our rack removing from the pool. We'll clean and transport the racks to W.C.S. in Andrews, Texas.

W.C.S. is a Waste Control Specialist. They're a company that we use. And to date, we've transferred approximately 180,000 cubic feet of waste.

Next slide. So when we talked about the fuel racks, this was a model that was used for education purposes in the back of the E.E.C. building, right, so it's still there, we have to remove it. But just to give you a feel for what a rack looks like, there'll be 12 in total and they're all similar to this picture here.

Next slide. So at Unit Three, we've completed the assembly of the Hi-Lift lift and we'll show some pictures following this. But the Hi-Lift is actually a crane that'll allow us to load and unload the casks to remove fuel from the pool. But without this Hi-Lift lift device, it would take us 10 to 12 years to empty Unit Three's pool. This will cut it down from now -- from May 23rd, when we start

until about October 15th, timeframe.

So since that we've commenced the site acceptance test, the N.R.C. is observing that test this week and we'll probably complete it early next week. We finalized procedure development on the operation of the Hi-Lift, and then, projected through June 15th, we'll fuel offload schedule -- scheduled through October. So we'll start the fuel offload process May -- May 25th.

So if you go to next page, top left is the control station for the Hi-Lift. Bottom right is the picture where the Hi-Lift crane is in its maintenance position. So we'll have to change -- it's a series of strand jacks that'll actually lift and remove the canisters themselves. Those strand jacks have to be periodically inspected. So when we put the HI-Lift lift in that position as shown, that's call the maintenance position.

Next slide. So top -- top left, that's the position of the crane that will lower the casks to the bottom of the loading well. And then bottom right is the position of the crane that will lower the cask into the spent fuel pool for loading purposes. And the existing crane that we use or the

existing manipulator we use to load the casks that will remain, right, and that will load the casks themselves.

Discharge discussion. And before I go into the slides, I appreciate, Tom, the -- your upfront discussion on the 45,000 gallons that we did want to take out of the pool. But I will add one thing.

During the meeting, right, Richard Webster asked me -- well, I made the comment that we would start in the August-September timeframe. Richard Webster asked me am I committed to that schedule? Would we lock it in; right? And I said, no.

I said, no, we won't, because there may be some efficiencies that allow us to bring that schedule in. That was the only reason why we wanted to start a little earlier. The number two reason is we have boric acid in the spent fuel pool. That maintains the rods in a subcritical condition. It plates out on the stainless steel liner.

So all we wanted to do was lower the level to start cleaning the boric acid off the stainless steel liner. There was no intent -- there

was no intent to be -- well, I was called a bully, I was called we're trying to circumvent the system. There was no intent of that, right.

If I go back to your opening remarks about safe, prompt, and thorough, that would fall right into that category. And that's all -- the only thing we were trying to do was to get a head start on cleaning the spent fuel pool. That was the only intent.

Enough said. Let's -- let's go to the discharge discussion. Let's go to the next page. A lot of this we've gone through, through various discussions here. We've talked about nuclear power plants discharging treated effluent. We've talked about the Offsite Dose Calculation Manual. But I would like to talk about who uses the Hudson River for drinking water. And I -- I looked this up, right, and it's called the Hudson Seven, right.

And it starts with -- the southernmost municipality is Poughkeepsie. They use the -- the Hudson for drinking water. And then, further north, it's the Town and City of Poughkeepsie, it's the Town of Lloyd, it's the Town of Esopus, and the Town and Village of Rhinebeck, and the Town of Hyde Park,

right.

So the southernmost municipality is Poughkeepsie. Eight miles -- and I have a typo here, so I apologize. Eight miles south of Poughkeepsie is Roseton. And there's a control station of Roseton, where we take a sample of the water, right. And the samples to date verify that we're zero tritium above background.

That sample is also split and New York State also reviews that sample, right. So I just wanted to make it clear that when we say there are seven communities that -- seven communities that use the water, that's true. That's very true. But let's finish the narrative, right, and let's go through the whole explanation that, right, we tested that water eight miles south of it and it's free of tritium.

I talked about collecting samples at Roseton; they're split. And then, we collect effluent -- there's the other thing, too. We do collect effluent samples at the exit of our discharge canal, right. And that confirms our limits are not exceeded. Again, a split sample is provided there, right, and the State takes a split sample, right.

So it's not like we're operating in a

vacuum, right. We give the split samples to the State and they review them accordingly.

And then, Tom, I do appreciate what you said upfront about who signed off on the joint proposal. But here are some of the words out of the joint proposal that I think everybody needs to be aware of. It states all signatories, right, which are the people that you mentioned, right, that the joint proposal is consistent with sound environmental, social, and economic policies of the Commission and State.

It also states nothing in this agreement shall be interpreted as prohibiting or restricting Holtec from complying with any requirements or orders of the N.R.C., New York State D.E.C., any obligation under the Indian Point license, or any other federal or state law or regulation.

Going on further, I know we want some details here. Next slide, because I don't -- I'm sorry. Okay. So approximately 1.3 to 1.5 million gallons remain from the spent fuel pools, refueling water storage tank, and the reactor cavity, the steam generators, waste collection tanks, hold-up tanks.

We need to process and discharge those through our liquid waste processing system.

CHAIR CONGDON: Rich, can I just pause for a second? At the public statement hearing on Tuesday --.

MR. BURRONI: I'm sorry. Repeat that?

CHAIR CONGDON: At the public statement hearing on Tuesday, there was a comment by one of the members of the public that said people are saying it's only a million gallons, what happened, you know, how do we know it won't turn into 40 million gallons, I think was the comment.

Do you want to talk to the finite amount of water left on site?

MR. BURRONI: Sure.

CHAIR CONGDON: Is there more water being produced? Is there a possibility of increasing? So just on this point, I didn't want to lose it. Go ahead.

MR. BURRONI: Right. So there's been a lot of numbers floating around, right. I saw a number about 500,000 gallons. The 45,000 gallons was -- was what we wanted to take out of the pool. So that number is legit, right.

But the 1.3 or the 1.3 to 1.5, 1.34 million, right, is really the R.W.S.T. in Unit Two. That's the refueling water storage tank. And what that will do is that'll be used to flood the reactor cavity at Unit Two when we do vessel segmentation there.

The reactor cavity at Unit Three is already flooded from the R.W.S.T. So those are two 360,000-gallon sources, right, that are in -- that are at the site. And then, the spent fuel pools each have 310,000 gallons, right.

So if you look at that, right, it's 1.34 million. There's about another 100,000 from decontamination drains, equipment drains, chemical lab drains, and flood drains, right. So when you add it all up, there's about another 100,000, right. And that's what we have left.

So actually, it's 1.45 million gallons. I rounded it up to 1.5.

CHAIR CONGDON: Thank you for clarifying.

MR. BURRONI: You're welcome. Right. Each batch release when we do a batch release -- did I make some -- did I say something?

MR. SIPOS: No -- no; it's fine. I'm sorry, Rich.

MR. BURRONI: Each batch release is 18,000 gallons. We sample each prior to release and release permit is required prior to release. So batch releases from the four major sources, that's our tentative -- that's our -- that's our schedule right now.

Unit Two spent fuel pools in September this year. Unit Three spent fuel pool is June of 2024. Unit Three reactor cavity is April of 2024. And the Unit Two reactor cavity is August of 2025.

So upfront you see the R.W.S.T., so that's already been -- in 2025 timeframe, that's when it's in the reactor cavity for vessel segmentation. So I know it's -- I know I have two different sources, but it's really one source.

When I -- when we look at some of the data, the remaining volume to be processed and released is estimated to be no more than five percent of the total volume released from Indian Point between 2010 and 2021.

This is the most recent data. Obviously, this number is much further reduced if we

go back to 1962, when Unit One went first into operation. There is less than 400 curies of tritium, which remains with the sources noted above.

I need a fission process to generate tritium, right? No more fission process, right.

CHAIR CONGDON: In other words, the plant is not operating, there's no further tritium being created?

MR. BURRONI: No further generation of it.

CHAIR CONGDON: Right.

MR. BURRONI: This is 400 curies left. So look at this, though, too. With the plant in operation, right, 1,200 curies per year were generated. At 1,200 curies per year, the dose to the public was approximately one percent of the N.R.C. limits.

The 400 curies left are going to be discharged over a period of years. And again, our ALARA program drives us to be approximately one percent of what the N.R.C. values are. So one percent of three millirem.

So next page, right. So the current -- our current position is this, right. We looked at

Dave Lochbaum's slides, discussed them 2/2. Discharge to the river poses the least public risk.

When we look at independence, right, independence, we have independent labs that look at our releases and they look at -- and they look at our samples. That includes Life Sciences, Teledyne, and Eckert's and Jaeger. Those are independent labs that look at our data.

We did have meeting. I thought was a very constructive meeting with Alex and Kelly, and a host of others, where we talked about enhancing split sampling. And basically, it's a chain of custody thing, right. If you -- if you don't trust us that we're giving you the right water to sample, then come on in and take your own samples, right. And that's what we're kind of look -- looking forward to that.

I think Kelly wants us to look at additional chemicals in the -- from the SPDES perspective. We'll do that. And there's more to follow, we just have to sit down again and go over some more of the details.

Okay. Important point here, too, is past history because we always say, well, we never discharged a spent fuel pool. But we did. We

discharged Unit One's spent fuel pool. That was in 2008. Those radionuclides included cobalt-60, cesium-137, tritium, strontium-90, and nickel-63.

So the radionuclides are essentially the same in Unit Two and Unit Three spent fuel pools, essentially the same. So the total -- total whole-body dose from liquid effluents in 2008, from IPEC was much less than the one percent of the allowable three millirem limit.

So here's the point I'm trying to make. We've already done a spent fuel pool, right. We've already met or exceeded the limits that the N.R.C. gives us. Granted, there's some dilution issues here that we have to work into. I get that, right. But we, still, with the spent fuel pool that we did discharge in 2008, we met all the requirements. We beat all the requirements.

CHAIR CONGDON: Rich, you're saying there are a number of other radionuclides. We're talking -- that's pre-treatment?

MR. BURRONI: Yes.

CHAIR CONGDON: Pre-filtration.

MR. BURRONI: Yes, but they get stripped down. For the most part --.

CHAIR CONGDON: So the cesium, tritium, strontium, nickel, that did not enter that river?

MR. BURRONI: That's correct.

CHAIR CONGDON: That was in the spent fuel pool>

MR. BURRONI: Correct.

CHAIR CONGDON: But then you filtered it out?

MR. BURRONI: Correct.

CHAIR CONGDON: And you were left with just tritiated water?

MR. BURRONI: Correct.

CHAIR CONGDON: Okay.

MR. BURRONI: That's all I have for discharge. For vessel segmentation, we had to transfer the Unit Three head to the Unit Two containment building for space purposes. We disassembled that head and we've shipped it out to W.C.S. So eight waste boxes were loaded. They're ready for shipment.

And then, for Unit Two, we're prepping the inlet and outlet piping of the steam generators to split chemical cleaning. So that's a new

initiative that Holtec has taken on.

We want to chemically clean the tubes of the steam generator, so that we can appropriately ship them to W.C.S. for waste disposal, right. So it's a new technique that we're trying with a company called Perma-Fix.

We're pretty happy about that. It's taken some modifications at the plant to do such thing, right, but that's in progress and it's working out well.

So the next slide just shows how we cut or disassembled the Unit Three reactor head in the Unit Two containment building.

We needed the space. So you can see where it's cut, and then, to the right, the picture on the right just shows how it's loaded in one of the containers.

For the segmentation --.

CHAIR CONGDON: Can I pause there another second? The segmentation?

MR. BURRONI: Sorry.

CHAIR CONGDON: These pictures, that was hot? It had radiological contamination?

MR. BURRONI: It -- the reactor head,

yes, it has --.

CHAIR CONGDON: Right?

MR. BURRONI: Yes, but that was in a tent, right. It was in a tent that was ventilated through HEPA filters, right. And the workers were well protected.

CHAIR CONGDON: That happened under the dome, that work?

MR. BURRONI: Happened under a tent in the containment building.

CHAIR CONGDON: Correct, under -- correct, in the containment.

MR. BURRONI: Dome, that's what you call -- okay, yeah.

CHAIR CONGDON: Yeah, yeah. And under the containment dome?

MR. BURRONI: Yes.

CHAIR CONGDON: Okay. But my next question, when you say it's getting put into the material, that's for shipping out to --?

MR. BURRONI: W.C.S.

CHAIR CONGDON: Right. So that's going to end up on a train and go across the country?

MR. BURRONI: Probably. I'd have to

get back to you on that. We do have a rail spur in Newton, Connecticut.

CHAIR CONGDON: Right.

MR. BURRONI: Where we do road to rail, right, and then, we'll put two or three or four of the containers on a flat -- on a rail car and ship it down to Texas.

CHAIR CONGDON: Okay. Thank you.

MR. BURRONI: Okay. So for Unit Three, we've completed segmentation of the upper reactor vessel internal guide tubes and support columns. I showed pictures of that last February. And then, we've commenced cutting the upper support plate.

There are 16 segmented cuts that are required. We've cut up to 10 right now, 8 was a couple of days ago. So we're doing pretty well there.

Through June 15th, we will complete segmentation of the reactor vessel internal upper support plate and then we'll go into the lower support plate.

New one here is Unit One update. We need to remove a section of the Unit One reactor head

to characterize the vessel itself, just to find out what level of dose that we have. Either it's Alpha, or Bravo, Charlie. So we're doing that. We're going to start that disassembly or that cut through the reactor head next week.

And then, if you go to the next slide, you'll see how we're doing some of this. This is all underwater. All right. It's basically a saw blade that's 72 inches in diameter, right, and it cuts through the steel pretty well. Even the chips that we need to collect are vacuumed. And they'll go into a waste container also. And so it's pretty interesting stuff. If anybody wants to come and see it, feel free to let me know and I will show you.

All right. Building demolition, another topic. Tom, I know you'd like this one.

All right. So since last meeting, we have completed demolition activities on the condensate storage tank, right. We started demolition on the steam generator steam domes. So I'll show you some pictures there. And we're working on retiring and removing internal oil tanks from both Units Two and Three. And those are just oil tanks that supported plant operation.

Through June 15th, we'll complete the steam dome demo. We'll start demolition in the -- in the gas turbine 2/3 yard, which is across the street. We'll start demolition of the Energy Education Center, the concrete structure, because actually underneath that was a -- was a theater that was used as part of the Energy Education Center. But we need to remove that section for the phase four vehicle barrier system that's needed. And that's what I talked about previously.

That's going to -- that wall's going to go through there, right, so that we have the protected area needed for the casks. And then, we'll continue working on retiring and removing the internal oil tanks.

All right. So the C.S.T. demolition here so this is a tank, right, you could see, it's all steel. All right. It was cut in sections, it was collapsed, right, and it was shipped out.

And then, if you go to page 25 -- or slide 25, you could see the final end product of where the C.S.T. was, right, and what it -- and the area that we have now, right. And we'll use that area to store some of the casks themselves.

CHAIR CONGDON: Can you go back a slide?

MR. BURRONI: Sure.

CHAIR CONGDON: I think -- back a slide. I want to emphasize that bottom note on the enforcement permit conditions.

MR. BURRONI: Yes, thank you very much. So we've --.

CHAIR CONGDON: I want to hear you say it.

MR. BURRONI: So we did work with the D.E.C. and the village, right, on the building demo permit, right. And so we guarantee what a building -- building demo permit does not allow us to generate dust beyond the site boundary, right, does not allow that.

If that were to happen, we would cease and desist operation and go back and figure out what's going on, right. But right now, we would not generate any dust past the site boundary.

Thanks for bringing that up. I apologize.

I think Kelly's group did a good job with Holtec and the village, the village building

inspector. And that came out very well.

CHAIR CONGDON: Thank you.

MR. BURRONI: When I talked about steam dome demolition, these are actually the tops of the steam generators when the plant was in operation. So it's a pressurized water reactor, right. In other words, these steam domes, or the tops of the steam generators are clean steel, right.

So it's allowed to -- we were allowed to take it out of containment, we're cutting it up, and going to ship the pieces for the scrap down county, right. So we're in the process of doing that. It's working out pretty well right now.

This is the G.T. substation that's across the street. We're going to start dismantling the gas turbines within there, right, and then, this whole facility will be taken down.

This is the -- next please. This is the concrete structure I'm talking about. It's -- it's -- it's outside of any protect -- it's outside of our protected area. There is an absolutely no radionuclides within this building at all. All right. What we need to do is first separate it from the glass building. You guys -- everybody here, just

about, has taken a tour, right.

We'll separate it or gap it from the glass building, itself, and then, just -- just take it down. All right. And again, so we'll be, obviously, watching dust here. And the -- the -- the normal protocols for water, they'll use water sprays, right, just to cut down the dust, right. And that issue -- it won't be an issue.

CHAIR CONGDON: And Cliff will be onsite.

MR. BURRONI: Sorry?

CHAIR CONGDON: Cliff will be onsite.

MR. BURRONI: I'm sure he will be.

All right. Here's a short- and long-term planning. And what I really wanted to get across here was a couple of things. One, in 2024, that is our projection of what we're going to demo, right. So when you see O.S.B. is the outage support building, the Unit Three E.D.G., or emergency diesel generator building, we'll actually be taking the content and the underground storage tanks out, not any of the structure itself.

The P.C.I. building, which was used to control the circulating water pumps at Unit Three,

that's a -- that's a steel building. The circ pump building -- circulating pump building, Unit Three, again, another steel building.

The polisher building, the same thing. The security building, or the little security facility that we used back in Unit Three, right, so a little concrete structure, it's right by the river front, right. And then the Unit One screen well house, that also is cement -- I'm sorry -- brick and cement. And that's on the river. Right, so that's our projection for 2024.

CHAIR CONGDON: I just want to pause and emphasize how we characterize these buildings. That was a helpful description. We took this list of buildings and also analyzed it on our team for our staff to confirm. None of this is what we've been considering the heavy demolition.

MR. BURRONI: Correct.

CHAIR CONGDON: Right. The thick concrete walls, the containment structures.

MR. BURRONI: Correct.

CHAIR CONGDON: And I want to just stress that point to the audience because that has been one of the major issues of concern, that that

heavy demolition would start before our community air monitoring plan is up and running, before Dr. Lauro is able to get his contractor, get into the B.V. School and do the environmental assessment baseline work.

So I'm just really wanting to emphasize and confirm and hear you say no heavy demolition work will commence at all in 2024.

MR. BURRONI: That's correct.

CHAIR CONGDON: Thank you.

MR. BURRONI: Correct. Now --

CHAIR CONGDON: That's correct.

MR. BURRONI: -- the remaining issues, these major buildings I listed, Unit One, Two, and Three, right, we've been saying all along that the domes will take 10 to 12 years to take down. And I just wanted to emphasize that.

That's really the gist of the three units that you see there and the buildings we're taking down. I think we do have a waterfall chart that we talk about on a monthly basis. Admittedly, we have to get that corrected, right, so it properly reflects the heavy demolition, right. But what I -- what I really wanted to emphasize here was that --

and we've said this all along, 10 to 12 years is when we'll start looking at the domes -- concrete domes.

CHAIR CONGDON: You're not -- be careful with your words, right. You're not starting to look at it in 10 to 12 years. Ten to twelve years is how long it's going to take because you're not using --

MR. BURRONI: Is when it will start -- .

CHAIR CONGDON: -- using explosives and imploding it. It's not a -- it's not -- it's not something is just going to happen.

MR. BURRONI: No.

CHAIR CONGDON: So 10 to 12 years to surgically dismantle these structures?

MR. BURRONI: Correct.

CHAIR CONGDON: ... before it even starts?

MR. BURRONI: At ten to -- after 10 to 12-year period is when we will start the demolition process.

CHAIR CONGDON: And what happens in those 10 to 12 years?

MR. BURRONI: We'll strip out the

building. We still need to --.

CHAIR CONGDON: So all the inside work?

MR. BURRONI: Yes.

CHAIR CONGDON: Dismantling from the inside out?

MR. BURRONI: That's correct, right. We're doing the vessel segmentation, right, that's all part of inside the containment domes.

CHAIR CONGDON: Right.

MR. BURRONI: All right. Now, the other thing, too, is we were very successful using a diamond wire cutting. It was -- was water impregnated to increase the size of the equipment hatch. I showed everybody that, right.

There's a potential we can even use that methodology to take the cement down from the building. I'll tell you another thing. The cement that we've taken out so far is free releasable.

CHAIR CONGDON: Right. When you created the hatches.

MR. BURRONI: Correct. Right. That cement is free releasable. In other words, we can even crush it right now and use it for landfill,

right, and that's what we kind of plan to do, right. So we project that the rest of the containment dome will be in the same condition, right.

So it's a dust piece, we get it, right, we'll wet it down. We'll do whatever we need to do. And if we can use the diamond wire cutting technique, we will, right. But the -- the emphasis here I also want to make is that, from what we see right now, right, it'll be free released.

CHAIR CONGDON: I believe Dave Lochbaum has a question on this. Dave?

MR. LOCHBAUM: Well, Rich, when I was -- when you gave me the tour of the site, last July, I think you mentioned that the American Nuclear Insurers had been in the previous week or recently to look over your shoulders. Has A.N.I. continued to be a monitor or somebody looking over your shoulder to see how things progress?

MR. BURRONI: Yeah, absolutely. During our monthly project status meetings, A.N.I. is on the call. So they look at what we do on a monthly basis. And we have those -- that slide deck that they review. And then, they're -- they're afforded to comment on that slide deck.

They will -- they're also -- they're also scheduled to come to the site. I can get back to you on the date. I just don't know the exact date when they're going to come and do an inspection. But they are scheduled to come. Let me get back to you on the date.

MR. LOCHBAUM: Okay. Thank you.

MR. BURRONI: But answering Dave's question, we still -- we still have A.N.I. on board.

All right. N.R.C. inspections and activities, not a lot has changed much. You talked about, Tom, upfront, about the -- just the Code of Federal Regulations really doesn't fit sometimes with the decommissioning process.

And that's why we submit license amendment requests to -- to comply with what we need to do from a decommissioning perspective. So we're still waiting for the N.R.C. review and approval of the Permanently Defueled Emergency Plan. That's the PDEP, right.

What I want to emphasize there is one thing, right. After August 1st, right, there is not enough fuel -- or not enough energy in any of the fuel in the pools that would force us to do an

evacuation or shelter in place for an emergency plan, right.

So we're still waiting for the N.R.C. to approve our L.A.R.

Granted -- granted, we didn't have an L.A.R. submitted to -- to get the August 1st approval timeframe. We did submit it later the previous year. But we did expect to have it at the end of last year, right. So we're still waiting for that. But I just want to emphasize to the public that from an emergency plan perspective, we would -- we're at a -- we're at a point, the energy in the fuel, where we would not evacuate or we would not shelter in place.

Our emergency plan wouldn't drive us there. That's my point. Sorry?

CHAIR CONGDON: So Rich, please continue.

MR. BURRONI: Okay. That's the rest of the -- the L.A.R.s that we're waiting for. The last three would be ISFSI-only license. That's when all the fuel is out and it's all on the pad. So we're waiting -- that, I can understand we don't have yet but the top four or five -- the top four, we're still waiting for the N.R.C. to approve.

On the bottom is the N.R.C. inspections that are done. We could see from March, we had one. April -- yes, so April, and then, right now the N.R.C. is on site doing a HI-Lift acceptance testing. And then, in May, we'll do a P.I. and R, problem identification and risk assessment, right. So the N.R.C. is actively doing their investigations and assessments.

We -- unfortunately, we did have two violations from the last quarter -- from the last quarter. All right. One of them had to do with a tank that was leaking. In a nutshell --.

CHAIR CONGDON: What was leaking?

MR. BURRONI: There was -- it wasn't leaking. Well it was -- it was -- so it's a tank, it was a waste holding tank, right, that we had defective level transmitter on it. And so what happened was the effluent that was going into the tank, because the level transmitter was defective, leaked onto the floor.

Leaked onto the floor and it went to an adjacent room where there's a sump pump. And that sump pump was designed to get the effluent and pump it back to the tank. So it was rotating in and out.

N.R.C. believed -- so what we needed to do was take a survey, right.

N.R.C. -- we took the survey in the adjacent pump room, right. N.R.C. believes by -- by regulation, that we should have taken the survey in the tank room, itself. And we did not do that. So that was the source of the violation.

CHAIR CONGDON: So the survey is meant to measure the radioactivity left behind by the -- by the overflow?

MR. BURRONI: Right.

CHAIR CONGDON: Correct.

MR. BURRONI: So our position, right, that -- well, in this case, it wasn't. Our position was the effluent that you saw in the adjacent room was just as good as the effluent that was in the pump room.

CHAIR CONGDON: Okay. And was the source -- was the source of the overflow from the pump room?

MR. BURRONI: No.

CHAIR CONGDON: The closest place to the discharge was the pump room?

MR. BURRONI: Say that again?

CHAIR CONGDON: The water that overflowed --

MR. BURRONI: Yeah.

CHAIR CONGDON: -- where did it go first?

MR. BURRONI: It overflowed on the floor of the pump room.

CHAIR CONGDON: Right.

MR. BURRONI: Of the tank, I'm sorry, then migrated through the floor to the pump room.

CHAIR CONGDON: Okay.

MR. BURRONI: Right, which is an adjacent room. In fact, I put a little sketch there. The little sketch is on page 35, slide 35. It's up there now.

The other thing, too, is we had declared that the tank was a high-rad area. So from a dose perspective, my R.P. people believed that the sample and the survey they took in the adjacent room was as good as the sample and survey in the tank room.

N.R.C. disagreed. We accepted the disagreement and they wrote the violation. However, it's important to note that when you read the

violation, right, the N.R.C. issued a -- and this is on page 34. It says, the N.R.C. issued a severity level four non-cited violation, noted to be a relatively inappreciable potential safety consequence.

The other thing I think we need to stress is that none of this leakage left the building, right. And then for some reason, my understanding was, when this report got issued, right, it leaked to the public, people thought that we leaked effluent outside the building.

And unfortunately, from what I understand, 16 families took their kids out of the B.V. school. That's shameful to me, right. Obviously, we shouldn't have had the violation, but at the same token, if we want to characterize this to the public, we need to characterize it correctly. And there was no leakage outside the building. And that was confirmed with our ground monitoring system.

Next slide talks about another violation we had, really had to do with our fire protection system.

MR. KACZMAREK: Rich, can you -- can you just confirm which next slide you're referring?

MR. BURRONI: I'm sorry; who's talking?

MR. KACZMAREK: Tom K. Over there.

MR. BURRONI: Oh, I'm sorry, Tom. Thank you. I'm on slide 36.

And really what happened is we failed -- we failed to perform an underground fire loop flow test. Really what happened was we had a material condition on -- in the system that prevented us from finishing the procedure.

What we should have done at that time was enter the incomplete test in our corrective action program. And we didn't do that. Human performance error, we talked to the guys. They understand the mistake. However, at all times, we did have contingency measures in place that if there were a fire in another location, we would be okay.

We also corrected the pipe. And again, if you look at the words on page 37, the N.R.C. position was, again, evaluated as a severity level four non-cited violation. And again, we talk about inappreciable potential safety consequence.

This one was all on us. This one, we should have written the -- the condition report once

we didn't finish the test, right And that was a human performance error, like I said, and then we talked to the individuals.

Last, but not least, is our safety slide. We go over this, this safety triangle on a -- on a monthly basis, with New York State representatives, the N.R.C., Westchester County, A.N.I., a host of people, right.

So unfortunately, on the 28th of March, a supplemental worker's finger did get pinched while securing a fuel cask to our vertical cask transporter. It was a lost time OSHA. I'm pretty sure we classified that as a personal error. He didn't follow his procedures, right. So we coached the individual.

Then on April 5th, a supplemental worker damaged the roll-up door by striking it with a mobile lift vehicle. That was classified as a vehicle accident. We had a thorough discussion on that today.

Again, a personal error, the roll-up door wasn't fully in the upright position, so we're working on some of that, too, and as the reason as to why I was in it -- why wasn't it all the way up.

And then, on the 11th, a supplemental employee got dust -- dust in his eye even though he was wearing the P.P.E., but he had a half face respirator. So when he had the half face respirator pushed up the goggles on him, and he got some dust in his eye from the activity he was doing. So we're looking at a different set of goggles to use when you have a half face respirator -- half face respirator. And so that was the last injury issue.

If you look at the bottom of the triangle, talks about dose. So year to date, it's 23.29 rem to the -- to the team with a goal of 52.7 rem. And this is dose to the general public within the plant. These are dose to plant workers, right.

And then an I.P. three year to date, it's 9.7 rem with a goal of 54. We had zero P.C.E.s, Personal Contamination Events. We've had zero this year.

That concludes my presentation.

CHAIR CONGDON: Thank you, Rich.

So -- so before I turn to the D.O.B. members, if they have any questions for Rich, I want to do a time check. We are late. We're running late by 23 minutes. We want to get to as many speakers as

we can in the public statement hearing portion, which will be next.

So I ask that the D.O.B. members keep that in mind if they have questions, make them quick for Rich. Any questions?

SENATOR HARCKHAM: Yeah.

CHAIR CONGDON: Yes, Senator.

SENATOR HARCKHAM: Thank you. Thank you. I promise I'll be -- I'll be very quick. Rich, thank you for your presentation. You know, these are -- these are very helpful. You know, because it's a mystery to people what goes on inside the plant behind the -- the fence. So I -- I thank you.

I -- I also want to thank you for -- for putting the -- the August discharge on pause. You know, you -- you get a lot of slings and arrows here. And so you should -- you should hear thank you when you do the right thing. You know, I -- we need a lot more discussion, as -- as was mentioned, but I -- I think this -- this is a good opportunity for everybody.

Before I ask my question, though, in the spirit of slings and arrows, I -- I want to say, you know, it's not helpful to the process when I get

calls from labor leaders who I've worked with for many, many years, saying, Pete, Holtec's telling us if you don't stop talking about the water, they're going to have to lay us all off. It's -- it's just not helpful.

Okay. I'm not saying you said that. Okay. But I've gotten calls from two different labor leaders, people I've known for years. And -- and when we do all this work, it -- there are a lot of things we balance. It's -- it's the economic vitality of the municipalities in the school district, it's labor, it's the safety of the community, it's the safety of the environment. It's the timely -- it's all of these things.

And just because we're having a discussion, and a difficult discussion admittedly, you know, I hope we don't have to go to those places that are not ... So enough said.

Question for you if -- if I may.

CHAIR CONGDON: I thought that was the question.

SENATOR HARCKHAM: No -- no. That -- that was the sling and the arrow. The -- the -- the question, the hypothetical question, all right, and -

- and I'm -- I'm still not there on the discharge, but let me ask you a hypothetical question. We've got September, June, April, and August are the months. Three of those four months are very active river use months, and April, maybe a little bit.

So let's just say, in a hypothetical situation, we go to a discharge. Is there a way you could do it in winter months when people aren't using the river, whether it's for health or the psychological impact? And one -- so one, could you do it in winter months when the river is not being used? And two, is there a way, because as Dr. Becker said, it's an estuary, it's a tidal basin, it flows both ways, can you do it at a time when the tide is flowing out, as opposed to flowing up towards Albany? So two questions. I'm sorry.

MR. BURRONI: The first question, I -- I cannot commit to only doing discharges in the off-season. Environmentally, to me -- I mean, environmentally, I'll check, but it really makes no difference. What we discharge to the river is what we discharge to the river. It's going to be less than or equal to one percent of what the N.R.C. tells us.

I'll evaluate it, but we have to also look at how that fits our schedule going forward. So thank you for the feedback. I'll evaluate it. Let's see what we do.

SENATOR HARCKHAM: And the other question was about the tide, whether it's warm weather, cold weather, whatever the season. Is there a difference between whether the tide is flowing up towards Albany or whether the tide is flowing out towards the Atlantic?

MR. BURRONI: I -- I'll -- I'll give you the same answer. We'll -- thanks for the feedback. I'll evaluate that.

CHAIR CONGDON: Maybe I can just add a follow-on question. How long does it take for an 18,000-gallon batch to be released?

MR. BURRONI: About 150 G.P.M. from the tank itself, I'll do a math real quick. 150 into 18,000 is what? Hold on.

CHAIR CONGDON: Okay. Just wondering whether it would be within the tidal cycles, why I ask, but while you're calculating --

ASSEMBLYWOMAN LEVENBERG: Yes.

CHAIR CONGDON: Assemblywoman

Levenberg?

ASSEMBLYWOMAN LEVENBERG: Thank you. We can follow up, I mean, and I was also going to ask that same exact question. And I understand you don't want to wait, but besides the fact that, you know that, which I don't know that prompt has actually ever been defined, but you know that you want to do everything promptly, what -- why couldn't you wait, I guess, is the question?

And also, you know, again, I think that Senator pointed out that some of this is psychological, but also doesn't it take time for the water, for the -- whatever's in the water to -- to actually dissipate? I mean, it's moving around.

So theoretically if it has this, you know, low impact, part of that is that, you know, when you put things into water that they're going to move around and have less of an impact. So as this is moving around -- moving around close to the site and you have people using water close to the site, it seems like whatever is there has more of an impact locally than it would over time.

So if you were to put it in there during the season when people are using the river,

actively using the river, actively swimming, actively boating, et cetera, actively fishing, it seems less good than if you were to do it after the season.

MR. BURRONI: Let me ask you. Since 1962 up until today, right, I'm sure in the summertime, people have swam in the river, crabbed in the river, fished in the river. So there's -- there's no difference. To me, there's -- there's -- there's no -- I know. I understand the perception. I do, right.

But when I look at the science and I look at the data, there's absolutely no difference from 1962 right to today. I'll think about what you're saying and we'll evaluate it.

CHAIR CONGDON: There is another meeting in June, before September. There's a meeting in June that happens before September. I think we can continue the discussion.

MR. BURRONI: All right.

CHAIR CONGDON: And by the way, one of the things that I said to -- to -- to Holtec, when you paused the May discharge, is that, please don't consider this the only venue that you interact with all of the elected officials that represent the host

community. Please be meeting with them on a regular basis between D.O.B. meetings and having these conversations.

MR. BURRONI: I get you. And I think Mayor Knickerbocker sent me an email just the other day, asking if we could resurrect what Entergy used to do. And they used to meet quarterly, I think.

MS. KNICKERBOCKER: Quarterly when necessary, they were called stakeholder meetings.

MR. BURRONI: Right. So --.

MS. KNICKERBOCKER: And they were very informative for the elected officials.

MR. BURRONI: So I have no problem doing that. We can go through all the information and data.

CHAIR CONGDON: Any other questions for Rich? Yes. Catherine Borgia?

MS. BORGIA: Very -- very quickly because I want to hear them from the public definitely. So I -- on page 13, when you talked about the collected samples, you mentioned what the Department of Health does with -- with the -- the sample that they get. What -- what does the D.E.C. check for?

MR. BURRONI: Excuse me?

MS. BORGIA: On page 13 --

MR. BURRONI: Yeah.

MS. BORGIA: -- you said it was about the -- the -- the water samples. In your slide, it says also split with the -- with the state. Department of Health Lab does an analysis of the water to assess our accuracy, but you didn't say what the D.E.C. looks for?

MR. BURRONI: So they look at radionuclides which would include tritium.

MS. BORGIA: Okay. And then I guess my next question is -- my last question is when we discussed some of the other options besides the release into the river, one of the things that was mentioned was the onsite pool at -- that would hold the water for some -- for 12 years or some multiple of 12 years.

When that was said at the beginning of this meeting, I thought to myself, oh, that probably isn't something that the company is willing to do because they want to be out of there by the 12 years. But if -- if the actual demolition of the buildings is going to be on a 10-plus year cycle, I -- I'm

wondering why the notion of doing the water -- having the water go through one half life is so farfetched and out of the realm of the possibility, since you'll be on the site still for 10 years -- 10-plus years, considering the demolition of the buildings will take that 10 years that we -- that we just talked about.

MR. BURRONI: I -- I -- I understand. Thank you. It's really that 10- to 12-year timeframe, we're really shooting or we're really looking at the containment dome buildings. Prior to that, we would hit the fuel storage building, the primary auxiliary building, the radionuclide type buildings.

MS. BORGIA: Right. Understood. Understood. But that's not my question.

MR. BURRONI: But that's prior to the 10 to 12 years.

MS. BORGIA: My question is, if you have to be on the site for that long anyway, why was notion of -- of holding the water for the first 12-year half cycle so impossible and farfetched? Because there was an idea that, on another piece of the property, there could be another holding tank for the water to go through that one -- that one 12-year

--

MR. BURRONI: Uh-huh.

MS. BORGIA: -- half-life.

MR. BURRONI: Uh-huh.

MS. BORGIA: Why was that completely rejected out of hand since you will have to -- since the company's involvement on the decommissioning is going to be at least or very close to that 12 years?

MR. BURRONI: Right.

MS. BORGIA: So why was that rejected out of hand?

MR. BURRONI: So you have to understand how the buildings are constructed. The fuel storage building, right, is totally different than the containment building, right. I can't wait 12 years, right, for the water in the spent fuel pool, right. Let me finish. Right?

MS. BORGIA: No -- no, because you're -- this is not what the proposal was. The proposal was to move it from the spent fuel pool to another place on the site.

MR. BURRONI: You're talking about tanks? Yes?

MS. BORGIA: Tanks, yeah.

MR. BURRONI: Okay. And I think John Sipos has talked about tanks. It would be another N.R.C. review on the tanks. Where would we put them on site? It would probably increase the amount of plant -- the amount of property that we cannot free release at the end of the 12- to 15-year period, right. It's a number of things, right.

How would I get the water from the pools to an outside tank? And then the tank, also, if you look at Dave --.

MS. KNICKERBOCKER: No.

MR. BURRONI: I guess, we're just not talking the same --?

MS. KNICKERBOCKER: Yeah, no. I -- I need to say something. Okay? I -- because I know what you're saying, Catherine, because that was considered an alternative. I don't believe it's a viable alternative. And what we have to do, and we're running out of time, unfortunately, we need to have Dave Lochbaum speak to this.

It's not what you think it is, those holding tanks. They leak. You can double, double wall them. I've heard the double wall just takes a little bit longer for them to leak. Now, you have a

whole other problem. They're vented from the top, and I'm sorry, Dave Lochbaum, but I'm just trying to give you just a very little review of -- and -- and I do want Dave to speak to this, maybe, at the next meeting, go into it further, because I'm taking up time.

But I know what you're saying. You're hoping that that's an alternative. But finding out the information about it, it's not going to be a viable alternative to the water. But I want Dave Lochbaum to speak to that because I'm going to --.

CHAIR CONGDON: Dave, do you want to do one minute on -- on the tanks? Then we'll turn to the public.

MR. LOCHBAUM: ... which stored like, something like 56 million gallons of contaminated water in tanks. Initially, they used single wall tanks and about half of them leaked, so they went to double wall tanks. And about five to ten percent of them leaked in less time than that. So all -- all it does is delay the inevitable.

And related to that, if, because the monitoring walls that were installed at Indian Point were to deal with leaks from the Unit One and Unit

Two spent fuel pool, they may or may not detect a leak from one of these storage tanks wherever you place it. So you would not know about it, necessarily, until it's too late.

So that's why I think discharge to the river is the safest way to deal with the tritium hazard of anything I've seen.

CHAIR CONGDON: Thank you, Dave.

I think with that, I'd like to turn to the public statement hearing portion of tonight's meeting. And I'm going to --.

MR. WEBSTER: I think --.

CHAIR CONGDON: Richard, you know, we're -- we're running way past time and we've got -- we've got speakers signed up. Do you want to have a -- thirty seconds?

MR. WEBSTER: Yes, please. So first of all, Rich Burroni, I do appreciate that you did keep your word. I think I -- I hope everybody's recognized that, that Holtec promises a month's notice, and we've got a month's notice, so that's very good.

In terms of trying to figure this out, I mean I think the risk -- the high risks or the

highest risks, I should say, are bathers and boaters, direct contact. So I'm -- you are saying discharge in September. I think discharge to October would reduce that.

In terms of tanks on site, you know, I'm pretty sure we can do some engineering. In terms of misunderstandings of violations, the way Holtec can fix that is by getting prompt communications out about violations. Don't wait for the N.R.C. to publish on items, a report of the violations. Get ahead of them. Tell the community what's going on and make sure the community understands what's going on.

Because I think there is a problem here primarily with trust, and we could -- we can't build trust without good communication.

MR. BURRONI: Right. I -- I -- I'll take that back. I -- I thought we've had constructive discussions on the L.A.R.s. I guess not. I'll take that back and we'll have a -- we'll have thorough discussion next meeting.

CHAIR CONGDON: I -- I'd like to just make one quick observation about the levels of -- I want to bring it back to John Sipos' slide. The

discharges, historically, have been a small fraction of a percent of allowable limits in the -- compared to drinking water standards, it's been a small fraction of the allowable drinking water standards at the discharge point.

We have decades of historical monitoring data in the river. There's been a lot of talk about upstream, downstream. The data show upstream numbers from the upstream monitoring, consistently lower than the downstream numbers. And those numbers are all within -- way within drinking water standards of the historical monitoring upstream.

Maybe D.O.H. can just confirm that I -- what I just said is accurate. The upstream numbers are consistently lower than the downstream numbers. Is that correct?

MR. DAMIANI: That is correct. The upstream numbers are always lower.

CHAIR CONGDON: And let's talk about how the 20,000 picocurie per liter applies. When that's set, based on a health standard, what are the assumptions about the exposure -- for the radiological exposure, what are the assumption --

assumptions about the person that's -- that's being exposed to 20,000 picocuries per liter?

MR. DAMIANI: Okay. So that M.C.L., in order to get the -- the four millirem, that is the assumptions built in, are that you are consuming two liters of water a day, every day for the year. Right. And that will get you that --.

CHAIR CONGDON: Two liters at 20,000?

MR. DAMIANI: Correct.

CHAIR CONGDON: So two liters a day at 20,000 picocuries per liter for a whole year to arrive at the 4 millirem.

MR. DAMIANI: Correct.

CHAIR CONGDON: I just think it's important context. We're talking about swimming in the river where the data historically show levels in the hundreds of picocuries per liter. Someone's going to swim in the water, maybe get a gulp, compared to 20,000 picoliters --

MR. DAMIANI: Picocuries per liter.

CHAIR CONGDON: -- picocuries per liter, two liters a day for a year to get four millirems. I think it's important context and I don't want to leave that point until it's settling in

a little. So thank you.

MR. SIPOS: And -- and just to reiterate, if you're drinking two liters a day for a year, that would be roughly 730 liters at 20,000 picocuries per liter for a year.

MR. DAMIANI: Correct.

MR. SIPOS: That's a lot of liters.

CHAIR CONGDON: So I -- I get the -- I get the psychological aspect of the timing in the summer, but I want to put context into this. Concentrations matter. The numbers matter. It's not just tritium toxic waste in the water. We're talking about very, very small concentrations. So with that --.

MR. LOCHBAUM: Tom, this is Dave Lochbaum.

CHAIR CONGDON: Yes.

MR. LOCHBAUM: Can I ask a question of Rich?

CHAIR CONGDON: Yup. And then we do have to go to the public statement hearing.

MR. LOCHBAUM: I'm sorry.

CHAIR CONGDON: Go ahead.

MR. LOCHBAUM: Rich, have there any --

have there been any batch releases from Indian Point to the river this year? If so, was there any tritium in that water? And if so, would the Hudson River know whether that tritium came from the spent fuel pool or other places?

MR. BURRONI: I -- I'd have to talk to the health physics department, Dave, to answer that question. I'll get back to you.

MR. LOCHBAUM: Okay. Thank you.

MR. BURRONI: You're welcome.

CHAIR CONGDON: Thank you. Can I turn it over to Tom Kaczmarek to please start the public statement hearing. Thank you.

MR. KACZMAREK: Absolutely. And just while I'm providing an intro here, Anthony Constantino will be first, followed by Christopher Vargo. And then I'll call up the other names. While you're approaching the mic, in case you're in the overflow space, just a reminder, today's public statement period is 30 minutes in duration.

Thanks to those who participated in the April 25th, 2023 public statement hearing, two nights ago. Attendees who registered to speak will be called on in the order in which they registered,

starting with those participating in person. And we're prioritizing those who were unable to speak on Tuesday to afford more voices an opportunity to speak tonight.

To provide a fair opportunity, there will be a three-minute time limit. I'll give you a 30-second warning, and then I'll let you know when your time is up.

You may begin.

CHAIR CONGDON: I think the mic needs to -- or -- or get closer to the mic.

MR. SIPOS: Yeah, get a little closer. Good.

MR. CONSTANTINO: Okay. There it is. It was off.

CHAIR CONGDON: Thank you.

MR. CONSTANTINO: Okay. Well thanks everybody for showing up. It's been interesting to hear all these different sides. I have a couple questions.

Okay. First thing is -- is, you know, like I'm listening to all of this information and, you know, like I said, it's all about numbers, you know, but I'll be honest, you know, like at the same

time, like I look at the history of the country and I'm just going to mention a couple of things.

You know, Agent Orange, Camp Lejeune, things like that, I mean, we have things that have been going on for years and nobody says anything. And then you'll see it on the news, you know, oh, you know, we knew the water was bad, we knew this was bad. And everybody's like, well, how come nobody was watching it?

You know, so obviously when I hear all these numbers from everybody, I'm going to look at it with a certain amount of skepticism from all sides. Okay?

Also, I have questions with Holtec. I have a question. I see that they -- they slowed it up on -- in Pilgrim because they can't drop it. I also see that they -- they stopped in an Oyster Creek now. Okay. You put it off for four years, you know, because of financial, like, I'm wondering how come, like what the financial part isn't coming in to Indian Point. Like, is there a rush on this place? You know, like Willow Creek was just moved now for four years, right. Recently. Right? They moved it off.

MR. BURRONI: I'd have to get back to you.

CHAIR CONGDON: Yeah.

MR. CONSTANTINO: You know. And -- and be -- and then what I was -- it's -- it's the same thing that, you know, Senator Harckham said. You know, like a lot of times the first thing is like, is people's jobs. Like, I'm not here to put anybody out of work. But at the same time, let's be honest, it's all profit. You know, corporations look at the profit first.

You know, there is a trust fund and there's billions of dollars in it, you know. So if they're going to cut costs, obviously, it's always the people at the bottom. So you know, I'm looking at it from that perspective, too, you know, like holding them hostage, you know. And -- and that's not really the reality of it.

I sort of agree with Senator Harckham that, really no pollution is good at all in the water. You know, I understand tritium. I understand that the half-life of it. I understand, you know, how it stays in your body, but what no one's speaking about is, you know, children, like what about a child

drinking the water? Like you know like this -- they just said the scientists have said, well, if you drink so many liters, but is that an adult?

You know, what -- what about a woman that's pregnant? You know, what about a small baby, you know, after a certain amount of years, you know, is it going to get into their system? You know. So I'm sort of concerned about them, you know, dropping this into the water.

And then no one's speaking about the fish. You know, I mean, you know, it's not drinking water. The fish are getting it and it gets into people eating the fish, so you know, I don't -- I think it should be actually put off a little longer until we actually have more, you know, information, actually, like they had mentioned, doing it in the wintertime and doing it at different times of the year because it doesn't seem -- it seems to me like everything's sort of being like rushed up a little bit, you know.

And I see other examples where it's been slowed down, you know, for other -- other reasons. So from -- in a health issue, I would rather see this like put -- so we have like people

monitoring everything.

MR. KACZMAREK: Thank you.

CHAIR CONGDON: Thank you, sir.

MR. CONSTANTINO: Okay. Thank you very much.

MR. KACZMAREK: Next is Christopher Vargo, followed by Angelina Vezzetti.

MR. VARGO: How you doing? Chris Vargo, I'm from the Point. Here's a problem. I'm driving in and it's against International Law to dump tritium out into the Atlantic Ocean, but somehow, it's allowable in front of my house. And literally, it's in front of my house.

You guys made -- I'm not talking to you, Dr. Becker. I'm talking to you guys. You made a bad deal with Holtec. That's what's -- all you're doing. You can say whatever you want. You made a bad deal with Holtec. They -- Vermont Yankee shipped it out. They solidified it and buried it. They can do it here.

If we're so worried about employment, hire more truck drivers who can easily do it. It's been done.

And here's another thing. At the last

meeting, Mr. Lochbaum, he mentioned that they use tritium in exit signs. So wrap your head around this. The building inspector is going to go through that building before they destroy it, remove all the tritiated exit signs, dispose of them properly, because if they're not, they get fined.

But somehow, you can dump tritium straight into the Hudson River. How does this make sense? It's just -- it doesn't make any sense. We don't -- there's no monitoring. I -- I emailed the D.E.C. couple times. They never got back to me. Mr. Burroni, if I mispronounce your name, I apologize. I'm not being funny.

MR. BURRONI: Thank you very much.

MR. VARGO: Okay. He -- he -- now I got thrown off. Mr. Burroni mentioned that -- which I -- I'm hopeful for, we have more monitors coming in. But it's like you guys go with your hat in your hand. Can we please come in? Can we please come in? Who's inspecting? That's exactly what's going on. You can make any face you want, but that's what's happening.

I said to Mr. Burroni, I wished he was in your seat and he was trying to fight for us.

You're not -- it doesn't make any sense. The cement that you are crushing, who's taking the samples to make sure it's not contaminated? Who's -- where is the inspectors? Just slabs, the cement slabs, are they taking samples of the -- of the slabs and make sure they're meeting the -- the building inspector's code.

Just the oversight is pathetic. And it -- it makes us -- and you wonder why people get so upset. That's why. Thank you very much.

MR. KACZMAREK: Next is Angelina Vezzetti, followed by Dietmar Detering -- or Detering.

Ms. Vezzetti, are you with us this evening?

All right. Next is Dietmar Detering. Again, apologies if I'm mispronouncing your name.

MR. DETERING: No; it was good. Thank you very much. I salute you all for caring for the environment and the safe decommissioning of Indian Point. I am an environmentalist and former member of the German Green Party. I now know that nuclear energy is our most sustainable source of energy and our best, if not only, hope to avoid catastrophic

climate change.

In late 2019, I co-founded Nuclear New York. Our first mission: raise awareness for this environmental crime. The closure of Indian Point causes seven million tons of CO2 emissions every year, plus methane emissions and toxic air pollution.

I will use my time to empower you with data and science. To start, Indian Point, we learned tonight, holds a total of 400 curies of tritium that is 1/25th of a gram with a total -- within the total of 1.5 million gallons of water.

In extreme concentrations, tritium is harmful. The median lethal dose of tritium is estimated to be 10 curies. For comparison, the median lethal dose of bleach is 80 grams for a person my size. That means that this jug of bleach can kill just about as many of us as all of Indian Point's tritium.

The difference, the bleach in my hand -- well, this is empty, don't worry about it -- can kill -- the bleach in my hands can kill. The tritium at Indian Point cannot given all the water that it is in. In other words, trying to inflict harm with Indian Point's tritium is as impossible as performing

chlorine poisoning with pool water.

The calculated harm from tritium in extreme concentrations is due to its radioactivity. Radiation is all around us, though, mostly coming from space, the potassium in our bodies, and the radon emitted from the ground. We're also exposed to radiation in medicine. In total, Americans receive an average dose of about 620 millirem per year.

While millirem measures bodily harm from radiation, there's actually no evidence of harm from such low-dose radiation. The federal limit on additional beta and gamma radiation is four millirem annually, a rounding error over our background dose.

Eating just two bags of Brazil nuts will give me a dose of three millirem. I'm not worried about eating Brazil nuts. I think they're healthy. These aren't even organic.

Holtec is planning to release tritium at concentrations of, at most, three percent of the federal limit that releases into brackish water in the Hudson, which no one can drink due to all the salt.

MR. KACZMAREK: Thirty seconds.

MR. DETERING: And you would have to

drink 18 gallons of this water every day for a year to receive four millirem. However, doing this with just two liters of Pedras, a Portuguese mineral water, would give you a dose of 19 millirem with alleged health benefits.

I joined the environmental movement because we had the facts and the signs on our side. The anti-nuclear activists that are hysterically spreading panic and fooling decision makers about Holtec's tritium release, however, have neither facts nor science as this minimal release of tritium into brackish water threatens no one.

MR. KACZMAREK: Please begin to wrap up, sir.

MR. DETERING: The only purpose -- the only purpose of this campaign is to keep the anti-nuclear movement alive and to distract from the real climb -- crime, the closure of Indian Point which has destroyed the economic base of Buchanan and thousand family supporting jobs, and which is now causing more global warming, air pollution, and deaths. Thank you.

MR. KACZMAREK: Next -- next is Susan Hito. Susan Hito, followed by Brian Campbell.

MS. HITO: Good evening. Thank you for hearing me. I have -- I have questions tonight. I was the original attorney on the close-cycle cooling case regarding the D.E.C., along with Richard Brodsky. And we had to bring that case because the government wasn't doing its job.

And -- and we ended up winning. And that's one of the reasons Indian Point was closed. And that was regarding the thermal pollution.

And so going back to the -- I'll get to that about the permits, but I have questions. What health studies are you all relying upon for your standards? As to that there's no health impacts of tritium on the -- at this level? There are no health studies. They don't exist. So how -- these are all guesses. You're all guessing at whether this has a impact on human health.

The N.R.C. made a bold statement that tritium doesn't bioaccumulate. I know that's not true, from my scientific research. I don't know where you got your information. I'd like to know how you decided that it doesn't bioaccumulate in not only in human bodies, but in fish, in biota, in plant life.

It bioaccumulates, especially for E.J. populations that fish the rivers, for the children that the D.E.C. tells to go down to the river and count the eels. It bioaccumulates.

What -- has anyone discussed the amount of picocuries of the untreated radiation that's been leaking out of Indian Point into the Hudson River? No one's even mentioned it. It exists. That's our background radiation. The leaks that already exist, that will exist, that will not allow the site to be turned into a park ever because it exists in the bedrock. And it's not been cleaned up and it can't be cleaned up, as we've been told by the N.R.C. in the past.

So this whole thing is a sort of a joke that we're rushing to clean this site up when it can't ever be turned into something else.

And no one here tonight has mentioned the Endangered Species Act and the endangered species that are two miles south downriver, where the D.O.H. has said there are higher levels of tritium. We know there's tritium in the Haverstraw Bay because in -- the desal plant that the P.S.C. approved, that was a fiasco, in that finished water, in the pile of

finished water, there was tritium, strontium, and cesium.

So we know it exists. Why is there no monitoring in the Haverstraw Bay --

MR. KACZMAREK: Thirty seconds.

MS. HITO: -- where there's the endangered sturgeon?

The D.E.C. permits that you're relying upon were about thermal pollution. They were not about the release of this -- this spent fuel pool water. The -- these need to be amended. These D.E.C. permits cannot be relied upon. The SPDES permits are not for a -- a decommissioning plant. They're specifically, in paragraph 28, there's a commitment to closing Indian Point, and that's the basis of those permits. It's closed. Those permits are no longer functional.

MR. KACZMAREK: Please begin to wrap up your statement. Thank you.

MS. HITO: Excuse me?

MR. KACZMAREK: Please begin to wrap up your statement.

MS. HITO: Okay. I'm going to wrap up.

You're talking about releasing -- you -- you talk about over 11-year period of these releases, and now you're talking about releasing the same -- more than that amount of water in two years. That's a lot more impact that you're not counting.

And what's the rush, as was raised before. You're saying you're not going to be able to do anything for 10 to 12 years.

MR. KACZMAREK: Ms. -- Ms. Hito, are -- are you -- are you wrapping up your --?

MS. HITO: Yes, I'm wrapping up. Besides that, the casks that you put on this site cannot be moved. They're not approved for transportation. So it's sort of a scam that you're telling everyone that we got to rush to dump the water in the river. You got to wait and figure out how we're going to do this safely and how we're going to clean up this site safely.

Thank you for your time, and I'd like answers to my questions. Thank you.

CHAIR CONGDON: I'll -- I'll -- I'll remind -- I'll remind the speakers --

MR. KACZMAREK: Other way.

CHAIR CONGDON: -- I'll remind the

speakers we will endeavor to answer all the questions that are raised at the mic tonight. And we will post those on our website. Thank you.

MR. KACZMAREK: Next up is Brian Campbell, followed by Urvashi Rangan.

MR. CAMPBELL: Hi. My name is Brian Campbell. I am a veteran, a retired electrical engineer, and I strongly support Holtec's releasing the treated water with residual tritium from the prematurely closed industrial cathedral, Indian Point Nuclear, into the Hudson River.

On February 2nd, the Oversight Board heard from David Lochbaum, a nuclear engineer and former director of the Nuclear Safety -- Safety Project for the 50 million dollar a year Union of Concerned Scientists, and outlined his reasoning that releasing the treated water into the Hudson poses the least public risk.

This safest scenario agrees with nuclear expert, Dr. James Conca, who reports at any level outside the laboratory, either experimental or manufacturing tritium is harmless.

Every year, we release millions of gallons of slightly tritiated water into the oceans,

large lakes, and large rivers from almost every commercial nuclear reactor in the world and have done so for decades, all in accordance with globally accepted nuclear safety standings.

No adverse effects on the environment or humans have been observed. The presentations by Holtec to this Oversight Board shows Holtec to be a good corporate citizen, performing the Indian Point decommissioning in a truthful and open manner that should be commended.

Instead, our New York political establishment unfairly condemns Holtec just as they drove Entergy to prematurely close Industrial Cathedral Indian Point Nuclear in 2021.

This increased New York's emissions by 7 million tons per year, eliminated 80% of New York City's low emission energy, and a thousand mostly union jobs. This reliable electrical generation was more than twice the unreliable electrical generation from all the wind and solar power in New York State.

And so what replaced in Indian Point's low emission --

MR. KACZMAREK: Thirty seconds.

MR. CAMPBELL: -- reliable electrical

generation? The answer can be found in Riverkeeper's website from October 2011, a synopsis report, titled, New Analysis, Indian Point Nuclear Plant can be Replaced with Cleaner, Safer Energy. This was commissioned by $415 million a year Natural Resource Defense Counsel and Riverkeeper.

MR. KACZMAREK: Please begin to wrap up, Mr. Campbell.

MR. CAMPBELL: One paragraph.

MR. KACZMAREK: Please begin to wrap up. We're at three minutes, sir.

MR. CAMPBELL: I'll just finish this. One paragraph from this report, in sum, there is a large potential for natural gas facilities to replace energy and capacity of Indian Point. Natural gas generation may play an important role in maintaining reliability requirements of grid operating standards. If there is need --

MR. KACZMAREK: Mr. Campbell --

MR. CAMPBELL: -- for baseload or dispatchable generation in the area of an Indian Point, and we built two --

UNIDENTIFIED FEMALE SPEAKER: Yes, we did.

MR. CAMPBELL: -- natural gas --.

MR. KACZMAREK: Mr. Campbell? Sir --.

UNIDENTIFIED FEMALE SPEAKER: We did.

MR. KACZMAREK: Sir, we need to afford other individuals --.

MR. CAMPBELL: Okay. We did it.

MR. KACZMAREK: -- the opportunity --.

MR. CAMPBELL: We replaced it with natural gas.

UNIDENTIFIED FEMALE SPEAKER: Yes, we did.

MR. KACZMAREK: Thank you.

Next is Urvashi Rangan or -- or Rangan, followed by Herschel Specter.

Urvashi, are you with us this evening?

Herschel Specter, if you're with us, please come up to the mic.

MR. SPECTER: Thank you all. I'm Herschel Specter, a professional engineer in the State of New York, a person who got a graduate degree from M.I.T., a former federal A.E.C. licenser and project manager for licensing Indian Point three. Just so you know where I'm coming from. I am shocked that this meeting is happening tonight.

This meeting really should have happened back in 2017. There are legitimate questions that are being asked. People are fearful. There's information that hasn't been exchanged. And when there is no information or not enough, fear sets in, suspicion, and people don't talk to each other.

And even when people on both sides make legitimate statements, the other side scorns them. So clearly, the largest message that you might want to hear tonight is we better do a better job talking to each other, so we can develop trust because trust is absent right tonight.

I've heard that from a number of people on both sides. They're right. And if we -- I have to tell you something. Back in 2017, every senior New York State official, the governor, our two senators, our elected members to the House of Congress, all -- plus all of our local people went to the N.R.C. and said we want to have a hearing. And they were brushed aside.

I'm sorry, but the N.R.C. shortchanged all of us. They should have had a meeting. And furthermore, in the N.R.C. regulations, there's a regulation that says, once the N.R.C. receives the

post-shutdown -- decommissioning shutdown report, they are to contact the people, and in short order, I'm paraphrasing, to have a public meeting.

They never had it. They resisted it. And they only had a mockup of that long after the license had been transferred. So we're under a situation which, frankly, I believe, was an illegal transfer of the license. But that's history.

MR. KACZMAREK: Thirty seconds, sir.

MR. SPECTER: The real question is will you listen to science or are you're going to be motivate by -- motivated by fear? Let science have its day. Thank you.

MR. KACZMAREK: Next is --

CHAIR CONGDON: Tom?

MR. KACZMAREK: -- Edward Cooke.

CHAIR CONGDON: Tom?

MR. KACZMAREK: Oh, sorry.

CHAIR CONGDON: I think that was a really good way to end the public statement hearing. I think -- it's nine -- it's nine thirty-five. You want to take one or two more? We'll take two more. We'll take two more.

MR. KACZMAREK: Edward Cooke, and

we'll finish with Dan Galinko.

MR. COOKE: Thank you. Hi, I'm Edward Cooke. I'm a business representative for the carpenters of Local 279 of the North Atlantic States Regional Council of Carpenters. I'm here today on behalf of my union membership, working on the safe and structured dismantling of Indian Point Nuclear Power Plant.

Before our carpenters can set foot on site, they have to take a series of tests to understand nuclear radiations and the hazards that they're going to face, as is every craft worker there. They're highly trained and they're highly specialized in this decommissioning process.

Our union represents professional carpenters, installing technical scaffolding and safety barriers and platform, specially trained decommissioning carpenter techs, and highly trained technicians in the detection and safe operation in those hot areas and in the areas around the Point where any workforce is to guarantee the safety of the worker.

I'm here today to attest the fact that safety is the number one priority of all involved in

the product -- project. Our members are working to ensure that the project is done with personal safety in mind every step of the way. They follow the N.R.C. guidance and the rules and plans put in place for their safety and for the community's safety.

Nothing is done at Indian Point without -- without overthinking it. That's the reality. They overthink it 10 ways to Sunday and then they act upon it. If there's an issue with the plan, the workforce stops the plan and they redevelop the plan to make sure it's done safely.

We are doing the work the right way with the utmost care to ensure personal safety, as well as communities in which we live. We train and upgrade our skills for the task at hand and to meet the need of a safe and incident-free project. The men and women working onsite live in the community. This is our home and we are committed to ensuring the safety of ourselves, our families, and the neighbors and all around us.

I can say, unequivocally, that we take every step to ensure that our members take special care in their work, and that they are -- they take care with the best practices set by the industry.

The men and women of the Carpenters Union and the other professional crafts on tight -- site take their responsibility seriously, and we appreciate the trust that we have been given to perform such uncharted and sensitive and important work.

The practice of releasing water has been ongoing for over 60 years and has been allowed while the plant was providing energy for Southern Westchester and New York City. It has been --

MR. KACZMAREK: Thirty seconds.

MR. COOKE: -- monitored by the -- excuse me?

MR. KACZMAREK: Thirty second warning, sir.

MR. COOKE: Okay. I -- it has been monitored by the N.R.C. and state officials for that time. Storing the water onsite is not a viable or sound plan. Changing the rules midstream isn't right, either. Stopping and slowing the process is not a viable option, either. This could have -- this should have been addressed prior to the shutdown and at the start of the decommissioning process.

For years, the water has been released and monitored by the N.R.C. and the state knew about

it.

I want to thank you for allowing me to speak, and I can assure you that every carpenter and every professional tradesman on that site cares about the community, their self, and their family, and they will not do it wrong, nor will Holtec let them. Thank you.

MR. KACZMAREK: Dan Galinko?

MR. GALINKO: All right. Good evening. I hit some cleanup in -- in high school baseball, so I guess I got -- but a lot of people drove an hour to be here. It's sort of disappointing that you're going to cut everybody off, so.

CHAIR CONGDON: We -- we -- we scheduled 30 minutes for the public statement hearing. We had a three-hour public statement hearing two nights ago. We can take one more after Dan, I think.

Tom? We can take one more after Dan?

MR. KACZMAREK: I believe so.

CHAIR CONGDON: Okay. Go ahead, Dan.

MR. GALINKO: All right. Thank you. So again, I'm Dan Galinko from Safe Indian Point Demolition. Appreciate the time this evening. I

guess the first thing I'd like to do is ask all the public officials here who can assure me that at no time in the next decade, anything will leave the perimeter of Indian Point? Not one speck of dust, who can make that assurance? I'd love a show of hands.

So the problem here is that, in the real world, things go wrong. And so I get in wire saw we trust, but anything could go wrong on any given day. And we've learned from the gypsum plant that when something goes wrong, it goes due east. We have a school 4,000 feet due east of this demolition plant. So I'm -- I believe that the planning is immaculate, and I'm sure we don't expect anything to go wrong.

But what happens if the water goes off suddenly to the wire saw and things get hot? Something catches on fire, something explodes, a truck driver rushes over the steel without the steel plates, over the gas crossing. Any variety of -- garden variety of things that could go wrong create an issue that immediately impacts the school.

And I don't know why we have to assume -- I cannot bet my children's safety on that. It's

absurd. So why are we keeping kids 4,000 feet away in a school when anything could go wrong?

And I know everybody in this room here is working towards an extremely safe process. I know everybody wants to go home safe and do it safe for the community. But things go wrong in any area of work, in the medical field, in any field, things go wrong on a given day. And the immediate consequence is to the kids across the street.

And so I don't know where Governor Hochul is. She hasn't said one public word since she's been in office about this process. We need some public service to defend the kids in the community and get them out of harm's way. They don't need to be there. So I thank you for your time and consideration.

MR. KACZMAREK: Thank you.

Our -- our final speaker this evening will be Arthur Carlucci.

UNIDENTIFIED FEMALE SPEAKER: And that's it.

MR. KACZMAREK: Arthur, are you with us this evening?

Kirsten Bourne. Is Kirsten Bourne

with us?

MR. KACZMAREK: Kirsten?

Warren Smith is next. Warren? Mr. Smith, you'll be our last speaker tonight.

MR. SMITH: Thank you. Thanks to the Board. Thanks to all the agencies that came tonight and gave us, I think, a great presentation. Very informative. I had a million questions before I got here. A lot of them were answered as far as -- a lot of them were answered. So I'm kind of left with this.

I'm Warren Smith. I'm from Verplanck, New York. I've been living in -- I was born there, 60 years ago in July. I think I'm probably the only one in this room that swam there -- the only one in this room that's swam in the Hudson more than me in the last 60 years is probably Tommy Carey.

We've been swimming in that river for 60 years and -- and nobody was really too worried about the tritium that was in there then. And I kind of want to ask, initially, my state representatives. I know my town representatives didn't know. My local representatives didn't know, but the federal and state representatives must have known.

And if it was super dangerous then, I wish they would have pointed that out. I was basically -- I swam in -- at Little White Beach, which is one of the collection points, pretty much, that I noticed on the map tonight.

Anyway, going forward, what I'd like to do, I -- I've been living there 60 years. My children are there. I've got a grandchildren arrive -- a grandchild arriving in September. And I'd like the board and my -- my elected officials to go by one, only one goal. And that is to the safety of the public. And I'd like to get whatever option we decide on to be chosen based on what's going to be the safest outcome for the public.

That is -- that is the only thing we should be really looking at. I don't want to hear about the politics. I really don't want to hear about, you know, political expediency or financial expediency. I just want to hear about what is the safest. And I'm -- I'm thinking you guys are going to work on that. Follow the science. I think one of my other three speakers mentioned that.

So that's -- that's how I'll leave it tonight. Thank you very much.

MR. KACZMAREK: Thank you.

And -- and just a reminder, those who were unable to provide public statement tonight may use one of a number of other methods to submit a statement and will, of course, have other public statement opportunities in the future.

Forgive me for flipping through the slides quickly here. But these slides will be posted on our website. You may access them for more information for how to comment. Thank you.

CHAIR CONGDON: Thank you, Tom.

And thank you all for being here tonight. Our next meeting is June 15th. We are adjourned. Thank you.

(The meeting concluded at 9:47 p.m.)

STATE OF NEW YORK

I, DANIELLE CHRISTIAN, do hereby certify that the foregoing was reported by me, in the cause, at the time and place, as stated in the caption hereto, at Page 1 hereof; that the foregoing typewritten transcription consisting of pages 1 through 198, is a true record of all proceedings had at the hearing.

IN WITNESS WHEREOF, I have hereunto subscribed my name, this the 4th day of May 2023.

DANIELLE CHRISTIAN, Reporter

B

F

I