

Memo to File: October 15, 2020

Attached is the transcript of the
Annual Assessment Meeting for
Indian Point Energy Center held
on September 22, 2020.



NWX-US NUCLEAR REGULATORY COM (US)

Moderator: Brett Klukan
September 22, 2020
4:43 pm CT

Coordinator: Welcome and thank you for standing by. I'd like to inform all parties that the lines have been placed in a listen-only mode until the question-and-answer segment of today's conference.

Today's conference has also been recorded. If you have any objections, you may disconnect at this time.

I would now like to turn the meeting over to your host, Mr. (Brett Klukan).
Thank you, sir, you may begin.

(Brett Klukan): (Calvin), thank you very much. Hello, everyone. Welcome to the Indian Point Annual Assessment Meeting. My name again (Brett Klukan). I am tonight's facilitator. Normally, my day job is that I am the Regional Council for Region One in the King of Prussia office, Pennsylvania.

Next slide, please.

So, here's the agenda for tonight's virtual meeting. Presenters are located in both Maryland and Pennsylvania. The agenda is I will quickly go over some

opening remarks and also the intro of any elected officials or representatives and all elected official joining us this evening. Then I will turn it over to (Ray Lorson) for the welcome.

(Dan Schroeder) will provide Indian Point Annual Assessment Summary for 2019. Rich Guzman will discuss the license transfer or the ongoing license transfer, (Dave Skeen), and (Mel Gray) will discuss gas pipeline issues.

And then, finally, it'll turn back over to me for the public question and answer session. Next slide, please.

Okay, first things first. Joining us this evening, we have (Patricia Keegan). And we've got (Elizabeth Gauthier) from congressman Lowey's office. We have (Geri Shapiro) and (Lisa Hofflich) from Senator Gillibrand's office. We have (Megan Glander), and the Regional Director for Senator Schumer.

We also, though she was unable to join us for this meeting, Supervisor Puglisi asked the NRC note that she did attend the earlier government meeting with the NRC earlier this afternoon. Those are all the elected officials that previously let us know that they would like to be recognized.

Are there any other elected officials or representatives of elected officials who would like to be recognized at this time? If so, please press star one on your phone. And the moderator will unmute you. Again, star one, if you're an elected official or a representative elected official, if you'd like to announce that you're participating in the meeting tonight, there will be a later opportunity for you to get prepared remarks after the NRC's presentation.

(Calvin) it looks like we have one individual who has raised their hand, so to speak, to be recognized. Could you unmute them, please?

Coordinator: Yes, and I just want to clarify for the entire call.

(Brett Klukan): Yes, yes, you can unmute them for the entire call. Again, this is just for elected officials, or for representatives of officials to just announce that they're participating in the meeting tonight.

Coordinator: Yes, sir.

(Brett Klukan): Hi, (Calvin), did you unmute the one request?

Coordinator: Yes, we had two requests. I unmuted both those lines.

(Brett Klukan): Those requested to be unmuted, could you please identify yourself so you can be recognized tonight?

(Tito DaVila): Yes, hi. This is (Tito DaVila). I work for state Senator Pete Harckham.

(Brett Klukan): Thank you very much, sir. Was there anyone else?

(Susan Spear); (Susan Spear) for Westchester County Executive George Latimer.

(Brett Klukan): Thank you very much. All right. With that, we will move on. Thank you very much (Calvin). You can go ahead and mute those lines again.

Coordinator: Thank you.

(Brett Klukan): All right. Next slide, please. Meeting conduct before we begin just a few meeting ground-rules and considerations. First off, I would ask that you

please respect other members of the public participating in the meeting tonight.

In an effort to give as many people as possible an opportunity to speak this evening, as well as be fair to all speakers, please limit yourself to three minutes when speaking. This time limit is the one we normally use for our Indian Point Annual Assessment meetings.

If we have extra time at the end of the meeting, we can go back through to a second round of comments. I will keep track of your speaking time I will let you know when you have 30 seconds remaining. So, you have some time to conclude your remarks.

I have no desire to have you muted by the moderator, but I will do so if you continue to speak past your allotted time. If the NRC chooses to respond to a question you have asked before your three minutes have elapsed, I will pause your clock, so to speak, until you have an opportunity to again resume speaking yourself.

However, the amount of time which you are granted to speak will always be limited to three minutes. Meaning the amount of time you yourself are speaking or asking questions will be limited to three minutes, regardless of how much time the NRC spends in responding to your questions or choosing to respond to your questions. Next slide, please.

Okay, how to ask a question. So, again, this will occur at the end of - or the - after the NRC presentations and after elected officials have been given an opportunity to get prepared statements. And I will go over again this information at the end of the meeting.

You will be asked by the moderator to press star 1 at a designated time, so to speak, to raise your hand to let us know or to let the moderator know that you would like to ask a question. If you have any problems with the phone bridge, please press star 0 for audio help. And again, I will go over this information at the start of the question and answer session just to refresh your memories about how this system will work.

And with that said, I would now like to turn it over to (Ray Lorson), our Deputy Regional Administrator, who will provide the opening remarks for NRC for the meeting. Over to you (Ray), next slide, please.

(Ray Lorson): Thank you, (Brett). Good evening. As mentioned, my name is (Ray Lorson), and I'm the Deputy Regional Administrator the inner-cities region, one office located in King of Prussia, Pennsylvania.

Our region has the lead role in the NRC for oversight of the Indian Point site. Our role includes both the oversight of current operations and extends through the decommissioning process on expected shutdown of unit three in the spring of 2021.

I would like to start by welcoming everyone to the 2020 Indian Point Annual Assessment Meeting. And thank you for joining us this evening.

For those of you who participate in last year's assessment meeting, you may recall that we held this meeting at the Tarrytown Doubletree hotel. Unfortunately, as a result of public health emergency and the need to keep everyone safe, we're required to conduct this year's meeting remotely using technology.

I thank you in advance for your patience with this different venue and would like to note that we have taken a number of measures to help improve the experience for all. You likely have noticed that we have two separate lines. One is a video line using our WebEx platform that will allow us to display slide presentations. While the audio portion of the meeting is being conducted through a separate phone line.

This may seem a little cumbersome but is necessary, ensure that we reach as wide of an audience as possible by ensuring that all public citizens, even those who may have bandwidth or computer limitations, have the ability to hear and participate in the meeting. We appreciate your feedback on the effectiveness of the meeting and will use your comments to improve future meetings like this.

In addition to having an annual assessment meeting to discuss the performance of Indian Point, we plan to cover two other topics based on comments from senior NRC leadership to Congresswoman Lowey at the agency holder meeting to discuss the NRC expert evaluation team's findings on the hazards reanalysis of the Algonquin Gas Transmission line.

And also, on the proposed licensure transfer of the plan from NRC to Holtec. We plan to cover those topics during this meeting. And as mentioned, we're using this virtual format in light of the ongoing public health emergency.

We have speakers from the NRC to provide presentations on each of these topics. And we'll then spend the rest of the evening listen to your comments and responding to your questions.

In addition to our speakers, we have a number of other NRC staff supporting this meeting to help answer questions in areas that we believe you have an

interest. And I will turn the meeting over to (Dan Schroeder) who will discuss our assessment of Indian points performance during 2019.

(Dan Schroeder): Okay, thank you (Ray). So, let me introduce myself. My name is (Dan Schroeder). I'm a branch chief in the Division of reactor projects. I was a resident inspector for ten years and currently supervise the resident inspectors at Millstone and Indian Point. Slide nine, please

I would now like to introduce the resident inspector office staff. (Nik Floyd) is the current senior resident inspector. (Sarah Obadina) is the current resident inspector. (Diane Hochmuth) is the administrative assistant, and (Justin Vazquez), in the bottom right was a resident inspector for all of 2019.

And (Justin) has shown observing the Unit Two final shutdown in the control room on April 30, which is one of his final days on-site. (Justin) has since transferred to headquarters.

Also not pictured is (Brian Haagensen), who was a senior resident inspector at Indian Point for more than four years and was familiar to many attendees of the annual assessor meeting. (Brian) retired in June 2020, after the shutdown of Unit Two.

In 2019, there were three full-time resident inspectors, which implemented the NRC's baseline inspection program, the reactor oversight process, or ROP. Additionally, technical specialists from Region One office in King of Prussia conducted team and individual inspections. Slide 10, please.

At the NRC, our inspection program is a risk-informed program that requires thousands of hours of independent inspection to confirm plant safety, and that licensee addresses identified problems. Full-Time resident inspectors carry

out many routine baseline inspections under the NRC's reactor oversight process.

The NRC inspectors utilize various methods to conduct these inspections. For example, inspectors have the ability to attend any plant meetings or control room activities. All inspectors have the ability to view Entergy internal technical documents through the licensee's computer network. And our inspectors have unfettered access to the Indian Point Control Room, plant equipment, and security stations at any time of day or night.

We also have specialists from our regional office in King of Prussia, Pennsylvania, and headquarters in Rockville, Maryland, who conduct inspections or audits at the facility periodically. These specialists are experts in various technical areas, including health physics, engineering, security, emergency preparedness, and operations.

These inspectors periodically travel to the site from our regional office for inspections. Starting in March 2020, inspection techniques have been modified as part of the COVID-19 response to reduce chances of spreading the virus. Resident inspectors have been risk informed their samples - performing some inspection samples remotely.

Team inspections have been accomplished with reduced on-site presence, or remotely if practical. Techniques to reduce the chance of spread of virus on-site include mask-wearing enhanced cleaning, and social distancing. Agency-wide, the expectation for a number of samples required to be completed by resident inspectors will set to minimum samples for calendar year 2020.

At Indian Point, resident inspectors are on track to complete nominal samples, inspection samples this year. Slide 11, please.

Reactor oversight process 2019 assessment summary is as follows. Both Unit Two and Three remained in the licensee response column, or column one, with all green findings and performance indicators. No cross-cutting themes were identified. Over 8400 hours of inspection and related activities were conducted. And there were three green non-cited violations and one green finding documented in 2019. Since the end of the 2019 assessment period, Indian Point Unit Two shut down on April 30, 2020.

Looking forward, Unit Three is planned to shut down on April 30, 2021. In preparation for a transition to the decommissioning phase of Unit Three, Region One personnel have reviewed the inspection guidance and inspection manual chapter 2515, Appendix G.

Utilizing this guidance, as cessation of operations oversight plan has been implemented for Unit Three. In addition, the NRC continues to conduct shut down inspection activities of Unit Two. I will now turn the presentation over to Rich Guzman. Slide 12, please.

(Rich Guzman): Thank you, (Dan). Good evening everyone. My name is (Rich Guzman), the NRC project manager in the Office of Nuclear Reactor Regulation, assigned to Indian Point Units number Two and Three.

I work at NRC headquarters in Rockville, Maryland. And I'm responsible for the coordination of licensing and technical reviews supporting the overall license from project management for Indian Point. I'd like to provide a brief overview of the background and status of NRC staff's review of the Indian Point license transfer application, the current schedule for completion of the staff's review and within those items also covers some of the key aspects of the license transfer review process itself.

First off, as background, Entergy, the licensee, submitted an application in November of 2019, requesting NRC's approval of the proposed transfer of the Indian Point operating licenses for unit numbers one, two, and three, including the ISFSI general license, which is the independent spent fuel source installation to Holtec International.

The proposed transaction would also involve the transfer of Entergy's operating authority for conducting license activities at Indian Point to Holtec decommissioning international or HDI.

In January 2020, after the Indian Point application was accepted for review by the NRC, the application was docketed and published in the Federal Register for public comment and the opportunity for hearing requests. NRC staff generally aims to complete this review in a 12-month period after accepting the licensing action application.

In February 2020, the NRC received hearing requests on the license transfer application from both parties. Those hearing requests are currently pending before the Commission. We also received approximately 308 comments during the designated noticing period.

So, those comments will be - those comments will be considered at NRC's staff review and address as appropriate in the final staff safety evaluation.

As for current review status, we received the licensees formal response to several informational needs requested by the NRC staff just this past August, which we call requests for additional information or RAI's. And the staff is currently reviewing those supplemental items and working to complete its written safety evaluation by November 2020.

In terms of the process for issuance of NRC's decision on the transfer request, approval would be accomplished through an order authorizing the license transfer. Our current projection, if approved, is to issue the order along with NRC staff safety evaluation in the November or early December 2020 timeframe

Also, what we call a conforming license amendment would be approved by the order, and that conforming amendment would be issued upon completion of the sale closure, which is proposed by the applicants for the May 2021 timeframe. The conforming amendment would formally update the facility operating license to reflect the new owner and operator.

Finally, as far as other processes or reviews that are being conducted related to the proposed license transfer, I mentioned earlier that hearing requests are pending before the Commission, but I wanted to cover a few additional points as it is governed by a separate regulation.

Specifically, I want to point out that the NRC staff's decision on the license transfer request may be issued prior to the hearing request being resolved. And this is because agencies regulations direct the NRC staff to promptly issue a decision, whether it be approval or denial of the license transfer requests once this review is completed. Recognize that this may be done prior to the Commission's completion of its actions on the adjudicatory process.

And same time, note that the NRC staff's approval on a license transfer requests is subject to the Commission's authority to rescind, modify, or condition and approve transfer based on the Commission's decisions or outcomes in the hearing process. And at this time is scheduled for any

hearing proceedings or any adjudicatory related decisions have not been announced by the Commission.

And finally, another licensing action request under NRC staff review is related to an exemption request. In February 2020, Holtec Decommissioning international, in coordination with Entergy, submitted an exemption requests to allow the use of decommissioning trust fund money for spent fuel management and site restoration activity.

This would be considered beyond the scope of decommissioning activities as specified by the NRC regulations.

This review is also on track for completion by November, early December 2020 timeframe. And with that, my overview is complete. And I'll now turn it over to the next presenter, Mr. (Dave Skeen).

(Dave Skeen): Well, thanks for that. And Good evening, everyone. I'm (Dave Skeen). I'm the team leader for the expert evaluation team to look into the concerns pertaining to the gas transmission lines near Indian Point.

We did this in response to the Inspector General's findings. At that point, (Margie Doan) directed me to assemble a team of experts with the appropriate expertise and experience, who will be independent from the previous work described in the Inspector General's report.

I was selected for this task-based largely on my previous experience leading the NRC Special Projects division that implemented safety enhancements at US nuclear power plants following the accident, the Fukushima Daiichi Nuclear Plant that was caused by the earthquake and tsunami in Japan in 2011.

And probably just as importantly, I was selected because I had no previous involvement with the Indian Point issues to ensure that the team's evaluation would be independent from the previous NRC activities.

My casting was to lead a team of experts to conduct a thorough and independent review of the Inspector General's inquiry and provide the team's findings to the Commission with only 45 days. Including any recommendations related to the NRC's review of Entergy's hazard evaluation related to the pipeline.

In addition, the team was tasked to review the NRC's staff actions and provide any recommendations to modify NRC's internal processes and procedures if warranted.

I was very fortunate to assemble a team of NRC experts with the appropriate technical, regulatory, and legal expertise who had not previously been involved in Indian Point gas pipeline issues. In addition, the team secured additional technical support from outside the NRC, including (Steve Nanney), who is a gas line expert from the Pipeline and Hazardous Materials Safety Administration at the Department of Transportation and is on the line with us tonight.

We also contracted with experts in natural gas modeling and fire risk from the Department of Energy's Sandia National Laboratories. The team performed an independent review of the Inspector General's findings and interviewed both internal and external stakeholders who were involved in the issues identified in the Inspector General's report.

I'd like to note that everyone we interviewed, both internally and externally, were very forthright and candid in answering the team's questions, which was greatly appreciated by the team.

Our findings were documented in a final report to the Nuclear Regulatory Commission's chairman and commissioners on April 8th of this year, and that report is publicly available.

The NRC's Executive Director for operations, Ms. (Margie Doan), did accept all the team's recommendations and informed the Commission that the staff would implement the team's recommendations. Let's go to slide 15, please.

So, to touch briefly on the team's key findings, our bottom line was that after all the review that we did, the Indian Point plant remained safe. A rupture of the 42-inch pipeline near Indian Point is unlikely to occur. And if such a likely event does occur, and there is a rupture, the nuclear power plant, and the stored nuclear fuel would be protected.

In addition, the team substantiated several of the technical and procedural findings that were in the inspector general's report, and as a result, we developed a number of recommendations for NRC action.

First, we recommended that Entergy be asked to revisit the optimistic assumptions that were used in its hazard analysis to determine if the analysis needed to be updated. The team made this recommendation because even though we ultimately concluded that the plant would be protected from a rupture of the pipeline, during our review, we learned from the gas line operator that there were discrepancies in two assumptions made by the licensee concerning the time it would take to isolate the pipeline in the event of a rupture, as well as the length of pipe that might have to be isolated.

And since the assumptions used in the licensee's previous analysis were overly optimistic, it was Entergy's responsibility to evaluate and document the safety of the Indian Point reactors when new information is learned that indicates the information previously provided to the NRC on the record may be inaccurate.

In addition, the team made recommendations to improve similarly the NRC's assessment processes and procedures. I'll touch on those later in the presentation. Slide 16, please.

So how did we conclude that the pipeline was unlikely to fail. So, the team looked into the modern construction techniques, the stringent quality standards that were used in the construction precautions that would limit the likelihood of damage to the pipe.

The section of pipeline near the Indian Point Energy Center was designated as being in a high consequence area, in accordance with department transportation requirements. Therefore, the pipeline operator met or exceeded all the requirements for a high consequence area, which includes several of these items.

Number one, the installation of stronger pipe with thicker walls than normal piping. The piping is also buried deeper in the ground with the addition of concrete slabs in the ground above it along with warning tape so that it would minimize the chance of even heavy digging equipment being able to strike the pipe accidentally.

Also, additional corrosion protection within both additional coatings to the external and internal surfaces of the piping to minimize any corrosion. In

addition, there was all of the weld - field weld inspections -all field welds were completely inspected, rather than just the sampling as done on sometimes on normal piping runs.

And then, finally, when the pipeline was completed, a hydrostatic pressure test at much higher than the operating pressure ensured that there was no leak in the piping before it was placed in service.

Once the pipe is placed in service, operator's responsible for integrity management program that will provide risk assessments on a periodic basis, as well as help prioritize the periodic inspections that take place of the piping during a service life.

In the state of New York, in this case, the Department of Public Service conducts the periodic inspections of the pipeline under an agreement with the Department of Transportation's Pipeline and Hazardous Materials Safety Administration. And during our team's review, we confirm with the Department of Public Service that there were no violations or open issues concerning the pipeline's construction or the gas line operator's integrity management program for the piping. Next slide, please.

So, the team, even though it's unlikely that the pipe would have an accidental rupture, the team did look at well what happens if there is a rupture. And so, let's go to the next slide on 18. I think the pictures is easier for folks to see, thank you. We blew the picture up, so to make it easier for people to see it.

So, the team did get visit the Indian Point site just before the COVID-19 emergencies. In the first week of March, we visited Indian Point. And we observed firsthand the location of the plant's safety-related equipment, as well

as the spent fuel pools and the dry fuel storage containers, and where they were in relation to the pipeline.

The team confirmed that the plant equipment is at a distance from the pipeline. There's more than two times the potential impact radius or PIR that you see on the drawing that picture there.

And that the potential impact radius is defined by DOT as the radius of a circle with which the potential failure of a pipeline could have a significant impact on people or property.

And in talking with the pipeline experts and investigators, we learned that a good rule of thumb for looking into the possibility of damage from a pipeline rupture is most of the experience we've seen is within that orange circle, which is the PIR, which is a one radius or one potential impact radius.

But if you went out to one and a half, or maybe 1.7 times the radius, you can be pretty sure that there wouldn't be much damage from the event at that point.

So, you see the green circles there that would be two times the potential impact radius. And I forgot to mention the yellow line going along the bottom there is the 42-inch line itself. If you look at the overall photo, the Indian Point reactors, the energy center is designated by the yellow pin-up in the upper left corner.

And then just to briefly mention the little blue pin you see this has ISFSI in front of it, that is actually the dry cast storage facility where the spent fuel is put into dry cask in that area. As you can see, it's very far away from the impact radius or even twice the impact radius of the gas line.

In addition, we looked at even if there was a potential for a fire, or a blast that might impact the site, we looked at the robust concrete and steel structures that house the safety related equipment that would be needed to shut the reactors down in maintained reactors in a safe shutdown condition, and determined that the buildings would withstand any blast or fire that could be caused by the rupture of the pipeline.

Let's go to Slide 19, please.

So just to briefly mention, if we did identify, in addition to the plant issues, some of the NRC's internal processes. And so we met with -- there was a kind of concerned individual that had written a petition to the NRC to take regulatory action, and it had raised several issues with his concerns about the pipeline and the plant.

And certainly the NRC takes these concerns very seriously and we certainly appreciate the individual raising these issues to our attention. As a result, the team met with the individual and his responses to our questions, as well as additional documentation he provided were very helpful to us in developing our recommendations to improve the NRC's internal processes and we appreciate that.

To the team's evaluation of the findings in the inspector general's report, as well as our interactions with the concerned individual and the interviews that we perform with our internal and external stakeholders, the team did develop several recommendations related to our internal processes.

And I won't go in detail through all of these, but just to highlight a couple of them. In particular, the petition reviews under our 10 CFR 2.206 process. We

certainly found that there were areas for improvement there that would help us make better decisions as we are reviewing the petitions that we get from the public, as well as documenting our decisions.

And then, ensuring that the folks that serve on our petition review boards in the NRC have some independence from the issues that are being raised so that there's not a conflict of interest between some of the technical staffs, if they may have performed some technical review, and then have to review their own technical products to make a decision on whether to accept or deny a petition from the public.

The other one I would mention here is the pipeline analysis. We also learned by doing our review, that although we have guidance on how to do gas pipeline reviews, there were several areas where we thought that it could be improved to help both the regulator and licensees to use this guidance, our regulatory guidance when you're doing pipeline analysis.

And when should someone do a detailed analysis of a pipeline and if so, how to do that analysis is needed. So I would just focus on those two, but I can certainly answer questions on the others if there's interest later.

So with that, that's the end of my presentation, and I will turn it over to (Mel Gray) to talk about the follow up inspection that was performed as a result of the expert evaluation teams report. Thank you.

(Mel Gray): Thank you, (Dave). My name is (Mel Gray). I'm a branch chief in the NRC's region one office located outside of Philadelphia. I have oversight of the staff who performed follow up inspections this past July, related to Indian Point in the nearby AIM project pipeline. Slide 21, please.

Acting on the NRC experts' teams recommendations, the NRC Region I office requested Entergy to revisit the assumptions in their analyses related to the time it would take for the pipeline operator to identify a pipe rupture and close isolation valves.

Additionally, we asked Entergy to consider the length of pipe that would need to be isolated. Now if Entergy found the changes to their assumptions were warranted, we requested Entergy to assess whether they consider the changes to be material to their conclusions and update their records.

As a result, Entergy staff reengaged the AIM pipeline owner and determined that the time needed for pipeline operators to identify, diagnose, and close isolation valves could range from six to eight minutes. So Entergy revised their assumption to eight minutes versus the previous three minutes as a bounding time for an operator to isolate the pipe.

Energy also determined that the isolation valves further away than those closest to Indian Point could be used to isolate a rupture location. This resulted in a revised assumption that approximately 11 miles of pipe versus the previous three miles may have to be isolated in the event of a pipe rupture.

NRC provided to the NRC, their revised evaluation and supporting hazard analyses in late June 2020. In their letter Entergy stated that they revised assumptions only affected to their review of one type of hazard, but that there was no change to their prior conclusions that the presence of the 42 inch AIM pipeline near Indian Point represents no significant reduction in the margin of safety, and that a license amendment from the NRC was not required.

Now to independently assess these results, inspectors from my branch traveled Indian Point in mid-July to review records, tour plant structures and walk

down sections of the AIM pipeline. The inspectors independently verified pipeline distances to structures and equipment, noticed pipeline layout and observed local topography.

The assigned inspectors did not have involvement with prior NRC inspections related to the main pipeline. Now they were joined by NRC headquarter staff member who also served on the NRC expert team. Additionally, two NRC headquarters members with expertise in modeling of external hazards, greatly assisted the team during the inspection.

These staff members from headquarters also did not have prior involvement with NRC inspections related Indian Point in the nearby AIM pipeline. Now, the inspection continued into August remotely as a team critically reviewed both Entergy revised analyses provided to the NRC in June 2020 and their previous analyses from 2015.

The inspectors discussed with Entergy staff to specific models, methods, and calculations in detail. As result, our inspectors identified several more rounds of questions and received further information from Entergy staff to verify that these models methods and calculations were appropriate and consistent with industry and regulatory technical guidance.

Our conclusions from this inspection were made available last Wednesday in the standalone publicly available NRC inspection report. Recognizing the interest in this topic, our report provides significantly more detailed and typical regarding our activities and conclusion. Now a report document several overall conclusions which I will cover in the next three slides. Slide 22, please.

First and foremost, we found the structures and equipment needed to safely shut down Indian Point unit three and ensure safe storage of spent fuel at the facility will not be affected by a rupture of the nearby AIM pipeline.

As background the term safety related in the slide title applies to specific structures, systems and components needed to safely shut down the reactor and maintain the plant safely shut down. The NRC requires these structures and equipment to be designed and manufactured to the highest quality standards.

These standards are also applied to structures and equipment used to store spent fuel. Now at the Indian Point site, all safety related structures and equipment are located within a physical barrier called the security owner-controlled area or SOCA, S-O-C-A.

The SOCA is highlighted and labeled in white in the photo shown on this slide. The AIM pipeline is shown in green nearby, where it is enhanced with additional design and construction requirements.

The hazards associated with the AIM pipe are listed to the right of the photo and involved a jet fire, vapor cloud explosion, vapor cloud or flash fire and the potential for projectiles from a pipe rupture, described as missiles.

A few words about each. Assuming the pipe rupture, the most likely hazard involves what is called a jet fire. Upon a pipe break a jet flame would result if there's a local ignition source, such as from sparks due to rocks or pipe fragments. Heat is the concern here and there is no explosion hazard, as the heat varies directly with the gas flow rate.

Another hazard results from a potential vapor cloud explosion. This hazard involves a spike in pressure or an overpressure wave. The vapor cloud here is a turbulent cone shaped volume, anchored at the pipe rupture location consisting of natural gas and air vigorously mixing together.

The mixing results in the portion of the natural gas being within its flammability limits and air which range from 5% to 15%. Gas exiting is a cone shaped volume is less than its flammability limit due to this mixing. The size of the turbulent jet is determined by the flow rate out of the ruptured pipe.

Now, if there is an ignition source, the turbulence in the cone volume can accelerate combustion and result in an explosion or detonation instead of just burning the gas. Afterwards, the scenario reverts to a jet fire.

Of note here, our inspectors found Entergy staff also considered the potential for an explosion to occur in an area where there is a belt of trees. Explosion in this specific area can hypothetically occur not as a result of the turbulent mixing I just described, but simply from the gas becoming mixed efficiently in the congested area of trees.

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A third hazard can involve a vapor cloud or flash fire. This refers to the burning of natural gas in open air in a non-explosive fashion because the cloud lacks turbulence. This can occur if there is not an ignition source at the rupture. If there is an ignition source subsequently remote from the pipe break, a fire can flash and burn back to the source.

And finally, pipe fragments or missiles were considered as a hazard. Now for the jet fire, vapor cloud, explosions, and missile hazards, our inspectors found that Entergy staff developed specific exclusion distances measured from a

postulated AIM pipe rupture location to a point beyond which damage to structures or equipment will not occur.

For each of these hazards, the inspectors found the SOCA, the S-O-C-A was further away and outside these exclusion distances showing that safe related structures and equipment would not be damaged.

For the vapor cloud or flash fire hazards, our inspectors determined that no exclusion distances were identified by Entergy in either their 2015 or 2020 analyses, because Entergy stacks considered that the buoyancy of natural gas compared to air would elevate the vapor cloud as it is diluted and equipment structures would not be affected.

So for each of these hazards, we found that Entergy's analyses demonstrated the heat and over pressure effects at the SOCA would be at a level that demonstrated that all safety related equipment within the SOCA would not be damaged, and will continue to perform their safety functions as intended.

Slide 23, please.

As described previously, Entergy revised their assumptions related to the maximum time it would likely take for the AIM pipeline operators to identify and diagnose a pipe rupture and the length of pipe to be isolated. These changes from three minutes and three miles to eight minutes and eight miles were described previously.

Our inspectors found that assumptions regarding isolation time and pipe length isolated were not used by Entergy staff in their 2015 analyses to determine the impact of pipeline hazards on safe related equipment related to a jet fire, explosion, and missile.

The analyses for these hazards were based on initial conditions at the time of pipe rupture, and subsequent valve closure time and pipeline isolated had no bearing. Regarding the vapor cloud fire hazard, our inspectors determined that Entergy staff considered the time needed to close pipeline valves in a calculation that showed that a vapor cloud may extend some distance as it dilutes depending on atmospheric conditions.

However, we found Entergy did not use this calculation to determine the impact of a cloud fire hazard on any safety related structures and equipment. Because if there was an ignition source, the vapor clouds would be overhead due to the buoyancy of natural gas, be of short duration, and not damage safety related structures and equipment.

Our inspectors reviewed Entergy's revised analyses in 2020 and found that Entergy's staff performs no new calculations for this has the only clarified their basis that a natural gas vapor cloud fire is extremely improbable due to the buoyancy of natural gas both early in the release, when intense mixing dilutes the gas and later on after pipeline isolation valves are closed and flow is lower.

NRC inspectors evaluated this analysis by affirming the flame properties of natural gas in air and walking down the AIM pipeline near Indian Point, which showed that the terrain did not support a vapor cloud at ground level near the SOCA. The inspectors also found by review of literature that the behavior and hazards associated with a natural gas vapor cloud fire as presented by Entergy staff we're consistent with discussions in this industry technical references.

Consequently, the inspectors reviewed both Entergy's 2015 and revised 2020 analyses found the assumptions related to valve closure time was not a factor

in their vapor cloud fire hazard conclusions. And considering it was not used anywhere else, the inspectors concluded the assumption was not material to the information provided to the NRC. Slide 24, please.

In reviewing Entergy's revised 2020 hazard analysis, we found that Entergy's staff incorporated several additional conservatism's and refinements that resulted in an increase in the calculated exclusion distances related to heat and over pressure for jets fire and explosion hazards. The inspectors affirm none of these changes were related to assumptions involving pipe isolation time, or length of pipe isolated.

For the jet fire hazard, the inspectors found that NRC staff used an updated version of the software, which added the capability to angle the jet fire towards the facility, rather than modeling as a vertical jet. The resulting increase in heat flux did not affect safety related equipment.

For the explosion in the turbulent jet hazard, the inspectors found that Entergy calculated and an increase in the exclusion distance for overpressure because we assumed the higher flow rate which made the turbulent jet volume larger.

Specifically, the inspectors found that Entergy staff calculated the flow rate using the maximum operating pressure right at the time of rupture, rather than an average over the first minute. The inspectors consider this change to be conservative, because the gas flow rate drops off significantly after a pipe rupture.

Finally, for the vapor cloud explosion hazard in a specific tree belt location, we found Entergy staff refined their analyses to consider that this hazard can hypothetically develop only after valves are closed, and the inspectors found

Entergy's staff used appropriate models and methods to calculate and exclusion distance for this hazard.

Considering these additional added conservatism's and refinements, we found that safety related structures and equipment were still beyond the exclusion distances, and therefore would not be affected by a postulated AIM pipeline rupture.

I'd like to now turn the presentation over back to (Ray Lorson), for closing remarks.

(Ray Lorson): Thank you. We've had an opportunity to go through a number of presentations. And in just a second, we'll be taking questions. Is there another slide here (Sarah), that we can turn to --we just want to capture a couple of final thoughts?

If you have questions following the meeting, that are not addressed or if something else comes to mind, there are a number of ways that you can contact the NRC. And so we've presented them here on this slide. Just something to keep in mind these slides are publicly available and just want to make sure that it's clear how you can contact us if you have an interest for follow up. Next slide please.

In the Region I office, we have two full time public affairs officials, (Diane Screnci) and (Neil Sheehan). They're also points of contact that the public can contact should they have a question or follow up after the meeting or in response to anything else that you might hear relative to the plant. Next slide, please.

We also are active on social media, here are some of the different venues that we participate in. And so they're offered here for reference, if you want to check them periodically or to log in for those particular mediums. They're available as well. Next slide.

And I mentioned in my opening remarks, we are interested in your feedback, your comments. This is a very unique scenario for us as a result of COVID. And so please, if you have thoughts you'd like to share, please take time to fill out an annual assessment meeting feedback form. We do look at the results and try to use the comments to improve the effectiveness of the meeting. Next slide.

Okay with that, that concludes the NRC's prepared remarks. And I will turn the meeting back over to (Brett Klukan), our facilitator for this evening.

(Brett Klukan): Thank you right before we head into the public comment portion, or the public question answer portion of the meeting, as I noted at the outset, I would like to extend an opportunity at this time to elected officials or representatives of their elected officials to get prepared remarks.

And I'd like to start with Miss Megan Glander, the Regional Director for Senator Schumer. Miss Glander, if you could press Star 1 on your phone now, so that the moderator can identify you and unmute you. And Calvin, whenever you're ready, please unmute Miss Glander.

Coordinator: Thank you. One moment, please. Miss Glander, your line is now open.

Megan Glander: Great, can you hear me?

(Brett Klukan): Yes, we can hear you. Thank you.

Megan Glander: Wonderful. I appreciate the NRC holding this virtual meeting tonight and Senator Schumer wishes he could be here, but you know, things are pretty hectic back in Washington right now. But regardless, the future of Indian Point and its surrounding communities are top of mind.

And he wanted me to pass a few concerns on and some of our thoughts. So first, the process of decommissioning Indian Point is well underway, and our team is regularly meeting with Entergy, Holtec, and the NRC to make sure that we are informed and that the community concerns are heard and adhered to.

Senator Schumer is a proud co-sponsor of the Stranded Act and he continues pushing for transparency and extensive community engagement, and we urge the NRC to use its authority to ensure the decommissioning proceeds with the proper financial assurances that this community so rightly seeks.

The senator will work ceaselessly to ensure the Indian Point is decommissioned safely, the community is not further financially burdened, and that the site is restored to a state that is befitting of our beautiful region. After all the money that is used to decommission the plant and restore the site, the decommissioning trust fund is paid for by the ratepayers meaning this community and it is the NRC his responsibility to oversee the use of these funds.

Senator Schumer demands robust and good faith engagement from the NRC because the health safety environment and economic well-being of seeing of the communities surrounding Indian Point depends on it.

This must come before the profits of Holtec, NRC or any other company because at its core, the NRC is responsible for keeping our communities safe. And the NRC is lack of transparency in the recent gas pipeline scandal has raised serious concerns for this community as the NRC reviews Entergy and Holtec's license transfer application.

As mentioned in late February, the NRC inspector general released a report saying that the agency misled the public about the safety of building a massive high-pressure gas pipeline under Indian Point. Disturbingly, their report found multiple significant problems with how the NRC staff analyzed the safety of the fitting new natural gas pipeline underground at Indian Point.

Senator Schumer just wanted me to reiterate that this is totally unacceptable, coming from the agency charged with overseeing the safe, comprehensive and transparent decommissioning of Indian Point and that the NRC in conjunction with all relevant state stakeholders, whether it be state, local or federal needs to reevaluate its process for peer reviews, inspection support, petition reviews, interagency work and pipeline analysis.

A similar lack of transparency, or failure to ensure the public is properly informed about the decommissioning of Indian Point is just wholly unacceptable to Senator Schumer. And we will continue to do everything in our power to ensure that the NRC, Entergy and Holtec are acting with this community safety, prosperity and health in mind.

So thank you again for your time. And I encourage the community to reach out to our Hudson Valley office to discuss this further. Thanks.

(Brett Klukan): Thank you very much. If there are other elected officials or representatives of elected officials, who would like to get prepared remarks at this time, please,

please press Star 1 on your phone to identify yourself so that the moderator can unmute you.

And it looks like (Calvin) that we have one additional person who has identified themselves as wishing to give prepared remarks at this time, Mr. Wolf. So (Calvin), if you could go ahead and unmute him at this time. Thank you.

Coordinator: Thank you. Mr. (Wolf), your line is now open.

(Wolf): Yes, this question is directed to our (Rich Guzman). Could you please clarify what you said with regard to Holtec's application for an exemption regarding using the decommissioning funds for nuclear waste management? Thank you.

(Rich Guzman): Hi, Mr. Wolf. (Rich Guzman) here. Thanks for your question. Yeah, what I was referring to was a, a licensing action submitted back in February of this year, submitted by Holtec in coordination with Entergy, and that relates to an exemption request essentially to use the decommissioning trust funds towards the use of non-radiological decommissioning activities and specifically it's for use of site restoration activities and the management of spent fuel.

(Wolf): Is that going to be considered independently of the license application?

(Rich Guzman): They are being considered independently. We have -- they are separate reviews and are governed by separate regulations. However, they are aspects that overlap I guess, with you know, between the reviews, particularly as it relates to decommissioning trust fund and the financial qualification review reviews that is being conducted.

One example would be the decommissioning plan that that was submitted as part of the license transfer application. Those figures reflect cost estimates that are consistent with the projections made in the in the exemption request, namely decommissioning trust monies to be applied partially to those other activities.

(Wolf): And if Holtec receive reimbursement based on the 2012 court ruling, are they required to put the exemptions of the money that they use for nuclear waste management back into the decommissioning fund?

(Rich Guzman): Again, we don't want to get into the details of the review, which is right now still being reviewed. So that would be pre decisional information. We do have our financial qualification reviewer on the line, he can perhaps provide his perspective as it relates to that particular question.

But again, we have not made a determination on that exemption, but we are targeting the November, early December timeframe to complete our review, whether it be to accept or to deny that application.

(Wolf): Thank you.

(Brett Klukan): Okay, before we move on to the public speakers, just a one or two more slides. Next slide, (Sarah), please.

Okay, so, just wanted to alert you that we do have some additional staff who's not yet spoken available to answer your questions. We have (Dan Collins), Director of the Division of reactor projects in Region I, (Nik Floyd), Indian Point senior resident inspector, (Anthony Dimitriadis), the chief of the decommissioning independent spent fuel storage installation and reactor

health physics branch in Region I, and then Kevin Mangan, senior reactor inspector in Region I. Next slide, please.

Beyond those staff that were in the region office, we also have with us available to answer your question, (Rich Turtill), senior financial analyst (John McKirgan), chief of the storage and transportation licensing branch, (John Wise), senior materials engineer, (Patricia Milligan), senior level advisor for emergency preparedness, and (Bruce Watson), chief of the reactor decommissioning Office of material safety and safeguards. And these again are staff from our headquarters offices. Next slide, please.

Okay, how to ask them questions. So we - I already covered this but very quickly, if you would like as a member of the public to ask a question, to raise your hand, so to speak to be called on press Star 1 on your phone. If you're having difficulties with your phone or with the bridge, press Star 0.

Again to raise your hand to identify yourself as someone would like to make a comment or ask a question press Star 1. The order of the speakers tonight will be determined by the order in which individuals queue up using Star 1.

The phone bridge moderator will be in control of unmuting speakers when it is their turn to speak. The NRC, you know doesn't have any say in terms of how that order is presented. It's literally you know, the way in which it lines up within the system, just to be clear.

This line is also being recorded. A transcript will be developed after the meeting. At the beginning of your comments, I would ask that you please state your name and spell it if you would so care to just so we capture it correctly for the later transcript.

And with that, we will now start with the question-and-answer portion of the meeting. So again if you would like to speak, please press star 1 on your phone. And again the speaking time will be limited to 3 minutes and I will be recording – keeping track of that.

So with that, it looks like we have several people in the dashboard who had queued up to speak. (Calvin), can you unmute the first individual?

Coordinator: Yes, sir. First individual is (Paul Blanch). Your line is open.

(Paul Blanch): Good evening ladies and gentlemen. I think most of you know me and especially (Dave Skeen).

And I might have more than 3 minutes because the entire first part of the discussion is about me and my issues so I think I have – may have the right but I'm not going to rumble on but I may need more than 3 minutes. I have spent more than 3 years on this.

And I would like to talk about, well, first of all (Dave Skeen) recommended or mentioned that there was a concerned individual and I was the concerned individual and I appreciate (Dave)'s comment that, you know, we had a very good dialogue and we appreciated it very well.

The first question and you don't have to answer it now is, I filed a 2.206 petition in 2015 related to this issue and I need some time in the future for someone to address whether that petition has been closed out. And if it has been closed out which is very possible I would like to see the close out.

The other major issue is we - (David) and (Mel Gray) both talked about the AIM pipeline and I had brought up not only the AIM pipeline but the 70-year-

old pipelines that run within a few feet of the security owner controlled area. No mention to that. That is where the major danger is.

They're about 400 feet from the electrical switch gear room and they have never been addressed by (Dave), by (Mel Gray), by the Inspector General and so on and so forth. That is a significant issue that has not been resolved.

We saw in the report from (Sandia) some projection about the pressure wave and gas going up to somewhere around 8,000 feet. (Dave Skeen) and I discussed that and we are in agreement that that has never happened before and agreed that because of the low probability of its occurrence it really doesn't need to be addressed.

The other thing that really bothers me and I'm not sure who is qualified to answer this, it is clear from the Inspector General's report that the NRC misrepresented information supplied to me. No action was taken against those people that supplied that misinformation in other words, lies to me. That bothers me like the NRC let our administration, get away with lying and not be held accountable.

And the second thing along those same lines is that there is no doubt about it that Entergy supplied material and we can argue about material but inaccurate and incomplete information in violation of either 10CFR 50.5 or 50.9. This related where Entergy said that we're closing three minutes. This was a rectal extraction. Had no basis. It was false information. Again where was the NRC in protecting the public and taking some enforcement action against Entergy?

The other topic I briefly want to cover is related more to (Bruce Watson) and that has to do with the Holtec canisters and an issue that I'm working on at Southern California Edison. And that has to deal with 10CFR Part 72.236L

that basically says that the containment surrounding the spent fuel in the dry cask must be tested and analyzed and assure there is no leakage. And that analysis would be the radiological analysis and the probability.

The NRC in response to a FOIA that I received last week and that FOIA number was 2020-000309 stated that leakage from a dry cask is not credible. That statement by itself and used throughout the FSAR and the Safety Evaluation Report for all of the Holtec cask shave not been credible is not defined and is a totally, totally, unsupported statement.

And I would like to ask (Bruce), what is meant when the NRC says publicly that an event is not credible? And you can put that “not credible” in quotes and it’s from the Safety Evaluation Report and from the Holtec FSAR and this is a very big deal nationwide when the NRC to make a statement that is totally undefined. And I believe they are saying it is impossible. It is not impossible.

So (Bruce) if you would to try to respond to that brief question I would appreciate it.

(Ray Lorson): Hold on Mr. (Blanch). This is (Ray Lorson). We’ll listen to all your questions and then I will direct responses from the NRC. Thank you.

(Paul Blanch): Yes. That’s the only – the others were statements. The last thing was the only question I had and that’s intended for (Bruce).

(Ray Lorson): Okay.

((Crosstalk))

(Ray Lorson): Yes. Thank you. So the last statement that you had was a question with some reference to a Free of Information Act requesting form related to the adequacy of the confounded boundary for dry storage containers. It turns out that Mr. (Watson) is not really the subject matter expert in that area. It would be (John McKirgan). He is our Branch Chief from the Office of Nuclear Material Safety that's responsible for that area.

So John, do you have any thoughts on that particular question (unintelligible) with Mr. (Blanch) at this time?

(John McKirgan): If I could, yes. Thank you. Thank you very much. So this is (John McKirgan), I'm Chief of the Storage and Transportation Licensing Branch. Thank you Mr. (Blanch) for the question. I appreciate that.

That is a phrase that's used quite a bit throughout the agency. I would like to offer a couple of things.

The NRC has done a number of risk assessments on dry cask storage. It has been determined to be a very safe. These are extremely low risk events.

In the context of the use of that phrase in any particular FSAR generally is used in association with particular sequence or scenario. For example, a cask cracking through some damage mechanism or in the case of other suggestions or interactions that we've had with you, thermal shock. And it's those sequences that are considered to be not credible.

And so what the staff does in our evaluations of storage casks is, we look for damage mechanisms or action sequence of the reactor space would be the analogue. We look for mechanisms that could result in a cask breaching. And

then we analyze them. We assess them based on our risk studies to assess whether that particular sequence is credible or not.

And so I think when you look at many of the sequences that are described in the FSAR you'll find a determination by the staff that many of those sequences are not credible.

I'd have to look at the specific citations that you're referring to in the FOIA. The FSAR are, you know, 1000-page documents and you might see that phrase in a couple of different contexts. I might ask...

(Blanch): Yes, we do.

(John McKirgan): ...my colleague John Wise might want to offer some additional thoughts. He's a materials reviewer who looks at these issues quite closely.

(Paul Blanch): One comment. My FOIA request specifically requested any and analysis supporting that determination of not credible, the response to the FOIA request did not – it was silent – have any reference to any analysis or risk assessment of loss of integrity of the multipurpose canister by Holtec. I will be following up on that issue formally.

(John Wise): Okay. This is (John Wise) at the NRC. And Mr. (Blanch) again I have to admit, I don't know the details of your, you know, most recent FOIA request. But you were correct in that for welded canisters we have not identified a breach as a credible event.

And the exception to that and I know you follow our work is really whether or not there are any long-term aging effects for those welded, stainless steel

canisters. Just specifically, you know, the stress, corrosion, cracking phenomena.

But absent that long term potential aging effect that can occur under a certain condition it is true that we would have a generic conclusion that leakage from welded stainless-steel canisters is not credible. And you're looking for some specific analysis like at the – admittedly I'd have to dig through the documents to see what we can provide to you.

But I guess what I can say is in our New Reg 2214 which is a document that looks at long term degradation of these canisters. We did go exhaustively through the ways these canisters can degrade and then identify a single aging mechanism – stress, corrosion, cracking being a potential long term means for a canister to crack. But that only occurs under very specific scenarios.

Very specifically if you're near the seashore and you're in a very, very high humid environment like here on the Gulf Coast. But here we are talking about in New York and I would say that mechanism is simply not credible even in the long term.

(Paul Blanch): Well, okay. I'm not going to hold you up but you've just told me there is a credible event which is in conflict with the way they are stated in the SER for the Holtec canister, for the UMAX canisters.

So there are credible events – credibility – credible is not defined and I can tell you this, I will be following up formally next week addressing this issue in a formal matter. What is being said by the NRC as being not credible is like telling me an airplane crash is not credible. There is no formal definition of what you're saying there and it's quite upsetting to me as a professional engineer.

(John Wise): I understand and I'm sure we'll have the opportunity to discuss this further. But to be clear, the mechanism that I was just inferring to is a long-term aging mechanism. It's not something that we would consider to be credible in the license of the UMAX the first 20 years. It's simply not something that...

(Paul Blanch): That's not what the FSAR says or your Safety Evaluation staff so.

(Ray Lorson): If I could just – this is (Ray Lorson). If I could just interrupt, please. It's been 13 minutes I'm, afraid. We did afford you some additional time Mr. Blanch as you requested. But we – I think that you do still have some questions and you indicate you are going to follow up and so, you know, we'll address those questions separately as, you know, when we receive the follow up information or whatever you provide.

And, you know, I think we want to be respectful to the other meeting participants and ask that we go onto the next commenter please.

(Paul Blanch): I agree 100%.

(Ray Lorson): Thank you.

(Brett Klukan): Thank you very much again Mr. (Blanch). So again if you would like to speak this evening and you have not already done so please press star 1 on your phone to identify yourself as a potential speaker.

And so just to give you some sense of the order as we can get from the Moderator, next up to speak will be (Fred Polvere), (P-A-L-V-E-R-Y), then (Susan Shapiro) and (Richard Webster) and then (Nancy Vann). And again if you have not already done so please press star 1 on your phone.

Given the number of speakers we have lined up I'm going to extend it to 4 minutes per person and then we'll go from there. So again if (Calvin) if you could unmute (Fred Polvere) at this time. Thank you.

Coordinator: Thank you. Mr. (Polvere), your line is now open.

(Fred Polvere): (Fred Polvere) P as in Peter, O-L-V as in Victor-E-R-E. Before I ask my question I would like to comment on this seminar. This is probably the worst seminar and I have been on many including the previous one that I have ever been on.

First of all, you should be emailing all the participants your slideshow before you do it. We do not need people reading to us while we are reading – speaking to us while we are reading the slideshow – the presentation.

Secondly, we don't need to know everyone's resumes. We don't have the chat and we are not able to see what other people are in on these – what other participants except for the NRC speakers.

So all in all one more thing, not only that but doing this on the phone is obsolete. I mean, yes you could do it on the phone for people who don't need it, for people who have access to the Internet this is ridiculous. So in every sense it seems like we are going backwards on these seminars. Even the last seminar I was able to ask questions in the chat and I couldn't do it on this one.

So my question in the last seminar was, Holtec seems to be the frontrunner and the only runner to get this process and I asked – I pointed out that Holtec has a very checkered past and also that it appears that if they fail and it seems

likely they will fail that New York State taxpayers and not just Westchester County, we will be picking up the bill when the money runs out.

And the answer I got, I don't remember the person's name was, yes, that was in fact right. And I would like to know, why would you do that. Why would you as the Nuclear Regulatory Commission legitimize, authorize a situation, a company that has a checkered past to if they sell that I would have to pay for it?

Why would not the federal government pay for it? Why wouldn't Entergy have to take an insurance policy? You have so many options to make this not happen. But to put the burden on me as a New York State taxpayer shows that you're not interested at all in my concerns that you don't represent me.

That's my question.

(Brett Klukan): Thank you very much.

Coordinator: Our next question.

(Fred Polvere): What about my question?

(Ray Lorson): I apologize. I was speaking. I was brilliant but I was on mute. So let me try it again while I'm...

(Fred Polvere): The question is why are you allowing this to happen where we are going to be at risk the New York State taxpayers?

(Ray Lorson): Yes. So I got the question. There was really two parts to the question. The first part talked about Holtec and their ability to complete the work. And the one

point I want to make is that this review is still in process. We haven't made any final decisions. We will only approve the license transfer if we can verify that they have the tactical and financial capability to manage the project. So that's point number 1.

Point number 2 relative to adequacy of decommissioning funding. As you know our regulations or our requirements are such that the amount of money in the decommissioning fund has to be sufficient to cover the anticipated cost of the decommissioning.

Every year we are going to be getting a report with the financial spend on a yearly basis.

In addition to that we do inspections. If we see that they are one, not spending the money as specified or two, if we see that there is a pending shortfall in the fund we would engage early to ensure that Holtec which has the responsibility at that point in time to supplement the fund and there are different ways that they could do it.

So I think what you're describing is something that I don't anticipate would occur because of the ongoing active review and oversight that we provide for the fund. And with that, we have Mr. (Turttil) from our headquarters office who is an expert in the area of financial reviews. Is there anything else you would care to add (Rich)?

(Rich Turttil): Thanks (Ray). I want to just reiterate what (Ray) just mentioned. We take these the reviews of the financial qualifications very seriously determining that the applicants in this transfer are financially qualified, number 1. Number 2, they have the decommissioning funding assurance necessary to meet the

radiological decommissioning requirement of the IPEC site, Indian Point Energy Center Site.

We are taking a close look at cash flow what is available. It is always part of this analysis of the potential transfer and the qualification for this applicant.

So I just want to reiterate we would be reviewing as these facilities go into decommissioning, whoever the licensee is or who will be submitting annually the funding that they currently have in their decommissioning trust funds and we are looking at expenses. And we are looking at moneys released for decommissioning and that's all part of our ongoing review.

So right now there is a – in short there is a two-part review. There is the ongoing review – current review to evaluate the applicant and the potential transfer. And the regardless of the outcome, these facilities will be reporting on an annual basis what their decommissioning assets are what future decommissioning costs and expenses are expected.

(Fred Polvere): So I understand what you're saying. But what I'm trying to say is that, if you're wrong, I pay the bill and I don't like that and I think you could do something about that.

(Rich Turtil): And I will say, you know, there is what's called a reasonable assurance criteria and a standard for these regulatory requirements and we are seeking to do the – within that definition the best that we can do within a reasonable assurance review to determine that there will be adequate funding for decommissioning.

So I definitely understand the concern and the uncertainty with the future in the undertaking of such a, you know, a decommissioning activity. And again

our review consists of reasonable assurance that there is adequate funding for this undertaking.

(Fred Polvere): So does your review consider Holtec's past history?

(Rich Turtil): It may. I don't – I can't – As (Rich Guzman) indicated, we're in the midst of this review right now so it considers a lot of different pieces of information.

(Fred Polvere): Thank you. I want to reiterate that I think this seminar is run so badly and it's an outlier compared to other seminars and I have been on many of them – environmental, political and this is the absolute worse. Thank you.

(Ray Lorson): Okay. Thank you for the comment.

(Brett Klukan): Could we have the next speaker, Mrs. (Shapiro), please (Calvin)? And then she will be followed by (Richard Webster) and Susanne...

(Susan Shapiro): Hello. Can you hear me?

(Brett Klukan): We can hear you.

(Susan Shapiro): Hello. Can you hear me? Hello.

(Brett Klukan): Yes. We can hear you.

(Susan Shapiro): Okay. I have three comments. First on slide 18, it was interesting to me that at no point was the footage from - mentioned how wide these radiuses are. I would like to know the answer. I have read the PIP guidelines and I would like to know what that answer is, the blast radius that you're using. You just carefully do not mention footage. Can you answer that question first?

(Ray Lorson): I can answer that. What you see there are the outer most edges of the impacted radius. And so your center of the radius would begin at the pipeline and would extend out the distance and all the area that is encompassed by the circle would be considered to be - the smaller circle, the little red circle would be potentially considered to be within inside the potential impact radius.

(Susan Shapiro): I understand that. I'm asking what is that – how many feet? Is it 100 feet, 10 feet, 20 feet, 500 feet? How many feet are you going from the circle to the edge of the radius?

(Ray Lorson): From the circle to the edge of the radius – from the center of the radius to the edge of the circle it's several hundred feet and there is an additional...

(Susan Shapiro): Can you give me that exact – can you please identify what that number is?

(Ray Lorson): Yes. I don't want to get into the specific numbers. If you look at the...

(Susan Shapiro): Well, I do.

(Ray Lorson): ...the actual department of transportation regulation for calculating probable impact radius and you use commonly available information such as the band of the pipeline and the actual pressure of the pipe. It would give you a good understanding of the actual size.

(Susan Shapiro): I do know that myself. I'm asking you the question...

(Ray Lorson): If you look at the actual size...

(Susan Shapiro): ...what do you use?

(Ray Lorson): If you look at the slide it shows 845 feet on the slide that has been presented.

(Susan Shapiro): For the smaller circle or the larger circle?

(Ray Lorson): The smaller circle. The larger circle is just taking a thermal of the smaller circle size and doubling it.

(Susan Shapiro): Okay. That was the simple question I was asking. Thank you. Okay. Going to my next issue, if I want to place on the record a very strong objection to an exemption to use any of the exemptions being granted to be using the decommissioning funds to allow use for nuclear waste storage or anything to do with nuclear waste, if anything that should be done is the DOE is responsible for the nuclear waste.

They have been paying Entergy and all the other operators money every year for this nuclear waste storage. That money should either be given back and used for this or the DOE should be paying for it anyway. It should not be taking out of the decommissioning funds that were part of our rate. That's our money.

That's our – the people of the state, the reactor community's money to be used only for decommissioning and for nothing else. Not for nuclear waste storage. That's a problem. That's an industry problem. That is not what that money was for or dedicated to or agreed to be used for and you should not transfer it and I vehemently object any transfer of that.

I'd like because there is enormous amount of leakage at Indian Point that needs to be cleaned up as part of the decommissioning and we will run out of that money. Even the amount of money that is in there now.

So for you to exempt them from using any of that money and the gentleman just said, he doesn't think it's going to happen because this money is going to be used for decommissioning and they are going to be doing reporting. Then there is no reason to grant them this exemption at this point in time.

After the decommissioning is done we could possibly have that discussion. Do the decommissioning first, please.

And my final comment goes to what (Paul) was talking about regarding not credible and that I believe that's fully arbitrary and capricious for NRC to say that a leak from a Holtec cask is not credible. A leak from any cask is not credible and during what period of time, 10,000 years? 100 years? 50 years? And I have to ask you and I would like an answer, is human error credible?

And as the gentleman said, yes, there is some types of leaks that could happen in salty environments. And we know Indian Point is on the briny River with silo that will require to be installed, we need to make it to get fully installed before they were corroded by the briny moist environment on the Hudson Valley.

So I feel your "not credible" statement is absolutely incredible and needs to be removed. Unless you are going to tell me human error – there is no such thing as human error I cannot accept that statement nor can anyone else and nor should you.

So could you please answer my question, how many years are you saying their leaks are not credible for? 10,000 years? 100 years? 50 years? 5 years? How long?

We already know – first of all, we already know the casks are leaking. The same casks that have been approved are already leaking, so how can you say that it's not credible?

(Ray Lorson): Are you finished?

(Susan Shapiro): Yes, now I'm finished.

(Ray Lorson): Okay. I apologize because there was a couple of pauses there where I started to answer some of your questions. With respect to human error, certainly you always have the potential for human error. What we try to do in both the design and in the licensing review process and also in the operations of these types of canisters is we ensure that there are checks and balances and quality measures that go into place.

So for example, you know, the cask is designed to be lead tight well and it's constructed using industry codes or standards and in accordance to what the manufacturer's quality assurance program. Or at least don't accept the fact that it was manufactured in accordance with these standards we then mandate testing that's done of the confounded boundaries to look for, you know, evidence of things such as human error that may result in a later problem.

So certainly human error is always a potential credibility. However, we do try to ensure through checks and balances in the quality assurance processes that the licensees use as well as our own independent oversight and review that we minimize the potential to the greatest extent possible.

With respect to the leaking canisters, I'm not sure what you're referring to but I can say that there are many of these types of canisters are loaded all across

the United States it's my knowledge there have been very few if any examples where a canister has failed or leaked through one of welded boundaries.

So I do have (John McKirgan) here from our Office of NMMS. (John), do you have any information you care to share regarding any type of leaking casks because I'm not aware of any?

(John McKirgan): Sure. Thank you. Yes. So certainly there are no leaking casks for systems like these that are under NRC jurisdiction. And I think the question I was also going to mention San Onofre and I can assure everyone that there are no leaking canisters at San Onofre. They have been inspected many times.

If I could while I have the mic I'll just offer one additional comment on the question about the term, the period. And so when we do talk about non-credible in this context, we talk about a 20-year period as the initial licensing period for a cask and so we speak in that term.

When we look at a renewal of a canister an additional period of extended service we re-evaluate that and we look again to see whether it's appropriate to continue to consider leaks as non-credible. So that's part of a second review that the staff does as part of the renewal process for storage casks.

(Susan Shapiro): Where is the funding going to be coming from after 20 years to pay for this? Are you going to – as the other gentleman asked, are you going to (unintelligible) people of the reactor communities and then reactor states going to be responsible for paying for this after you've used the part decommissioning funds by possibly even granting exemptions?

For this where are you – where is this funding supposed to be coming from? Do you have a funding mechanism in place?

(Ray Lorson): Okay. That's an additional question. I assume we're still going to need to time. And the reason why just for clarification very quick. The reason why we established time limits isn't because the NRC was especially aware they were trying to be fair to every member of the public to give everyone an opportunity to speak who would like to speak.

So when you go beyond the time limit it's not that you're hurting us if you're hurting your fellow citizens...

(Susan Shapiro): I hadn't gone past my time limit begin with. I was under my time limit. I'm asking one more question. Where is the funding coming from?

(Ray Lorson): So your next question is the funding source for the spent fuel management and that's a separate regulation that (unintelligible) (Rich), would you be able to talk about that?

(Rich Turtil): Yes. So again (Rich Turtil) here. Thanks (Ray). So again we're looking at an applicant and Entergy as the transferee potentially suggesting they want to use an exemption. So the funding mechanism at this point should this be approved would be the decommissioning trust fund.

I do want to emphasize that we are reviewing annually the data that's coming in as to the current status. But in addition to that should there be a shortfall, if a licensee comes to us and says this is what we told you last year in terms of these are the costs anticipated, these are what we anticipate going forward. And if we are short, the NRC is going to require that the licensee provides funding at that point in time.

So if that's three years from now – so I just wanted to ensure in response to your question the funding source as proposed by the licensee or the applicant it will be a DTF (Decommission Trust Fund). And again I want to reiterate our review process on an annual basis that our requirement that that DTF has adequate funds for what is planned for decommissioning – for the decommissioning activity.

(Brett Klukan): All right. Thank you very much...

((Crosstalk))

(Brett Klukan): So could (Calvin), could you unmute (Richard Webster) at this time? Thanks.

Coordinator: All right. Mr. (Webster) whenever you're...

(Richard Webster): Hello. Can you hear me?

(Brett Klukan): Yes. Thank you.

(Richard Webster): Yes. Great. Hello. I'm (Richard Webster) from River Keeper. (Richard Webster) spelled as it sounds. I have some questions about Holtec then I have a couple of questions about (unintelligible). I'll try and fit them all in.

So first of all, Holtec has a long history of bribes, lies and risk taking. Speaking of the bribes, Holtec bribed the contracting officer at the TVA to win a contract. It was subsequently suspended from contracting with TVA for a little while.

The redacted document strongly suggests Holtec current CEO and major shareholder Kris Singh was directly involved in this.

Holtec's partner has been convicted of bribery in Canada for activity in Libya where among other things he paid \$50 million to Colonel Gaddafi's son to get a contract.

In terms of lies, Holtec recently lied to the State of New Jersey regarding suspension from TVA contracting. As a result New Jersey suspended its annual payments of \$25 million towards a total of \$250 million.

Subsequently Holtec has the chutzpah to sue New Jersey. Clearly this suspension is causing it severe financial harm.

According to news reports Holtec is now under investigation and now under criminal investigation in New Jersey regarding (unintelligible).

Holtec also mislead NRC and the state of New Mexico regarding CIS application in New Mexico.

In terms of risk taking, Holtec is got tax (unintelligible) to go higher by promising to bring jobs there but fail to do so.

It also takes some decommissioning risk including site restoration of complex sites like Indian Point without brining any capital to the table, without a detailed site survey and without significant U.S experience in decommissioning.

All indications are this is not a company to trust with \$2 billion of taxpayer money – sorry, rate payer money or to decommission a couple other sites like Indian Point (unintelligible) radioactive strong steam and cobalt.

I have four questions about this. One, why has the NRC concluded that Holtec is a feasible company to decommission nuclear reactors?

Two, if Holtec is decommissioning Indian Point doesn't it need additional oversight due to its record and the scale of complexity of the decommissioning task at Indian Point?

Three, because of the lack of a detailed site assessment and the significant site restoration needed mean that the current cost estimate is highly uncertain.

And four, let me think about four. And four given the uncertainty in the site cost estimate before a site resto – before this site survey wouldn't it be premature to rule on an exemption before such a detailed site survey is available? Go onto those then I'll do AIM.

(Ray Lorson): Okay. I will take those. First of all with respect to your first question was why does NRC find Holtec a suitable company? I would just remind you that the review is ongoing and so we haven't done anything...

(Richard Webster): Well, not for Palisades. excuse me, not for Pilgrim or other reactors where Holtec is current or Oyster Creek.

(Ray Lorson): Right. And then in the Pilgrim and in the Oyster Creek those license transfers have been approved and was based upon a thorough review including involvement with the state authorities. And ultimately the NRC made the determination that Holtec was able to manage the decommissioning projects at those two site.

(Richard Webster): But you haven't reviewed the – were you preview to the criminal investigation?

(Ray Lorson): With respect to those particular license transfers, we can certainly talk about the license transfer s at Pilgrim and Oyster Creek but really the focus of this is the Indian Point...

(Richard Webster): No. I'm talking about the NRC review processes for license transfer applications I s directly relevant to this proceeding because...

(Ray Lorson): And again there was a lot – there as a lot. Mr. Webster if you can just hold on a second. There was a lot of information reviewed as part of that assessment. Ultimately the NRC made a determination that the license transfer was appropriate and we proceeded forward. If you would like to re-litigate those license transfers then...

(Richard Webster): No. I don't want to re-litigate. I'm asking you did you consider the criminal investigation? I'm asking you a direct question, did you consider the criminal investigation?

(Ray Lorson): I was not actually personally involved with those particular license transfers. And nobody that we have here to my knowledge as directly involved in...

(Richard Webster): Okay. Could you provide me with an answer to that question, please?

(Ray Lorson): I'm sorry.

(Richard Webster): Could you provide me with an answer to that question – could you provide me with an answer to that question subsequent to this meeting?

(Ray Lorson): I think what we can do is we can go back and we can send you the copy of the final safety analysis that was collected.

(Richard Webster): But that won't answer my question. Could you provide an answer to my question?

(Ray Lorson): I think, why don't you look through the safety evaluation that was performed and decide if you think it answers the question.

(Richard Webster): But with respect I think you know what's in the Safety Evaluation so if you answer my question I will be happy to receive it. If it does not answer my question I would be happy to get an answer to my question.

(Ray Lorson): We found that Holtec was able to do the work...

(Richard Webster): I know you did.

(Ray Lorson): ...definitely approved the transfer.

(Richard Webster): I know. I know that but I'm asking a different question and you're not answering it.

(Ray Lorson): Well, I'm not answering. I was not the one...

(Richard Webster): I know. But I'm asking for follow up. Could you answer that question subsequently please?

(Ray Lorson): I can have someone send you a copy of the basis for the transfer of the license. And with all authority if you still have questions please engage us further. That's all I would answer. Thank you.

(Richard Webster): Okay. I will take that.

(Ray Lorson): Let's see. Then you have some questions on the site characterization...

(Richard Webster): No. No. The second one, doesn't Holtec need additional oversight due to its record and the scale and complexity of the decommissioning task?

(Ray Lorson): Yes. With respect to the oversight program, our oversight program for decommissioning reactors is contained in the Chapter 2561. (Tony Dimitriadis) is our Branch Chief that will be implementing the portion of that for the region.

And so what we do is it's kind of a flexible program. We've applied more focus where we see that there are issues of higher risk and we apply less oversight in areas that are lower risk. So it's a flexible program. We adjust it based upon the activities that are going on and our perception of where we need to focus

(Richard Webster): Right. Would you agree with me that Holtec is a higher risk company in the North Star?

(Ray Lorson): Okay. That's an opinion but again...

(Richard Webster): No. No. That's a question. Would you agree with me?

(Ray Lorson): No, I don't. It's not something I want to agree to or disagree to. I'm explaining how our program...

(Richard Webster): You're not going to answer.

(Ray Lorson): I'm sorry.

(Richard Webster): Once again let the record reflect that you're not going to answer my question.

(Ray Lorson): Okay. Well, I understand...

(Richard Webster): Let's move on.

(Ray Lorson): ...I would like to point out that we do have a program. It's a graded approach. We adjust our inspection oversight based upon the activities that are going on. Should we see a problem with a particular site or we see some performance problems certainly by all means we're going to increase our oversight...

((Crosstalk))

(Richard Webster): Well, I think I just (unintelligible) Holtec. But I'm asking you does that mean – are those performance problems considered and where did you get some additional oversight?

(Ray Lorson): No. We have the same oversight program whether it's Holtec or North Star or any other company that's out there implementing the decommissioning program.

(Richard Webster): Right. I thought so. Let me suggest...

(Ray Lorson): We do it based upon site performance.

(Richard Webster): I'm sorry I'm rushing here but I only have three minutes that's why I'm trying to rush through.

(Ray Lorson): Well, it's not so much the rushing, it's just a little awkward in this meeting with the interruptions because sometimes it changes the focus of the question a little bit.

(Richard Webster): All right.

(Ray Lorson): So, you know, I appreciate and I know you're trying to get information and I'm trying to provide it to you in a forthright manner. It's just sometimes with a medium it comes off a little clunky I think.

The next question is related to adequacy of the decommissioning funding size of the pot and...

(Richard Webster): So it's not adequacy. Sorry. The question is, in the lack of – with the lack of a detailed site survey is the decommissioning cost more uncertain?

(Ray Lorson): Right. And I was getting there. Basically we use generic guidance and templates in terms of sizing the decommissioning funding it's upon the operating experience that we have. As part of the license cleanup process or as far as the license termination process we'll ensure that all radioactivity remediate to a very low residual value.

But our specific, you know, thumb rules that we use for sizing what's inadequate and sizing the decommissioning funds based upon the guidelines we have and a lot of operational data. And, (Rich Turttil) maybe it might have some additional information we care to share regarding how we determine that if a decommissioning fund is of an adequate size.

(Rich Turttil): Again, (Rich Turttil). We are now again, we are in the midst of that review. Myself and other staff are actually looking at what was submitted by through

the applicants, the PFDAR that came in that is becoming some of the site specific cost estimates related to that are starting to – are framing out what is needed – what is required in terms of decommissioning funding.

And we're – our objective is to determine is the – are the cost estimates do they seem adequate? Do they seem reasonable? And do we have adequate reasonable assurance of funding to meet those cost estimates.

(Richard Webster): Right and, you know...

(Rich Turtill): And that is part of our – that's our process. Go ahead.

(Richard Webster): Right. Maybe there is a chicken-egg situation here because I'm asking about site restoration which is not part of decommissioning funding actually. So at the moment I'm assuming you're doing your assessment based on lack of an exemption. And so maybe you can explain how the exemption process interacts with the license transfer process. I mean at the moment aren't evaluating adequacy just for decommissioning only but then if the exemption gets granted then you have to re-evaluate surely?

(Rich Turtill): Our primary objective is to determine there is adequate funding for radiological decommissioning and that there is a spent fuel management plan and funding plan for spent fuel management. Above and beyond that in terms of...

(Richard Webster): Site restoration – go ahead.

(Rich Turtill): In terms of site restoration we may – we consider of course in our review granting an exemption for the use of that. But our objective and our regulatory requirements are for radiological decommissioning if there is adequate

funding for that and that those requirements are met and until management is adequately planned for.

(Richard Webster): Right. So what's the timing? Do you have to approve the license transfer first before you can then look at the exemption? Or do you look at the exemption and then look at how that interacts with the license transfer?

(Rich Turtill): So I don't trip myself up. I mean, if we have time for a response to your question (unintelligible) I'm going to defer to (Richard Guzman) for that who is the PM for...

(Brett Klukan): And then this is (Brett) then I think we will have to move unless there was any other...

(Richard Webster): I have one other question after that.

(Brett Klukan): Okay. All right.

((Crosstalk))

(Ray Lorson): (Rich), if you have a second please, take us through that.

(Rich Guzman): Just real quick Mr. (Webster), those two reviews as I indicated are being done separately but they have some aspects to what was submitted that overlap with each other. (Rich Turtill) again is the reviewer along with some other team members for both of those reviews.

From the standpoint of how you would it would be issued? Again, after the completion of the review because Holtec submitted the exemption request, Holtec is the proposed or the perspective owner. And so we would not be able

to approve an exemption request submitted by Holtec, the applicant in this case, for that – for the proposed use of partial decommissioning trust funds until a license transfer is approved.

So to answer your question, yes, the exemption request cannot come before a decision is made on the license transfer.

(Richard Webster): Great. Thank you for your forthright answer to that question. I have one other question, the union would submit a letter to (Mark Draxton) of the NRC laying out six questions which I think reflect a healthy skepticism of Holtec's ability to do this job.

Wouldn't you regard those questions – wouldn't you regard those concerns with importance and answer those forthright in due course?

(Ray Lorson): We do review all questions with importance. I guess the question is – we were actually going to address some of the questions here this evening if we, you know, if we hit a lull in the presentation but that is something that – you know, these are the types of questions that we look at as part of our overall license transfer process and we were going to address them here when we got to a point in time where we had yielded well so to speak.

(Richard Webster): Good. I was just to say...

(Ray Lorson): What was that?

(Richard Webster): Just to say I think the workers themselves at the plant are expressing concerns about the potential licensing that that really shows there is a real problem here and I hope that you hear that loud and clear from this meeting.

(Brett Klukan): Okay. Thank you very much Mr. (Webster). We are going to move on to our – well, before we move onto our next speaker I just want to let you know we have four people in the queue right now. We are going to go past the 8 o'clock schedule and meeting just so everyone in the queue gets an opportunity to speak.

So next up will be (Nancy Vann), followed by (Herschel Specter) then (Victoria Leung) and then (Richard Simley).

So next up (Nancy Vann). If you could unmute her (Calvin) I would appreciate it. Thank you. And whenever you're ready Ms. (Vann).

(Nancy Vann): Hello, can you hear me?

(Brett Klukan): We can hear you. Thanks.

(Nancy Vann): Good. I have a couple since I may or may not get cut off after three minutes. I will just make a couple of observations first and then ask some questions.

First of all is, why was the (unintelligible) pipeline expert hired or engaged to do the Office of Inspector General's re-evaluation? We would really have liked to have an independent pipeline expert do that since the organization that's responsible for overseeing this pipeline is certainly not independent and is certainly not without any kind of conflict.

Second of all, you do say that there is a 485 feet pipeline potential impact radius. My understanding is that an independent pipeline experts have said it could be up to 4,000 feet. I understand that the 8,000 feet that you quoted is not credible. I did not expect it to be 8,000 feet but 845 feet seems very, very

small radius given the impact radiuses of even smaller pipelines and the damage that's done.

What kind of – and I'll ask a question with that. What kind of investigation of actual pipeline explosions was done as part of this reevaluation of whether there would be a potential impact outside of the 485 feet or even double that to 1,600 feet where we have I believe it's a green circle?

Next is, why is there no consideration of damage to this switch yard which brings in power from the outside which runs things like the control room and the pumps? Those things – that particular facility is inside the eye of the orange-ish circle. It is certainly less than 845 feet away. At the closest point it's 115 feet from the new pipeline. And the older pipeline as (Paul Blanch) said are closer to all of these – to many of these facilities than the new pipeline.

Next is the 8 minute for turning off a rupture. Has that ever been done? My understanding and my research has indicated that 30 minutes was the very, very shortest time that a pipeline rupture has ever been shut off -- identified and shut off. So I question your 8-minute assumption of shutting off the rupture and that really impacts things like particularly the switch yard.

It would give none of the first responders, firefighters or onsite first responders could even get close to a pipeline fire until all the gas had burned out. Now with that's 30 minutes that sets a big difference. So that's another question for you is why that 8 minutes was used?

Then you said that the inspection completed – the re-inspection was completed on the – everyone else has gotten longer than 3 minutes and I

really, really dispute the way you answered Senator Kristin Gillibrand's her pipeline and nuclear experts and tried to cut her off.

I mean, we are not people who are just novelists. I'm an attorney, I've been studying this for years and I really resent the way that this particular process is laid out. I don't think that you need to cut people off. I've been at the in-person meetings and we went to at least nine o'clock if not later.

So please, quit with your three-minute limit. There are very serious questions here and if you care at all about the safety of the people who live here. I'm 1.6 miles from Indian Point, I'm a frontline person. I am a Wall Street lawyer and I really expect answers to my questions.

So the next question is about the SOCA, the (Security Operator Controlled Area), why does that not include the switch chart and many of the other security safety mechanisms at the plant? The fuel for the backup generator is outside of the SOCA area.

Then again the financial considerations. Annual submissions are hardly adequate while determining how much is being spent, how much is left and what is going to happen if that money runs out? Holtec is setting up LLCs, these LLCs have no capital whatsoever and as far as I know Holtec has not – Holtec itself, Holtec International – Decommissioning International has not provided any guarantees.

There is no bonding requirement and I don't want to be stuck with paying for this especially if it happens to blow up and wipe out my house. I wouldn't be able to sell if there an accident at Indian Point. So that is another question that I have for you.

My understanding is that at San Onofre the testing canisters were all scratched by Holtec's loading system. And that at Indian Point the loading systems that Holtec uses is even worse, it would scrape the Zirconium coating for the entire length of a canister when it went into a cask hold.

And once those scratches are in place, I also have heard that Singh the CEO of Holtec has admitted that within 16 years you could have a through wall of failure in those casks and canisters.

So those are few of my questions. Also (Richard Webster) asked about the criminal background of both SNC Lavalin and its partner which is going to be actually doing decommissioning SNC Lavalin who have criminal – both have extensive criminal backgrounds. You said that you don't know whether that's being considered or not.

I would point out that if you go before a judge in the court of law – in the federal court of law judges can take judicial notice of things that happen in the real world. I don't see the NRC taking any notice of what happens in the real world not in regard to pipeline ruptures and failures, not in regard to scratches to testing canisters.

And according to what you have said so far, not in regard to considering the fact that Holtec has been – and SNC Lavalin had numerous financial crimes against them and you seem to think that reviewing their spending once every year will be adequate to keep them from enriching themselves, paying for their own canisters, paying for their own services at every site. And we will run out of money for that particularly if this exemption is given.

When you're considering the license transfer I demand that you take judicial notice of the criminal background of Holtec and SNC Lavalin in their

application for an exemption so that they can use the money that we have paid as ratepayers over many decades in order to decommission it. And they want to use that money to enrich themselves and then walk away because there is no capital, there are no bonds, there is no parent company guarantee and we will be stuck with the bill.

(Ray Lorson): Okay. Would you like us to address some of those questions?

(Nancy Vann): I would.

(Ray Lorson): First of all with respect to the financial assurance we did talk about the annual report that's submitted. But I just want to, you know, clear up a misconception that it's not that we only get a report once a year and we look at it and we say, okay there is enough money or there is not enough money. It's more than that.

As you get the end report it includes things like a spend plan. If there was a significant deficiency or if there was a problem relative to the financial spending we would expect that Holtec would be the first to identify that. We would expect some type of notification that things in the decommissioning are not going according to plan.

But, you know, it's not enough to rely on expectations but you have to have an inspection program. And so we do have inspectors that are going out to the sites periodically to review activities and to see, you know, are things on track or are they not on track. If they are taking longer is there a potential financial impact or hit.

And so, it's not that we just get a report once a year and we look at it and file it. Rather we're engaged with the licensing through the inspection program throughout the year.

With respect to San Onofre...

(Nancy Vann): Do those inspectors review all the receipts and all of the expenses that are being charged?

(Ray Lorson): No. Not necessarily, but they would be aware of the pace of progress and certainly in discussions with licensing management. I think would have an ability to ferret out if it appears that there's, you know - work's not proceeding to pace or there's unexpected complications.

It certainly would be a fair question to then look into whether or not there's an unnecessary drop in the funding. Or if it's being spent for things that don't seem to be considered to be part of the radiological decommissioning.

So we have been doing this. We have a number of sites across the country that are being decommissioned and so far it's been a fairly successful process for us.

So we'll continue to exercise that at Holtec and - or at Indian Point, I should say. We haven't made any final decisions throughout this for the transfer, but, you know - so that's the process we have.

It includes both the annual review by our folks in headquarters, as well as the on-site inspections we do.

Relative to San Onofre...

(Nancy Vann): So you said that you do the same type of oversight with any company and a company that has managed to engage in bribery in Libya to the point with the

World Bank denied it - they denied it, the ability to work on any World Bank finance projects, seems like it would just require additional oversight, additional inspections, additional reports.

And what mechanism does the NRC have for requiring that?

(Ray Lorson): Right. And if I could finish, I, again - we...

(Nancy Vann): Go ahead.

(Ray Lorson): ... have the requirement to submit the annual report and then we do periodic inspections throughout the year, looking to see if things are on-track relative to what they've planned in terms of pace of decommissioning, are there any unexpected problems that could potentially impact the ability or availability of funds and those are the things that we would be able to identify and react to.

Moving on, you had a question on San Onofre. The system of San Onofre is completely different from the system that's at Indian Point. San Onofre is ...

(Nancy Vann): Yes, Indian Point is worse. Indian Point is worse.

(Ray Lorson): I'm not sure how you define worse. They're just different design systems. If we - if I can explain the difference...

(Nancy Vann): Well, then the scratches on the exterior to the coating on the canister are from rods that go the entire length of the canister. It's not just just guide pins. So yes, it's worse.

(Ray Lorson): No, I think if you look at San Onofre, that was the...

(Nancy Vann): (Unintelligible) consider scratches the entire length.

(Ray Lorson): ... (unintelligible) insertion. It's hard to answer the question if we're both going to speak at the same time. So I'll wait. Are you finished, Miss (Vann)?

(Nancy Vann): Well, I was responding to what you said. You said...

(Ray Lorson): Okay. Please...

(Nancy Vann): ... they're different and I said yes, they are. And I (unintelligible).

(Ray Lorson): They are completely different canisters and the canisters that we have at Indian Point, the canisters are there. These Holtec vertically designed canisters have been deployed successfully and serviced throughout the United States. There's hundreds, if not, thousands of loaded canisters with that same design and they've been performing very, very well.

You did have questions on the gas pipeline. First question related to the switch yard. It - the switch yard, there are parts of the gas pipeline that the switch yard's closer to than the probable impact radius.

And so should that be the location of the pipe break? In another words, if the pipe breaks, it has to break somewhere. If that's where it breaks closes to the switch yard, yes, it would be what's inside that probable impact radius.

That said, when we do our analysis and all our analyses, everything we do we assume all of our safety announces are all based upon an assumption that the switch yard's not available.

So we assume we lost offsite power as a starting point for every accident, every transient we didn't analyze. So one of the loss of switch yard is certainly undesirable would not prevent the plant from the ability to safely shut down.

You expressed some doubt relative to the explicit requirements of the Department of Transportation on how to calculate the probable impact radius. I will say that as part of Mr. (Skeen)'s team, they did look at operating experience and I think what they found in all cases that the actual operating experience was - it bounded what would be calculated in terms of what they came up with in terms of the probable impact radius.

So the actual real-world information that's out there would support the existing science and technology. And is there anything you'd like to add to that point, (Dave)?

(Nancy Vann): Yes. Was that for 42-inch high-pressure pipelines at this particular pressure?

(Ray Lorson): And that's what we're going to have Mr. (Skeen) address.

(Nancy Vann): (Unintelligible) there was a situation - I think it was in Ohio - where a house that was about a mile away was completely burned from a pipeline and I believe that was a 36-inch pipeline.

What real world experience did you look at?

(Ray Lorson): Okay. Mr. (Skeen)?

(Dave Skeen): Yes. Thanks, (Ray). And thanks, Miss (Vann). And certainly we understand the concern that you're raising and certain when our team looked into this, we

had a lot of similar concerns and that's why we went to the experts that we did.

As far as why did we go to the DOT experts on this, it's because they write the regulations for the pipelines. And so (Steve Nanney) who is on our team is an experienced gas pipeline expert.

And not only (Steve), but we also talked to some of the accident investigation folks that work for the Department of Transportation as well that investigate pipeline accidents.

And in addition, we interviewed the technical expert that had worked with Mr. (Blanch) during - when he was crafting his 2:206 petitions for the NRC.

So we got a good cross-section of talking to experts that work with the gas lines. And that's when we came up with the rule of thumb, if you will, that the impact - probable impact - the potential impact radius is a pretty good measure of areas that could be severely impacted by a rupture.

But all of the experts we talked to said if you go to say one and a half to maybe 1.7 times that radius, we have not seen accidents that have impacted structures or people outside of that radius.

So that's why we say if you look at the photo that we had, when you get out past the green circle, that's a pretty good margin that says even if you have an impact or - from a rupture, it's not going to impact equipment or things outside of that two times that radius.

And clearly the bulk of the plant -- and I think as (Mel) discussed with the SOCA -- the SOCA inside there is where they have more of the safety related

equipment that would be the backup equipment that if you lost the switch yard you'd have extra electrical equipment that can supply the pumps and valves to ensure that they - you can safely shut down the plant and keep the core as cool as well as cool the spent fuel in the pools.

So that's where we came up with that. And it wasn't just one person. We talked to a number of people to try to get information on the potential impact of a rupture, of the 42-inch line.

So I hope that helps.

(Ray Lorson): Thanks, (Dave). And I think also you had mentioned, Miss (Vann), the fuel backup generator. There was something that Entergy actually identified back in the early parts of their 50.59 they performed and they actually did relocate some fuel to what's inside the site to be farther away from any potential impact from the gas pipeline.

You did have a question on the 8-minute time to closure, and so that was something that was looked at by (Mel Gray's) team. (Mel), would you care to discuss the 8-minute closure assumption?

(Mel Gray): Sure. (Mel Gray).

We did look at the - at records of Entergy's interaction with the pipeline owner and we understood where the eight minutes came from and it appeared to be well-based on the actions that would be needed.

And so looking at that, we understood what that was and we thought that was appropriate. I would also add we did in our inspection port specifically addressed the switch yard, acknowledging there's some equipment outside the

SOCA, the S-O-C-A, and we did address that in our inspection report whether it was backed up or where there was alternates or for the switch yard just noting that that is unprotected and the frequency of loss of that switch yard is much, much higher than would be due to a pipe break near it.

And so we address that explicitly. So thanks, (Ray).

(Ray Lorson): Okay. Thank you, (Mel). And with that, we've given you quite a bit of time, Miss (Vann). We'll move along and perhaps if there's future questions, please there's ways to get ahold of us. Thank you.

(Brett Klukan): Thank you. Can we move on to - (Calvin), we can move on to (Herschel Specter), please?

(Herschel Specter): (Herschel Specter) here. Can you hear me?

(Brett Klukan): Yes, we can, sir. Please go ahead.

(Herschel Specter): All right. Herschel is spelled H-E-R-S-C-H-E-L, Specter, S-P-E-C-T-E-R.

First, a question on the pipeline closure. A great deal of concern has been expressed that the Indian Point site because of seismic events like the Ramapo Fault, what I'd like to know is if a seismic event occurred, particularly one fairly large, would there be a problem in closing the valve, the isolation valves?

Maybe there's a misalignment. So I haven't heard anything about possible interaction between seismic events and valve closure. If the valve cannot close, then it would seem that a great deal more gas would escape until you

can get far enough away where some other valves further away unaffected by the seismic event could possibly close.

So I suggest that if you haven't looked at seismic events that you take a second look at that.

(Ray Lorson): Okay. Thank you. I will say that what we did look at was we assumed the postulated pipeline frequency and then we looked at potential impact on safe-related equipment and certainly we find the plant to be safe and accessible.

We didn't credit the closing of the valves. That was something that was contained in Entergy's safety evaluation. That said, it actually, you know, brings up a good point because, you know, initially Entergy assumed the value of three minutes for time closure...

(Herschel Specter): Yes.

(Ray Lorson): ... and that was assuming the operators would close the valves that were closest to the point of the pipe break. But, in fact, there are many valves along the pipeline and there are many compressor stations, if you will.

So what drove in part the increase in the estimated time to go from three minutes up to eight minutes was if the operators were unsuccessful in closing the valves closest to the break and then made a decision to close valves further away from the break.

So there's a number of different ways you can isolate that particular line, but for the purposes of the calculations, we assume the - while Entergy assumed the eight minutes, we looked at it, we thought that their assumptions were reasonable and at the end of the day I think one of the points that Mr. (Gay)

made was that even if there was a longer valve closer time, we didn't see it as something that would have a material impact on the overall safety of the plant.

The real safety is driven by the - just the tremendous distance you had between the pipeline and the plant.

So I don't know. If there's anything else on that you would like to cover...

(Herschel Specter): Yes, let me elaborate a little bit on that before I get to my main question. It's just that that a possibility might exist that you cannot close any of the valves in a certain distance and therefore, you're going to get a larger release of gas.

I don't know what that distance is from a seismic event and therefore I don't know what the radius of the affected area is. So I'm just suggesting that since so much has been made about a seismic event in the New York Indian Point area, you take a second look at it and the inability to close valves could cause a seismic event.

(Ray Lorson): Okay. Thank you.

(Herschel Specter): I'll stop there. Let me move onto my more important issue. As the NRC has properly stated that your responsibility is limited to - and it's a big one - to the radiological decommissioning, but in fact, decommissioning includes a non-radiological portion, which can be as big or bigger than the radiological one in terms of the cost.

But that's not your province. You don't make decisions on that. So even in the - if you can conclude that there is enough money to handle the radiologic

or aspects of decommissioning, you're not authorized to working on the rest of it.

So we don't know if citizens funds that are in the decommissioning funds are big enough for the whole job because the big - the other job is bigger than your scope of authority.

(Ray Lorson): Okay. That's the question?

(Herschel Specter): Well, the question is so what if you conclude that hey, the radiological aspects has enough money in it, if you ever look in - in fact, you have it in your own data bank - when you look at the dollars and these site-specific estimates, they're larger than what you put down for the radiologic one. So there's a difference.

The non-radiological piece, but that's nothing. But you control. So the inspectors go there and if something non-radiological is not being done right or crossover runs, you don't have any authority. You have to get some other group.

(Ray Lorson): No, you're right. You're right. We only control our (unintelligible) NRC act just strictly limited to matters of radiological safety. For non-radiological hazards, there - that oversight would be the purview of the New York Department of Environmental Protection would be the purview of the Environmental Protection Agency.

And so...

(Herschel Specter): Probably service commission people. It's the purview of New York State. Therefore, if that's the case -- which I - and you are correct -- the no-license transfer between Entergy and Holtec should take place until we agreed.

(Ray Lorson): Okay. And I think the key point is that what we are transferring is we're transferring the radiological - the license to be able to own, possess, conduct operations associated with radiological material.

If there's some other state licensing requirement or a local licensing requirement that they may be privy to, that would not be something that we would be as part of our process.

We are strictly...

(Herschel Specter): Well, you're agreeing with me.

(Ray Lorson): ... transfer of the Entergy license. That said, you know, it would be up to any other legal authority that has a particular licensing issue they would have to, you know, adjudicate it through that process.

So, for example, you know, in the simplest of terms, we deal with radiological licensing matters. There may be a separate regulation. Say there's a labor standard that's a rule that's promulgated by New York State.

The - whoever the owner is, they have to comply with all the state rules and regulations like any other employer or industrial facility would (unintelligible).

(Herschel Specter): Yes.

(Ray Lorson): All our focus is on regulations for decommission.

(Herschel Specter): Well, we're in violent agreement. Your scope is an important one and - but not comprehensive. You're going to have to look to the New York State Public Service Commission and others to give citizens all the protection that they need because you can only protect part, a very important part.

But as you and agree on, it's only the radiological piece. Now, the question in my mind is the process. How can you go forward and approve of a transfer without getting some kind of input from New York State that the citizens are protected from the totality of the potential expenses, radiological and non-radiological?

(Ray Lorson): Right. And I think that - to our license transfer process we do offer the opportunity for comment and are also hearing opportunities associated with that as well.

So we do take input. We do coordinate what we do with the State of New York so that they're aware of what actions we're taking. We do accept comments.

Relative to aspects of the site that we may not regulate, we're - we have no authority over those aspects of the facility...

(Herschel Specter): Yes.

(Ray Lorson): ... wouldn't preclude or transfer the NRC license either.

(Herschel Specter): Well, the name of the game is protecting people in this area and I understand we're in agreement that you have a limited scope, but when you

are a citizen we're not only interested in your limited scope or interested in anything that could be a financial burden to us.

So therefore, you have to interact with the State of New York to satisfy us.

(Ray Lorson): And I think we have been interacting with the State of New York, but, you know, I think to your point if I send an inspector to the field, if they see a problem in the handling of radioactive material, we would have a regulatory issue that we can take and enforcement on ...

(Herschel Specter): Sure. I would hope.

(Ray Lorson): If we see them - let's say we see the licensee mishandling some non-radiological hazard, say they're doing something with an air-conditioning system or potentially an oil-type system...

(Herschel Specter): Sure.

(Ray Lorson): ... we would not be able to take action, but what we would do is we would refer the information to the appropriate authority whether it's state or federal.

(Herschel Specter): Very good. We're in violent agreement. I want the other people listening in to understand that the NRC approval or disapproval certainly is better, but if the NRC approves the transfer to Holtec, that's only part of the game.

(Ray Lorson): Okay.

(Brett Klukan): All right. Thank you, Mr. (Specter), for your comments. We really appreciate it. Can - (Calvin), could you unmute the next speaker, Miss (Victoria Leung), please?

Coordinator: (Victoria), your line is now open.

(Victoria Leung): Great. Thanks. Can everyone hear me?

(Brett Klukan): Yes.

(Ray Lorson): Yes, we can.

(Victoria Leung): All right. Great. I'm (Victoria Leung) and I work for River Keeper and I just wanted to reiterate a few concerns that we had regarding the sufficiency use and termination of the trust funds along with some questions. Really questions.

And this is based on Holtec relying solely on the decommissioning trust fund as the sole source of funding the decommissioning and history of bribes and risk-taking, which (Richard Webster) my colleague had highlighted.

So the first question I had is how the NRC can ensure that there will be enough funding to safely decommission Indian Point when Holtec brings no additional money to the table.

So I know that other common areas have brought this up. So the answer has been discussed, but I want to highlight that the NRC's cost estimate model has been to be inaccurate in the past and that many past decommissioning projects have run over budget.

So this is why this is of heightened concern of us. Further, Holtec has also applied for exemptions to use the funds for spent fuel management and site restoration.

I was curious. For sites in general, not limited to Indian Point, how many such exemptions has the NRC approved or denied? And what factors might justify a denial of such requests for exemption?

And thirdly, many common areas including River Keeper, has expressed our concern that the trust funds are not to be sufficient to complete the decommissioning; however, in the unlikely event that there are excess funds at the conclusion of the process, the decommissioning trust fund has - is made up of contributions of rate payers that accrued interest over time.

Entergy has not made any contributions to the decommissioning trust fund. So I just wanted to ask again, will the excess trust funds refer to the rate payers at the termination of the trust since it is made up of rate payer contributions?

And also do the trust documents, to your knowledge, provide any guidance regarding the distribution of the trust funds? All right. Thank you so much.

(Ray Lorson): Okay. Thank you very much for the comments. Starting at the top, you talked about the cost estimates and I think, you know, the cost estimates are what you use as kind of initial ballpark figure and that over time have been generally pretty good, but they're having some cases where we find that they needed to be supplemented.

And so during the process we talked about the annual reports, we talked about the oversight and the interactions with the licensee as they are executing the decommissioning process.

If there was a shortfall or a need to supplement the funds, they fall below what's required, then they're obligated to supplement the funds. And so that would be something that we would be tracking over time. It's not that we would wait until the end and find out that we didn't have sufficient funds.

You did have a question about how many exemptions had been approved to use funds for things such as spent fuel management. I don't know the specific numbers, but I can tell you that with respect to spent fuel management we have seen that particular exemption before we have issued before.

Some of the considerations we look at is really gets into what's the size and adequacy of the decommissioning fund and we think that there's sufficient funds that meet all of our requirements to complete the radiological decommissioning and is there sufficient funds to then also support spent fuel management expenses.

So those are some of the things we look at. Like I say, it has been approved before. Last, but not least, it's an interesting question of what happens to the excess funds, if any, in the trust of the completion of the project. I don't know the answer to that, but I will see if Mr. (Turtil) can help us out.

(Rich Turtil): Hi. This is (Rich Turtil). I do want to - just to - a quick reflection on the number. I think the number's approximately nine power reactors that have been granted exemptions for use of the DTS for other than radiologic decommissioning.

The quest - I said I can give you the names of the - the question as to funds - I'm sorry. If you would ask the question one more time? So your question was...

(Ray Lorson): I could paraphrase the question. If I mess it up too badly, please correct me, the questioner.

(Rich Turtill): Sure.

(Ray Lorson): The question is at the completion of the process, we're ready to, you know, execute the license termination, all the sites have been cleaned up...

(Rich Turtill): Right.

(Ray Lorson): ... it's in the greenfield condition, and there's money left over in the decommissioning fund. Who owns that money?

(Rich Turtill): Okay. And that...

(Ray Lorson): (Unintelligible).

(Rich Turtill): ... will - generically speaking, that will vary. So it depends on how involved the state has gotten in terms of negotiating with licensees or potential licensees as to the outcome of the balance, if there's a balance in the DTF.

That will vary. I know my understanding is that there is not a negotiator or contractual obligation of those funds remaining with, you know, either the State of Vermont in the case of Vermont Yankee or others. It may or may not be at the discretion of the owner of that - the - of the assets within that DTF.

So it could vary very well depending on any contracts or, you know, trust requirements and that can certainly involve the state getting involved potentially.

(Victoria Leung): Okay. Great. My second question that went along with that is to your knowledge do the trust documents for Indian Point provide any guidance to the distribution?

(Rich Turtil): At this point, not that I'm aware of. I've been taking a look at them, but not that I am aware of. I don't know if anyone else on this line has any insight.

(Ray Lorson): Doesn't sound like it. Okay. Thank you very much.

(Victoria Leung): And - oh, sorry. Just a little follow-up. I know you mentioned that there are nine reactors that have approved exemptions. Are - have there been any that were denied exemptions for the use of...

(Rich Turtil): Not that I'm aware of.

(Victoria Leung): Okay.

(Ray Lorson): And I think...

(Rich Turtil): And those...

(Ray Lorson): ... you know, that's not unexpected because what would happen is, you know, the rules for approval are fairly clear and typically folks are not going to ask for things if they know they don't meet the requirements or if there's a shortfall in the funds.

So typically, when folks apply for these types of exemptions, they have a good solid basis in they can demonstrate the ability to meet all of our requirements.

So just something to think about.

(Victoria Leung): Thank you.

(Rich Turtill): And the record that I have in front of me begins at about 2013 and that's Kewaunee, Zion I and II, SONGS I, II and III, Vermont Yankee, Oyster Creek and Pilgrim.

(Victoria Leung): Okay.

(Brett Klukan): All right. Thank you very much for your questions. Can we move on to the next speaker, Mr. (Fennelly), please?

(Finley): Hi. Can you hear me?

(Brett Klukan): We can, sir. Go ahead.

(Fennelly): Hello?

(Ray Lorson): We can hear you.

(Fennelly): Oh, good. Good. The thing that really - I've attended some of the Indian Point closure task force meetings from the viewpoint of energy efficiency, but when I heard that there was a gas pipeline running through that plant, the first thing that I thought of was wow.

If I were a terrorist, I would love that scenario. I don't know to what extent you folks have considered the ramifications of having a high-pressured gas pipeline running through a nuclear plant.

Oyster Creek and the plant in California you all mentioned, but I don't think they have that issue. One of the questions I have is for how long will the current security force that's in affect in Indian Point being retained?

My wife and I took a trip there. I was amazed at the security. But that security force is going to have to remain there as long as that gas pipeline is there and as long as spent fuel rods that are in the area.

Some of the discussion I've seen on the internet about the pipeline rupturing is premised upon accidents.

What happens if there are human malefactors that do it? Has this been discussed with Homeland Security? So those basically are my statements and questions because I see a scenario where with the north wind blowing in the direction of New York City and malefactors coming in and detonating that gas pipeline, New York City's gone and that's all I have to say.

(Ray Lorson): Okay. Thank you for the comments and with respect to the question, you know, first of all when you talk potential for a terrorist event, I would say that our analysis assume that the pipe did a complete double guillotine share, so, you know, that would be I think, you know, if a terrorist were able to break the pipe in half, that would be, you know, comparable to what we modeled and we were able to demonstrate that the pipe - that the plant would be able to safely shut down.

But we also mentioned that that particular pipeline's in a location on the site where it's very, very difficult for, you know, an adversary to actually penetrate.

It's actually buried below grade. It has a very thick concrete cover above it. And so if somebody were to come onto the site to be a terrorist, they'd have to bring a lot of heavy equipment and spend a lot of time excavating the pipe in order to get access to it.

And while they're doing that, by the way, you have, you know - it's on private property. So there's a certain level of, you know, oversight that's provided there.

(Fennelly): Okay. One question. The security force that's there now, how long are they going to be kept at their current strength during the decommissioning?

(Ray Lorson): Okay. And that was the second part of the question I - that I was just getting to.

(Fennelly): Yes.

(Ray Lorson): In terms of the security force, they will have a security force there for a period of time as long as they have spent fuel on the site. That said, the nature, the make-up and the composition of the force will change in response to the kind of the lesser of a risk between an operating plant at power till we eventually get to the point where all you have is, you know, fuel that's sitting in robust dry storage canisters.

So the makeup of the folks that provide oversight and security will change over time it will evolve and it's consistent with the reduced risk. But there will be...

(Fennelly): Okay.

(Ray Lorson): ...somebody there. When it finally gets to the point where all you have is a what we would call a spent fuel island if you will there will still be, you know, licensing employees on-site monitoring and caring for the spent fuel to be made sure that it's being appropriately managed.

(Fennelly): Okay. Yes I - final thought I don't know to what extent any of the other participants on this call have looked into this issue. It may be something that is really not relevant or it may be something that's been missed but anyway thank you very much.

(Ray Lorson): Okay well thank you very much.

(Brett Klukan): Thank you very much. (Calvin) can we move on to the next speaker please, Miss (Michelle Lee)?

(Michelle Lee): Hi there. I'll try to be fast. I want to start – I have a few questions. Let me start with stating that the Nuclear Regulatory Commission failed to answer a FOIA request which I helped draft and which was filed in November 2019. It was resubmitted earlier this year.

So taking into consideration that maybe if fell through the cracks during the COVID crisis let me ask - several of the questions that were posed in the FOIA request starting with number one has the NRC conducted an all hazard analysis of the nexus between the pipelines plural there's not just one pipeline there and Indian Point site as requested not only in comments and in intervenor petitions but also as requested by the state of New York? That's a yes or no question.

(Ray Lorson): I think the – you start up mentioning a FOIA request. I'm a little – I'm not sure...

(Michelle Lee): You don't need to know what happened to that request I'm asking the question again here.

(Ray Lorson): In terms of the analysis we do analyze central impacts from the gas pipeline.

(Michelle Lee): No, that was not the question. Please answer my question. Has the NRC...

(Ray Lorson): Well I think it's...

(Michelle Lee): ...conducted an all hazard analysis?

(Ray Lorson): I think I'm not even sure I understand what you mean by all hazards analysis. I think we do a number of different safety analyses.

(Michelle Lee): No, that was not my question.

(Ray Lorson): I think that's where the challenge is you might be...

(Michelle Lee): I know you do...

((Crosstalk))

(Ray Lorson): ...you might be you're referring to a term that's not well defined.

(Michelle Lee): Sir you are trying to evade my question. This was requested by the state of New York. It was sent to the NRC last year. Have you done it or have you not responded to the state of New York's request?

Earlier in this phone call you talked about how you coordinate with the Public Service Commission. The Public Service Commission, head of the Public

Service Commission was one of the individuals who signed that request letter.
Have you done it yes or no?

(Ray Lorson): We have communicated with the state of New York the results of our...

(Michelle Lee): That's not my question sir...

(Ray Lorson): ...analysis and the results of the independent review...

(Michelle Lee): ...have you conducted an all hazard analysis?

(Ray Lorson): I think we've conducted analysis appropriate for the circumstances that are at the plant. Now if there's something specific from a letter from the state of New York I'd be happy to take it off-line. We can go back...

(Michelle Lee): Seriously you're asking me about whether this state - because somebody else in - of the NRC must be aware of this. And if you're not aware of this and if you have not considered the request then you should...

(Ray Lorson): Yes I think...

(Michelle Lee): ...be able to...

(Ray Lorson): I think the answer is, is that we conduct an analysis that we thought was appropriate to the situation the hazards presented by the pipeline and the very, very low potential impact to the plant. So we're comfortable that the analysis we did was appropriate and reasonable to the circumstances and I'm not aware of any additional analyses that we plan to perform. That said...

(Michelle Lee): So you are refusing to respond to answer to conduct the evaluation?

(Ray Lorson): Well hold on. Let me see if somebody else has some information perhaps. Mr. (Skeen) anything else you'd care to add there?

(David Skeen): Yes thanks (Ray). I'm not aware of the FOIA request that she's referring to but certainly we can take a look at that. But you're right I know that there has been analysis for all the pipelines there. I think she's asking was there one analysis that included all of them at one time.

I'm not sure that's the case. When the team looked into it certainly we found that there had been analysis done on the 42-inch line. There's also been analysis done on the 26 inch and 30-inch line. But if I can go back and figure out what the – which FOIA request that is certainly there should have been a response to that if they came in with a FOIA so that's something we can take for action and look into.

(Michelle Lee): Gentlemen I'm not just...

(Ray Lorson): Yes I think certainly respond to this for...

(Michelle Lee): ...about the FOIA request I'm asking - and you're not answering what I'm asking. Do you understand...

(Ray Lorson): Well that's because I think...

(Michelle Lee): ...what an all hazard analysis is?

(Ray Lorson): ...I need to do a little bit of research to understand what the specific request was. And I am trying to provide you an answer and you're talking over me

and not listening to what I'm trying to say. What I'm saying is that I think that we're very comfortable with the analysis we performed.

I'm not sure specifically the request from the state of New York. We have had discussions with the state. We've explain what we've done. I'm not aware of any open issues or questions. But we will look for your FOIA request and to see if you indicate that you submitted it in November and we haven't received a response we'll certainly follow-up on that.

And if you have any information about the letter you're referring to please send it to one of the contact information separately and we'll be happy to look into that for you. But...

(Michelle Lee): Is there nobody in the panel...

(Ray Lorson): ..I'm not aware of what you're referring to.

(Michelle Lee): ...working today that is familiar with a letter that was sent by the heads of agencies of New York State? I - if that's the case...

(Ray Lorson): Like I say to my knowledge we've responded to every letter that's out there and we have a response somewhere in the docket that we can send to you.

(Michelle Lee): Okay. I'm going to just ask one other thing can you make a transcript of this phone call available by next week and sent to all the participants on this call? Is that within NRC's capabilities?

(Ray Lorson): Yes I don't know about that. That's something that, you know, we follow a process for getting transcripts, you know, getting transcripts of these types of

meetings. And so, you know, I don't know about the specific timing but one will definitely be available.

But relative to, you know, the question the state of New York had if one we'll follow-up with you specifically on this 11/2019 FOIA request. And I don't understand why you didn't get a response if that's what you're asserting. And then separately if you have any information about the letter we can provide you what our response to the letter was. But I don't have the letter that you're referring to in front of me. I'd have - we get a lot of letters I'd have to pull up our response to be able to reply to what you're specifically asking I think.

(Michelle Lee): You get a lot of letters about the pipeline risk in Indian Point from every single head – heads of agencies of New York State?

(Ray Lorson): We get plenty of letters and we respond...

(Michelle Lee): And if that's the case if it's so outside of your comprehension and recollection I would really wonder how you make the statement to anybody that there are no credible major accidents in areas to be concerned about?

(Ray Lorson): Right. And again it's based upon the analysis ...

(Michelle Lee): Do you even know what's going on (unintelligible)?

(Ray Lorson): ...and review that we've done we're very confident that we've looked at the right, you know, hazards associated with these pipelines.

(Michelle Lee): Without doing a full hazard analysis. Okay thank you. That all I have.

(Ray Lorson): Yes those are your words. Like I say if you help us out and tell us the letter that you have specific to turn on we'll go back and look at how we responded to it and we'll be happy to share that with you. We've already made it publicly available but we're happy to share it again okay? Thank you Miss (Lee). Okay Mr. (Klukan)?

(Brett Klukan): So before we go to the next speaker again we will - there will be a transcript made available from this. Essentially what we're doing is taking the recording from this phone call and then sending it to a transcriber who will as the name would indicate make a written transcript of it. And all that will be posted in public ADAMS and made available.

We will specifically if you send us your email address or contact information we will send that to you directly as well. All right our next speaker...

(Ray Lorson): And just -- if I could just add one thing -- I would encourage you because I don't think we satisfied your question would encourage you to Miss (Lee) to contact us with whatever information you have on this particular letter that you're asking about so we make sure that we're responding to the right question so thank you. Okay sorry (Brett).

(Brett Klukan): No it's all right. Yes next up we have (Calvin) could you please unmute Manna Jo Greene please?

Coordinator: Ms. Greene your line is open.

(Brett Klukan): Whenever you're ready ma'am.

(Manna Jo Greene): Thank you. Manna Jo Greene I'm the Environmental Director for Hudson River's Sloop Clearwater and I also serve as Ulster County legislator. Ulster County is within the 50-mile peak injury zone of Indian Point.

I do – I have two very specific questions but I want to say I want to ask the staff of NRC and any of its consultants to look over the transcript or listen to this recording because in most cases I count two or three examples where you gave a specific answer but in most cases you evaded the questions that people have been asking and I think you should check that for yourself. It took (Susan Shapiro) several very straightforward requests to get the number 845 and so forth.

The two - well I want to just mention something about San Onofre. You talked about climate, corrosive salt air, wet and you also mentioned the difference between the horizontal configuration and the vertical configuration at Indian Point. But let's stick - even though this call is about the Indian Point annual assessment and license transfer application just for a moment to stick with the problems that have occurred at San Onofre including scratching which could lead to cracking or a, you know, a failure of the thin walled canisters.

Those same canisters are in use at Indian Point. And yes in the vertical configuration and maybe not the exact same model but the overall similar thin walled steel canister that in most places, in most other places are using much more robust canisters and more protective configurations and have protected their fuel pools. So I just want to mention that as background.

My two questions are if there is a failure what does the NRC recommend if there is a leak, an over pack, you know, what a hot cell, maintaining a fuel pool in a fuel pool that is at ground level not at not 110 feet off the ground?

And then my other question and I ask this every single annual assessment and I never get an answer. The answer I get is no one on the call knows and you'll get back to me and I put my request in writing.

And it has to do with high burn up fuel and how long and this is directly relevant to Indian Point and the fact that it's going to be decommissioned. How long does high burn up fuel need to be kept in the fuel pools before it's moved to dry cask storage? And we have to think very seriously about what that dry cask storage is and we'll be bringing that up in much greater detail to Congress.

But so those are my two questions. You know, what do you recommend for a problem, a breach, a crack, a leak and then Robert Alvarez who worked for the Department of Energy and is one of our most reliable experts has said minimum seven to ten years to keep high burn up fuel in the fuel pool. And at Oyster Creek and other places that time is getting shortened and shortened and we're very concerned that in your tendency to grant exemptions that you will put the folks at Indian Point in danger.

And the one other thing I want to point out we've talked about security but we haven't mentioned the fact that the emergency responders in the areas in the plants that you lifted that were granted for example decommissioning trust fund exemptions those same plants also lost the funding for their emergency responders. But as long as there's high level thousands of tons of high-level radioactive waste on-site those first responders need to be supported beyond the on-site security. So I hope I was clear about my two questions high burn up fuel and what if there is a problem, what if there is a leak or a breach?

(Ray Lorson): Yes I will cover those two questions. First with respect to high burn up fuel you made a statement about exemptions or not doing a thorough review.

Whatever we approve in the way of a dry storage system it undergoes a very rigorous review. And we only approve it after we're sort of satisfied that it could be done safely and meet all of our requirements.

I think specifically you had a question about what's the cooling time for high burn up fuel? I will say that they, you know, and you indicated you haven't received an answer. I think, you know, part of the challenge is that it gets into what exactly how much burn up are you talking about when you say high burn up fuel how would you define that specifically.

And then the second part is what canister are you going to put it into because when we license a canister, you know, the designs are different. And so we're seeing more advanced dry storage canisters today than what they had probably 25 years ago. They're using different materials; they're using different techniques in terms of how they load it to improve the heat transfer of the spent fuel through the canister.

So, you know, the actual answer I think is going to depend upon what's the specific level of the burn up and what's the specific design of the canister that's being used.

I would see if Mr. (McKirgan) would care to add or expand on that topic.

(John McKirgan): So thanks for that and I'll probably call upon (John Wise) to offer some additional insight.

You know, with respect to the storage of high burn up fuel the key element there in fuel selection really are decay heat. And it - the way the licensee is able to load that fuel isn't so much about the burn up but the package is certified to a certain decay heat limit. And by mixing different burn ups in

different decay heats amongst the different assembly they're able to configure the assemblies into the cask in a manner that keeps the decay heat within the limits that are prescribed in the staff's analysis and so many of the casks including the ones that are in use there at Indian Point are capable of storing high burn up fuel.

I'll also offer some additional comments, you know, very, very early on staff and industry had some concerns about the extended storage of high burn up fuel. We've done a lot of research in this area and that research has continued to evolve, it's ongoing. But as we've continued to do those studies we've seen that high burn up fuel is not as fragile as many initially thought 30 years ago. And so our ability to understand that material performance has greatly enhanced.

And maybe if you'll let me (Ray) I'll turn it over to (John Wise) who has a lot more experience in that area.

(Ray Lorson): Yes, that would be fine thank you.

(John Wise): Yes. Thank you (John). This is (John Wise). I work with (John McKirgan) and at headquarters NRC. And I'll just take a quick moment to reiterate what (John McKirgan) and said because I understand that when you said you're – you really haven't gotten a straight answer of, you know, how long does it take before I can put higher burn up fuel in a cask. And I think (John) phrased it just right. You're really just building up an inventory to the point that the cask can handle.

So if you have a particularly hot fuel assembly then you simply put it in with several cooler assemblies such that over all the canister is not holding more fuel than its heat load - that heat load that it's rated to. So there isn't a set

answer for you unfortunately as far as how many years because it really does depend.

You had also asked specifically your first question is like what if there's a problem? And so we don't have potentially in pre how do I say? We don't essentially authorize or have a preapproved specific correction – corrective action. When somebody finds a problem with a canister, you know, they need to correct it, end of story.

So what we're going to do as the NRC is we're going to provide oversight, we're going to be watching inspecting how is the licensee going to get that canister back into compliance with the regulations. So for example if there was some issue that you have a concern about you no longer had confinement, there was a breach, well there's an expectation the licensee has to bring that canister back into compliance with the regulations, in other words, you know, find a way.

And there's a couple different ways you might think of. There is welding processes. There is a technique that's being actively trialed throughout the United States right now which is called a cold spray technique or actually healing cracks and canisters where you fire high velocity metal powder at the canister and essentially cold weld the crack shut.

And the simplest method which is one you actually kind of you brought up right away which is well what if you can just take this problem canister and nest it inside of an over packed which then serves as the new confinement boundary? And whether that's a short-term fix or long-term fix, you know, that's something that we would look at and provide oversight.

So again we don't have one preapproved or only one acceptable approach for dealing with a problem in a canister, but we will be there to provide oversight. And with the expectation is the licensee has no choice. They need to restore the confinement boundary and we'll be there to make sure they do.

(Ray Lorson): Thank you. Okay any more questions (Brett)?

(Brett Klukan): Yes we have one last person (Amy Rosmarin) and then I think that will close us out for the individual. So Miss (Rosmarin) please begin or whenever you're ready.

(Amy Rosmarin): Hi. Can you hear me?

(Brett Klukan): We can thank you.

(Ray Lorson): We can hear you.

(Amy Rosmarin): Okay great. Okay the first I have three questions. The first is, you know, you mentioned the eight-minute shutdown that they could shut the gas in eight minutes. They found that they could shut the gas in eight minutes, not in three minutes. I want to make it clear that eight minutes from the time they are notified to shut the gas not from the time of the event. And so the FEIS that allows this, you know, they said three minutes and they're saying okay it's eight minutes from notification.

As you know, you know, over 900 pipeline incidents that have been reported to FIMSA none of them have been identified and shut in less than 30 minutes and most took hours. And by the time that they're even notified the damage will be done from an explosion. That's the first thing. And given that...

(Ray Lorson): Is that a question or a comment?

(Amy Rose Marin): No so that that's a comment. So...

(Ray Lorson): Okay.

(Amy Rose Marin): ...the question is now that you know that they cannot close the – stop the flow of gas within three minutes of an incident are you going to – what is the NRC going to do to stop the flow of gas completely at Indian Point?

(Ray Lorson): Okay first off I don't agree with your premise of not being able to identify the initial line break. I think that the Enbridge, the pipeline operator has sensors that are installed in the pipeline so they would have a fairly prompt notification that there is a problem with the line because they wouldn't see the pressure at 850 pounds. It would be something less.

So they would be...

((Crosstalk))

(Amy Rosmarin): That's actually incorrect. That is incorrect. According to Rick Kiprewicz who is a pipeline disaster expert they won't because of the distance between the valves and the sensors and everything aid the amount of gas they won't even see the pressure drop till it's far later than eight minutes. They won't even know this...

(Ray Lorson): Okay we can - let's agree to disagree on that point and let's move forward.

(Amy Rosmarin): Okay.

(Ray Lorson): So we believe...

(Amy Rosmarin): So well let me ask you a question...

(Ray Lorson): ...that eight minutes is a reasonable bonding time...

(Amy Rosmarin): This way...

((Crosstalk))

(Ray Lorson): ...from the point...

(Amy Rosmarin): No, no, no I want to ask this question.

(Ray Lorson): I'm sorry?

(Amy Rosmarin): If Rick Kuprewicz, the pipeline expert and I because I'm quoting him, if I were to be correct if that were the case what would the NRC do to stop the flow of gas if that was correct...

(Ray Lorson): See that's...

(Amy Rosmarin): ...and then we can figure that out...

(Ray Lorson): ...that's why I'd like to answer the question if you'll allow me. The end of - at the end of the day if Mr. (Gray) when he does his inspection up there what we determined is that the actual time to close the valves is not germane to the overall conclusion that the plant can safely shutdown in the event of a rupture of the pipeline.

And so when you – when we looked at those standoff distances on those radius those are not assuming any particular shut off time. So when we say that the plant has 845 feet as a probable impact raise if he goes double that establishes a standoff distance that bounds all the operating experience there we're aware of in terms of a potential impact.

And so that doesn't – what I mean by that is if let's say for the sake of discussion let's say you're right for the sake of discussion and I disagree with you. But let's say you're right and they don't shut the valves within eight minutes the impact radius is not going to be any larger because that impact radius is based upon the assumption of a guillotine's share of the pipe.

So in the analysis the amount of impacted area doesn't credit – there's nowhere where they assume a flow of gas being stopped as part of their...

(Amy Rosmarin): Okay.

(Ray Lorson): ...overall determination of the impact radius. So hopefully that helps...

(Amy Rosmarin): Okay and well so in...

(Ray Lorson): ...address the issue.

(Amy Rosmarin): ...David's – in your 45-day (David Skeen) report Sandia Labs said that it would be something in the vicinity of - that the blast radius would be about 8000 feet. Why are you ignoring that and use – and then and using 845 and all these independent engineers who looked at the NRC numbers and formulas and their numbers came out to over 4000 feet, why are you ignoring Sandia who is more of a pipeline expert than NRC people who are nuclear experts?

(Ray Lorson): Okay the answer to your question is we are not ignoring the Sandia input. They were part of (Dave Skeen)'s team. They signed off on the report. They were comfortable with the conclusions. But, you know, with that said I will turn it over to Dave to provide some clarity on the Sandia calculation.

(David Skeen): Yes thanks for that (Ray) and thanks for the question. And certainly we did not ignore the Sandia analysis. In fact we had very robust discussions with Sandia when they gave us the simulation that they had run. And so yes you're right. It was a simplified analysis that they performed because we run a very tight schedule to get our report done. And so the question we had asked them was is it possible to have some kind of traveling gas cloud and that's what they looked at.

They ran a model on that in said it could happen. However they themselves said, "Look this is a preliminary analysis. We haven't done any verification or validation. We didn't take into account many of the factors such as the meteorology at the sight or the fact that it's on a different grade levels there, that they just assumed a flat surface and no restrictions in between the gas line in the plant.'

So, you know, the question for us was so we get this analysis and what can we do? So we go to the experts that - the pipeline experts to say have we seen anything like this? Has there ever been a methane cloud that traveled along the ground and then exploded later? And we couldn't find anything like that.

When we talked to the experts they had not seen a cloud that travels along the ground for some period of time because again while as the gas comes out at a high pressure, once the methane gets out away from the break and out of the crater that is caused by the rupture or the explosion -- whatever it is -- the gas begins to rise.

So and that was including – and we even spoke with when we talked to Mr. Kuprewicz about the concerns about a pipe rupture he agreed that once you get out to maybe 1.5 to 1.7 times the potential impact radius that it was likely that the equipment and the buildings that the plant would survive such a blast.

So yes we did talk with Mr. Kuprewicz and that was our understanding. So yes we certainly understood what Sandia came up with. And in fact Sandia gave us very good recommendations on how to improve our analysis for gas lines in the future and that's with the staff is working on now. That's one of the recommendations that we came up with and that was largely in part to the discussions we had with the Sandia folks.

(Amy Rosmarin): Okay thank you. And then the other part of the question is, I know in the 50.59 and in your analysis you looked at different structures but you don't look at the all the communication all the cables in between the structures that go from one building to another. And they - God I can't - the - I can't remember the name of the facility that lets methane in. It's near the control room. You know what, I can't think of that right now.

But all the messaging like the cables and the piping between the buildings that would melt if there was an explosion - and those aren't in your evaluations and why did you leave them out?

(Ray Lorson): I can, you know, start off again, starting back at the end of this whole idea of a probable impact radius of approximately 850 feet. The plant is so far away from that, that any thermal flux or likelihood of cable mounting is not likely.

If you look at the basis for how the department of transportation determined - how to determine the probable impact radius, they used the threshold essentially of heat flux that would, you know, cause a burn to an individual.

And so certainly industrial equipment that's located several hundred feet farther than your potential impact radius is far much less likely to experience any type of thermal or heat damage.

So at the end of the day it gets back to the idea that the pipelines is far from the plant in terms of what we understand relative to gas pipeline, you know, thermal events such that the impact radius - the actual distance from the pipeline to actual (unintelligible) equipment including cabling is so much outside of that probable impact radius.

In fact, if you look at that SOCA fence on the drawing, all the equipment and cables that are necessary for the shutdown of the plant would be farther away from the pipeline on the inside of that SOCA fence.

So the answer to your question is all that is considering the analysis and due to the distance, the ability to safely shut down the plant due to some postulated failure to the pipeline I think is assured.

(Amy Rosmarin): Okay. And then my last question is given the potential damage during that New York State when they did their risk assessment that they found like during decommissioning, are you going to require that the gas is shut off during decommissioning?

(Ray Lorson): No, I mean from the standpoint of nuclear safety, radiological safety, once the - your plant presents the most risk when it's operating at 100% power like right now you would have with unit three.

When the plant shuts on, the risk goes down. The safety related components that are still here, that are being in place as they entered the decommissioning and dismantling process, they'll be in the process of removing the spent fuel even farther away from the gas pipeline. So there's nothing that would present an increased hazard from a radiological safety standpoint let's say for decommissioning.

With that said, you know, as the licensing does decommissioning, they're going to, you know, be using heavy equipment and they'll have lots of manpower and so those jobs have to be well planned out so they're executed safely from an industrial safety perspective.

And so, you know, to give you an example, somebody asked the question earlier about kind of the limits of the NRC's regulation. If the licensing needs to bring a piece of heavy equipment onto the site, they may need to get some sort of approval from the local town to be able to move a heavy object on the roadways.

That's something that goes outside on, you know, the NRC's purview. But from the standpoint of plant safety, radiological safety, once the plant is shut down and the decommissioning begins, at that point, the risk just is continually going down.

So there won't be anything separate we would do but we would expect that, you know, that the decommissioning be performed safely from an industrial safety as well as a radiological safety standpoint.

(Amy Rosmarin): Well they will be expense fuel rods out of the spent fuel pool in the air being moved from Point A to Point B. I mean there's going to be a lot of nuclear fuel

that's not in these safer buildings and if there is a pipeline rupture by mistake or intent, whatever, during that time, those spent fuel rods won't be protected.

(Ray Lorson): And I think...

(Amy Rosmarin): They will be out in the open.

(Ray Lorson): You know, just for consideration, the spent fuel rods, they don't actually physically remove them from the pool and put them in the air when they're doing the loading of the canister.

The canister itself was actually placed into the fuel pool itself and so all the movement of spent fuel is done underwater.

After the fuel canister is loaded and there is basically through the processing, you do get to the point where you have a multipurpose canister which is kind of a stainless steel structure that we've talked about, you know, about a 1/2-inch thick stainless steel with much thicker endcaps.

During the processing of that, there will be a point in time where it's transported from the pool up to the pad, but what we would expect is if there was some type of event, typically you're not going to be doing fuel handling operations.

(Amy Rosmarin): Right, you never know. I mean you never know. And a pipeline rupture can easily melt a 1/2 an inch of steel.

(Ray Lorson): But again, due to the distance and due to the location of the spent fuel pool, a rupture of the pipeline is not going to cause a melting of anything in this spent fuel pool. It's just too far away.

(Amy Rosmarin): So personally, are you worried about having a pipeline there? You personally? Like, does it bother you that there is a 42-inch high-pressure pipeline at a nuclear plant?

(Ray Lorson): I think that the analysis that have been done have been very thorough. They are very consistent with the industry data that's out there related to pipeline failures. I think there's a substantial stand-off distance between the pipeline and the plant.

In addition, if you look at the topography at Indian Point, the pipeline is actually on the bottom side of the hill. Then you go up to the top of the hill and the plants on the bottom side of the other hill.

So if you ask me personally, Do I have any specific safety concerns relative to the pipeline? Absolutely not. If I did, I would not accept our conclusion and I would work to make sure that the right actions were taken.

But in this specific case, I have no concerns. I think that the pipeline is safe, it doesn't represent an undue risk of the plant.

(Brett Klukan): Thank you very much for your question.

(Ray Lorson): That's my personal view.

(Brett Klukan): Thanks (Ray).

(Ray Lorson): Okay.

(Brett Klukan): And that's to everyone else who spoke earlier this evening. We have now exhausted our list of public speakers. We're going to close out the meeting with, as we noted earlier, with some written questions from the Utilities Worker Union of America, Local 1-2.

We have I think four questions that I'm going to run through one at a time, have the NRC staff answer them, and then we'll turn it over to (Ray) to close out the meeting.

So the first question, Holtec does not appear to have much if any experience in decommissioning nuclear power plants and the anticipated sale of another Entergy plant to Holtec for decommissioning is being challenged by the State of Massachusetts and 12 other states including the New York State Attorney General.

Given that background including the likely lawsuit by the State's Attorney General if Entergy sells Indian Point to Holtec, what would delay- which would delay any decommissioned work, why would such a sale be in the best interest of the public?

(Ray Lorson): Okay and I think, you know, maybe we can just answer one at a time as we go through it (Brett). And I think we've talked quite a bit about Holtec. We understand there's some concerns out there Holtec, you know, various things that Holtec has been involved with at other places that may not be material to the review at Indian Point.

At the end of the day, certainly we are reviewing the merits of the Holtec application based on a specific application that if they can demonstrate they are able to perform the work safely and they have the technical and financial capability to do so, then they would satisfy our requirements for licensing.

(Brett Klukan): All right, thanks (Ray). Next question, what assurance if any has the NRC received from either Entergy or Holtec that Holtec will hire the current Indian Point workers who are familiar with the plant and will continue to have a vested interest in protecting the public throughout the lengthy decommissioning process.

(Ray Lorson): Okay, thanks. In terms of who Holtec hires, that's not something that typically falls within the purview of the NRC. When I say typically, let me qualify that statement.

What I mean is we require that Holtec have adequate numbers of adequately trained personnel to be able to perform the functions that they are being asked to perform.

And so there are a number of skill sets that you see at the facility, the operating facility where those skills would transfer directly to the site that's undergoing decommissioning.

And so, I would think that they would be, you know, folks would be available as part of the workforce for Holtec. Again we can't mandate that Holtec or any other company accept a particular worker. What we can do is ensure that the workers that they do hire, that's part of our inspection oversight process to make sure that when folks do get hired they know what they're doing and are able to do it safely.

There are also skillsets that Holtec will need to be decommissioning that probably don't currently exist at the plant. So, you know, while the folks at the plant have a lot of understanding in trying to operate and maintain a plant,

they have less experience of doing something with necessary skills to actually decommission and dismantle a plant .

But in terms of, you know, any assurances that the NRC has received from Holtec, our focus is to make sure they have the right people who do the work safely.

(Brett Klukan): Thanks (Ray). Next question. And again there were six questions in total but we answered two of them already and in answering they were identical to other questions and been asked by others.

So again, two remaining questions. What information if any has Holtec provided that it will safely dispose of spent fuel rods and other radioactive material from Indian Point?

(Ray Lorson): Okay, in terms of any disposal of radioactive material, Holtec is obligated legally. The spent fuel rods can only go to a facility that is licensed to specifically either store or dispose of spent fuel rods.

At this point in time we don't have a repository in the United States nor do we have an interim storage facility. We do have a couple of facilities that are interim storage facilities that are undergoing review.

That could be a potential location to put the spent fuel rods there and do an interim storage, but until as there is somewhere to put these fuel rods that's in a legally licensed facility, they will remain on the ISFSI pad at Indian Point.

With respect to other radioactive material, Holtec will have to dispose of other radioactive material in accordance with the requirements associated with their low-level radioactive disposal site and so those are typically I think Holtec

was using a facility that would be regulated by the state of Texas and so they would have to meet the manifesting requirements and characterizations and ways to show that it can be safely disposed at that facility.

(Brett Klukan): Okay, final -- thanks (Ray) -- final question, how will Holtec transport spent fuel rods and other radioactive material from Indian Point to the designated storage facility.

What if anything has Holtec provided that shows that any and all transportation will be done safely with no possibility of leakage which can harm people in the environment?

(Ray Lorson): Okay, thanks (Brett). As part of transportation, there is a number of regulations that apply to transport of reactive fuel, both NRC and Department of Transportation.

They get into things such as the design of the canisters that are used to house the nuclear fuel, the types of tests you have to do to ensure that the canister doesn't have residual contamination on the exterior of the canister, the requirements on placarding in terms of, you know, notifications to State authorities.

So it's a very complicated, you know, comprehensive process. Low-level radioactive waste gets transported quite frequently throughout the country. You see a lot of hospitals; they are nuclear medicine generators of waste and that waste has to be disposed of.

All your power plants have to dispose of waste. So there's a number of facilities that are generating low-level radioactive waste on a daily basis that

are being safely transported in accordance with the Department of Transportation requirements to low-level waste disposal sites.

Relative to spent nuclear fuel, that's going to be a separate type of transport occurrence but that would again be done under, you know, our requirements for transportation with are in 10 CFR Part 71.

We would include or require similar types of actions to ensure that it could be safely transported and I think that would take a lot more planning on the upfront side.

And so we have had some experience in terms of transporting spent nuclear fuel throughout the country but something for any of the Indian Point site in particular that would require a level of planning to make sure that the local infrastructure can support it.

And so that would be something that would have to be, you know, kind of, closely planned out and it would be done, you know, in accordance with the applicable rules.

(Brett Klukan): All right, again (Ray) that exhausts our written questions so I will turn it over to you. Thanks to all of our participants. And with that I'll turn it back over to you (Ray) to close up the evening.

(Ray Lorson): Okay, well thank you (Brett). I appreciate everyone's interest and enthusiasm. We went a little bit beyond what we had planned. We thought we would finish at 8:00 but we stayed until 9:17 because we wanted to give everyone an opportunity to ask your questions.

We provided contact information upfront. If we have something that you have further questions on, please, you know, get a hold of us. I did have a couple of takeaways. One was a question on a FOIA response to (Ms. Lee) from November 2019 and along with that is a question of how we responded to a letter from the State of New York.

And I think we're going to give (Mr. Webster) a copy of the safety evaluation reports or at least show him where he can find the safety evaluation reports in the license transfer for Pilgrim and Oyster Creek.

But it's been a good dialogue. I know that the meeting was challenging. We had planned to do an in-person meeting but unfortunately due to COVID we had to go to this particular forum.

There were some questions about why don't we just do it all on the internet and why are we using phones. Well to be honest with you, we're trying to serve the entire public and so we want to be mindful of recognizing that folks have varying levels of computer sophistication and the ability to access the meeting.

And so in an effort to be open and inclusive to all, we chose this venue. But certainly if you have some thoughts on it, please fill out a public meeting form and submit your input.

And so with that I thank everyone for their time and attendance and have a good night. We are adjourned. Thank you.

Coordinator: That concludes today's conference. Thank you for your participation. You may disconnect at this time.

END