

Memo to File: September 11, 2017

Attached is the transcript from the Annual Assessment Meeting for Indian Point Units 2 and 3 on June 14, 2017.



Official Transcript of Proceedings
NUCLEAR REGULATORY COMMISSION

Title: Indian Point Energy Center Units 2 and 3
2017 Annual Assessment Public Meeting

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UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

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INDIAN POINT ENERGY CENTER UNITS 2 AND 3

DOCKET NOS. 50-247 and 50-286

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2017 ANNUAL ASSESSMENT

PUBLIC MEETING

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WEDNESDAY,

JUNE 14, 2017

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The Public Meeting convened in the Grand Ballroom, DoubleTree by Hilton Tarrytown, 455 South Broadway, Tarrytown, New York 10591, at 7:00 p.m., Brett Klukan and Donna Janda, Facilitators, presiding.

PRESENT:

BRETT KLUKAN, Regional Counsel, Region I,

Facilitator

DONNA JANDA, Regional State Agreements Officer,

Region I, Facilitator

BRIAN HAAGENSEN, Senior Resident Inspector, Indian

Point Energy Center

DAVID LEW, Deputy Regional Administrator, Region I

RAYMOND LORSON, Director, Division of Reactor Safety

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DAVID RUDLAND, PhD, Chief, Vessels & Internals
Integration Branch

BRUCE WATSON, Chief, Reactor Decommissioning Branch

ALSO PRESENT:

BRYANT DANIELS, Director of Public Affairs, Office
of Congressman Eliot Engel

MANNA JO GREENE, Ulster County Legislator

KATELYN ISRAELSKI, Southern Hudson Valley Regional
Director for Intergovernmental and Community
Affairs

GERI SHAPIRO, Senior Advisor, Office of Senator
Karen Gillibrand

SUSAN SPEAR, Regional Director, Office of Senator
Karen Gillibrand

RICHARD THOMAS, Mayor, City of Mount Vernon

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P R O C E E D I N G S

(7:00 p.m.)

1
2
3 MR. KLUKAN: Hello, and welcome, this
4 evening, to the 2017 Indian Point Annual Assessment
5 Meeting. My name is Brett Klukan. Normally, by day,
6 I'm the regional counsel for Region 1. Tonight,
7 however, I'll be serving as a facilitator for this
8 meeting.

9 Donna Janda, who's currently at the
10 registration table, may be helping me out at times
11 with that task. In a couple of minutes, once I finish
12 with my, hopefully, quick opening remarks, I'm going
13 to turn it over to the NRC staff you see assembled
14 here. After their initial presentation, we'll turn it
15 back for your questions and comments.

16 For your awareness, tonight's meeting is
17 being recorded, as we've done in previous years, and a
18 written transcript will be generated from the audio
19 file. The recording will be posted to the NRC
20 website, and the transcript will be entered into
21 ADAMS, as part of the document package for the
22 meeting. In light of that, I would ask that when it
23 is your turn to speak that you please identify
24 yourself, if you so choose. I would also ask, for the
25 sake of the audio recording, that people not speak

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1 over each other. Here's how the order of public
2 speakers will be determined, as consistent with the
3 big poster we had out in the hallway, just to
4 reiterate one more time. There's one sign-up sheet
5 this year, as opposed to the multiple lists we've used
6 in previous years.

7 When you registered to speak, you should
8 have received one half of a ticket, the other half of
9 which we've collected in a container out in the
10 hallway. The speaking order tonight is going to be
11 determined by the numbers pulled from that container.

12 That will be done by Mark, seated in the corner over
13 there.

14 If you don't like the order, you can blame
15 him. The intent of which is, by pulling the tickets
16 out of the container, is that they be at random. Just
17 so you have some advance warning of when it is your
18 turn to speak, we're going to put the selected numbers
19 up on the projected screen that you see over there.

20 If you'd like to speak and have not
21 already done so, please step outside to add your name
22 to the list. My understanding is that there's been a
23 lot of traffic incidents in the area, several auto
24 accidents, whatnot, on the highway, based on my
25 understanding. Because of that, normally I would cut

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1 off the time in which people have to put their names
2 into the bucket, so to speak, or the container, but
3 tonight I won't be doing that, as we expect more
4 people to show up later on, due to these traffic
5 incidents. However, if you haven't put your name on
6 to the list, please go do so now, just to get yourself
7 into the mix.

8 I want to emphasize, very quickly, that
9 there's no prohibition against trading or donating
10 tickets. You're free to do so; however, both
11 individuals must be present at that time, both the
12 transferor and the transferee. Also, in order to
13 encourage a broad array of speakers tonight,
14 individuals will be limited to one opportunity at the
15 microphone for a three-minute speech.

16 For example, if your ticket number is
17 called, but you've already spoken tonight because
18 someone else donated their ticket to you, you can
19 donate your ticket to someone else. You can pass the
20 favor forward, so to speak, but you can't use that to
21 speak again. I would ask that we try to keep the area
22 up here clean between the front of the stage and the
23 exit for safety reasons. If you have something you'd
24 like to give to the NRC staff you see seated here,
25 please hand it to me, and I'll be happy to take it up

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1 there for you. Now, quickly run through some ground
2 rules. I would add that the purpose of these are
3 two-fold. One is to ensure a safe meeting tonight,
4 and the other is so we can accommodate the maximum
5 number of public speakers who have registered for an
6 opportunity to speak within the allotted time for the
7 meeting.

8 First off, we recognize that many of you
9 have strongly held views concerning the matters to be
10 discussed tonight. However, I nonetheless entreat you
11 to respect each other. We will be operating, as we
12 have done in past years, by a three strikes rule.
13 After two verbal warnings, upon the third instance of
14 disruptive behavior, I will ask individuals to leave
15 the meeting.

16 If those individuals refuse, they will be
17 escorted from the room by local law enforcement. With
18 that said, I don't want to invoke this. It's not my
19 intent or desire to ever invoke this. It's not what I
20 came here to do. It is simply to ensure that we have
21 an orderly meeting that's a safe environment for
22 everyone who's here, both the NRC and the public. Let
23 me be very clear as to this next and final point.
24 Threatening gestures or statements of any kind, under
25 no circumstances will be tolerated and will be cause

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1 for immediate ejection from the meeting. If you feel
2 that you've been threatened, please let me know or
3 tell one of the NRC security personnel you see around
4 the room -- Will, over there -- or any of the police
5 officers, and we will handle the situation. Some
6 housekeeping matters. The bathrooms are through the
7 main doors, just straight down the hallway.

8 Exits are through these doors and back
9 that way, and then again through the main exit. While
10 cameras are permitted, please try not to obstruct the
11 view of others, and if you'd be so kind to silence
12 your cell phones at this time. At this point, I'd
13 like to recognize elected officials or their
14 representatives who are in the audience with us this
15 evening.

16 There will be a later opportunity for any
17 elected officials or their representatives to give
18 prepared remarks, but now, I'd just like to let you
19 know who is in attendance with us tonight. First off,
20 we have Ms. Geri Shapiro, who's a senior advisor for
21 Senator Kirsten Gillibrand. Thank you. Then we have
22 Ms. Susan Spear, who's the regional director for
23 Senator Gillibrand. Thank you. Then we have Bryant
24 Daniels, who is the director of public affairs for
25 Congressman Eliot Engel. Then we have Katelyn

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1 Israelski, who's the Southern Hudson Valley regional
2 director for the Intergovernmental and Community
3 Affairs. Thank you. Are there any other elected
4 officials or representatives of elected officials
5 who'd like to take this opportunity to stand and be
6 recognized?

7 PARTICIPANT: (Inaudible) legislator is on
8 her way here. She's stuck in the traffic.

9 MR. KLUKAN: Just to repeat for the
10 record, Manna Jo Greene, who's -- I'll let you say her
11 title again.

12 PARTICIPANT: Ulster County legislator.

13 MR. KLUKAN: The Ulster County legislator
14 will be coming. She's just running late for traffic.
15 Manna did email me in advance to let me know that she
16 is coming. Any others? We have Richard Thomas, who's
17 the mayor of the City of Mount Vernon with us, as
18 well. I apologize for not noticing that earlier.
19 Thank you, everyone.

20 With that, let me introduce the -- thank
21 you for joining us this evening. Now, let me
22 introduce, finally, the NRC staff you see assembled
23 here. First, we have, seated not closest to me -- I
24 thought you were, at first -- David Lew. David is the
25 deputy regional administrator for Region 1 of the U.S.

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1 Nuclear Regulatory Commission. He has been in that
2 position since January 2011. He was appointed to the
3 NRC senior executive service in February 2004, and has
4 35 years of public service. His previous SES
5 assignments include director, Division of Reactor
6 Projects, and chief of the Probabilistic Risk
7 Assessment Branch in the Office of the Nuclear
8 Regulatory Research.

9 He was a resident inspector at Oyster
10 Creek and Indian Point Unit 2, and is senior resident
11 inspector at Indian Point Unit 3. Prior to joining
12 the NRC, Dave served in the Navy's nuclear power
13 program as a submarine officer. Next, we have Ray
14 Lorson. Mr. Lorson is the director for the Division
15 of Reactor Safety, the NRC's Region 1 Office. He
16 joined the NRC in 1991 as a reactor engineer.

17 He subsequently was a resident inspector
18 at Peach Bottom and the Salem Nuclear Power Plants,
19 and a senior resident inspector at the Seabrook and
20 Salem Nuclear Power Plants. Prior to joining the NRC,
21 Mr. Lorson also served in the United States Navy.
22 Next, we have Mr. Brian Haagensen. Mr. Haagensen's
23 career in nuclear power spans over 44 years, 10 years
24 of service on nuclear submarines in the Navy, 22 years
25 in nuclear services consulting, and 12 years of

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1 service at the NRC. He currently serves as a senior
2 resident inspector at Indian Point. Prior to his
3 current position, he was a resident inspector at
4 Millstone, and prior to that, he was an operating
5 licensing examiner in Region 1. Next, we have Bruce
6 Watson.

7 Bruce Watson is the chief of the Reactor
8 Decommissioning Branch in the Division of
9 Decommissioning, Uranium Recovery and Waste Programs,
10 in the Office of Nuclear Material Safety and
11 Safeguards. In that role, he's responsible for Power
12 and Research Reactor, Complex Materials, and Uranium
13 Decommissioning, Project Management, License and
14 Inspection Programs.

15 Bruce has 20 years of reactor operating
16 experience and served as a radiation protection
17 manager at Calvert Cliffs. He has 40 years of
18 experience in health physics, including over 30 years
19 of management experience. Finally, we have David
20 Rudland.

21 Dr. Rudland joined the NRC in 2008 as a
22 senior materials engineer in the Office of Nuclear
23 Regulatory Research, Division of Engineering. In
24 2013, he transitioned to the chief of the Component
25 Integrity Branch. In 2016, he began his current

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1 position as chief of the Vessel and Internal Integrity
2 Branch. Dr. Rudland received a bachelor's degree and
3 master's degree in mechanical engineering from the
4 University of Illinois, and a PhD in the Materials
5 Engineering Program from Yokohama University in Japan.

6 Thank you again, and now, let me turn it over to Dave
7 Lew for the NRC's opening presentation.

8 MR. LEW: Thank you, Brett. Good evening,
9 and welcome to the (Inaudible) annual assessment
10 meeting. Our goal today is to be as brief in our
11 remarks as practical, to afford as many of you an
12 opportunity to speak. If there is a question or a
13 response that is desired, my staff and I will also be
14 brief in our responses. We are here to listen to your
15 comments.

16 Before we get to your comments, Brian
17 Haagensen will give a very brief overview of the NRC's
18 assessment of Indian Point's performance in 2016.
19 Brian will also provide the status of the plant,
20 including the Indian Point 3 shutdown, due to leakage
21 by the reactor vessel O rings. We will be also making
22 two short presentations on topics of public interest,
23 namely an update on Indian Point baffle bolts and
24 decommissioning processes. The baffle bolt update
25 will be covered by Dave Rutland, and the

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1 decommissioning process will be covered by Bruce
2 Watson. We estimate that both presentations will be
3 less than 15 minutes. I do want to acknowledge that a
4 lot has happened this year with the agreement between
5 Entergy, New York State, and other groups to close
6 Indian Point 2 by 2020 and Indian Point 3 by 2021.

7 I want to say, at the outset, that
8 decisions on whether a plant continues to operate, for
9 reasons other than safety and security, are outside of
10 our purview. The NRC's role is strictly focused on
11 safety and security, as it should be. Now, I would be
12 remiss if I did not say a few words on the shooting
13 today in Alexandria, Virginia. There are some
14 congressional staffers here today, and this is a great
15 reminder of the true public service that they provide
16 this nation.

17 I do not know whether the congressional
18 staffers here today have developed working
19 relationships with those who have been shot, but the
20 colleagues, the congressmen and the capitol police who
21 were shot are in our thoughts, and we hope for their
22 speedy recovery. With that, let me turn it over to
23 Brian.

24 MR. HAAGENSEN: Good evening. I'd like to
25 summarize our inspection efforts and our assessment of

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1 plant performance in the year 2016 at Indian Point.
2 Last year, the Nuclear Regulatory Commission completed
3 over 8,000 staff hours of independent inspection
4 efforts. Our assessment process included targeted
5 inspections to observe plant activities in the field
6 and verifying plant performance indicators and
7 monitoring aspects of human performance and Entergy's
8 corrective action system.

9 These inspection activities were conducted
10 primarily by our onsite inspectors. The NRC resident
11 office has three full-time resident inspectors. We
12 work on site, Monday through Friday and many weekends,
13 and we live within ten miles of the plant. We respond
14 24 hours a day, 365 days a year, to any plant events.

15 The residents are augmented, as needed, by some of
16 our experts and specialists in certain areas, from
17 both the NRC Region 1 office and NRC headquarters.

18 Before going into the plant performance, I
19 just want to say that currently, Unit 2 is operating
20 at 100 percent power. It's been at 100 percent power
21 now for 346 days. However, Unit 3 is currently shut
22 down and conducting a short outage to repair a small
23 seal leak on the reactor vessel head. Following the
24 last refueling outage that ended on May 18th, Indian
25 Point detected a small amount of leakage coming from

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1 under the reactor vessel head seal on May 30th.
2 Entergy elected to shut down the plant on Sunday, June
3 11th, to find the cause and to repair the leak.
4 Indian Point Unit 3 will resume power operations after
5 the leak has been repaired. We concluded this year
6 that Entergy operated Indian Point safely in 2016.

7 Indian Point Unit 3 showed improved
8 performance from the previous year. As you may
9 recall, Unit 3 experienced a number of events that
10 included some plant trips and some unplanned power
11 reductions in 2014-2015. In 2016, Unit 3 did not
12 experience any of those events. This notable
13 performance improvement caused the white performance
14 indicator metric to change to green performance in
15 2016.

16 The NRC completed a supplemental
17 inspection at Indian Point 3 in 2016 to ensure that
18 Entergy had completely understood the root causes of
19 the past unplanned shutdowns and had thoroughly
20 evaluated any common causes and implemented effective
21 corrective actions. This inspection was completed in
22 October of 2016 by a group of independent inspectors
23 from both the regional office and from other unrelated
24 plant sites. Overall, our conclusion is that the
25 Indian Point site performance improved in 2016, and

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1 that both units continued to operate safely. We will
2 continue to provide independent oversight and critical
3 review of their current and future operations. At
4 this time, I'd like to turn it over to Dave Rudland
5 for the presentation on baffle bolts.

6 DR. RUDLAND: Thanks, Brian. I'm going to
7 talk today about the baffle bolts and baffle bolt
8 inspections. The baffle former assembly is made up of
9 stainless steel plates that surround the core. These
10 plates are there to provide lateral support to the
11 core, in case of an accident or seismic condition, and
12 it helps direct flow through the core, also. The
13 stainless steel plates are held together with
14 stainless steel bolts.

15 These bolts are about 5/8 inch in
16 diameter, about two inches long, and are made of
17 stainless steel, also, Grade 347 stainless steel.
18 These bolts are susceptible to irradiated (Inaudible)
19 stress corrosion cracking, which is driven by the
20 material of the bolts, the environment, which includes
21 the water chemistry, as well as irradiation, and the
22 bolt stresses. The bolt stresses come from things
23 like the torque on the bolt, how much bolt torque it
24 has. The geometry of the bolt causes a certain amount
25 of stress, as well as irradiation damage and reactor

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1 geometry can also affect the bolt loads. In about
2 1988, these bolts began cracking in the French
3 reactors. At the time, the U.S. industry embarked on
4 a pilot program to do inspections and, across the
5 fleet, found about 10 percent cracking. As time went
6 on, reactor vessel internal inspection programs were
7 developed by the industry to help manage this aging.

8 When clustering of the bolts began
9 happening in early 2016, the industry also embarked on
10 developing interim inspection guidance that included
11 ultrasonic inspection of those susceptible plants at
12 the next refueling outage, as well as suggestions for
13 subsequent bolt inspections. Indian Point is one of
14 the higher susceptible bolts, due to the reactor
15 design and the susceptible bolting material.

16 This illustration here on this slide shows
17 the ultrasonic probe that sits on top of the bolt.
18 There's one probe per bolt, multiple sensors on the
19 bolt, and the probes are calibrated for detection
20 only. They can only find a flaw. It's a go/no go
21 situation. They cannot size the flaw; they can only
22 detect the flaw. The operating history has shown us
23 that this ultrasonic technique is conservative, in
24 that some of the bolts that have indications are
25 removed and show full load carrying capacity, so it's

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1 a conservative measure of whether or not there is one
2 of these stress corrosion cracks in a particular flaw.

3 This slide shows the recent Indian Point inspection
4 results. I should point out that there are 832 baffle
5 former bolts in each unit. A couple of the things I
6 want to point out, before they do the ultrasonic
7 inspection, the plant does a visual inspection of
8 those.

9 At Indian Point, 231 of the 832 bolts had
10 either broken heads or broken lock bars, which are
11 plates that are welded over the bolt head to stop the
12 bolts from moving. In Indian Point 3, at the recent
13 inspection, there were zero bolts found. Indian Point
14 did replace all of the bolts that had indications.

15 They replaced them with a different bolt,
16 made out of Grade 316 material, which that bolt and
17 its geometry is less susceptible to this kind of
18 cracking. In addition, they replaced additional bolts
19 beyond those that had UT indications. They replaced
20 some non-degraded bolts in order to give them margin
21 on the replacement bolts, so that in future outages,
22 they would have less cracking. Also, as they removed
23 the bolts in Indian Point 2, about a little less than
24 50 percent of the bolts, the heads broke off as they
25 were removing them, indicating they were highly

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1 degraded. In Indian Point 3, only 35, so that was
2 about 10 percent, of the bolts broke, again,
3 indicating that the bolts that they removed in Indian
4 Point 3 were less degraded than those in Indian Point
5 2. Indian Point has also committed to inspect all of
6 these bolts at every refueling outage until they shut
7 down.

8 In conclusion, the structural integrity of
9 the baffle former assembly is maintained due to some
10 of the things I talked about. Indian Point replaced
11 all of the degraded bolts, the bolts that had UT
12 indications, with less susceptible bolts. They also
13 replaced additional bolts that were not degraded to
14 give them additional margin, and they have committed
15 to do subsequent inspections at each of the units at
16 their upcoming refueling outages until the plants shut
17 down.

18 The NRC will continue to inspect those
19 results as they come in at the upcoming refueling
20 outages, as part of the baseline inspection program.
21 Overall, the NRC will continue to follow the baffle
22 former bolt operating experience and updated
23 inspection guidance as the industry continues that and
24 rolls that into their aging management plans, in order
25 to ensure structural integrity of the baffle former

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1 assemblies. Thank you. I will now turn the mic over
2 to Bruce Watson.

3 MR. WATSON: Good evening, and thank you
4 for all of you coming out tonight. As Brett
5 mentioned, my name is Bruce Watson. I'm chief of the
6 Reactor Decommissioning Branch, and I have overall
7 programmatic responsibility for all the power reactor
8 decommissionings in the U.S. and research reactors.

9 As such, we perform all the licensing
10 activities and have oversight of the inspection
11 program for the Reactor Decommissioning Program. Our
12 mission in decommissioning remains the same. We
13 require that the radiological decommissioning be
14 completed safely. We will continue to inspect the
15 plant until all the radioactive material meets our
16 release criteria and the license is terminated.

17 We do not go away once the plant shuts
18 down. I want to point out that the NRC does allow for
19 buildings and structures at the site to remain after
20 the license is terminated, as long as those structures
21 and buildings have demonstrated to us that they're
22 free of the residual radioactivity and can meet the
23 license termination requirements. In many cases, some
24 facilities leave the buildings up, and we do not
25 require green fielding and removal of the facility.

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1 Actually, site restoration is up to the owner of the
2 property and its stakeholders. Our decommissioning
3 regulations will be 20 years old this year. Since
4 that time, we have terminated the licenses on over 70
5 licenses, complex material sites, research reactors
6 and power reactors.

7 All of these sites have been released for
8 unrestricted use, meaning that the owner of the
9 property can use the property for whatever purpose
10 they want to. Once we terminate the license, the NRC
11 has no say in the continued use of the facility at
12 that point. We are also working on some -- currently,
13 we're working on some regulations, decommissioning
14 rulemaking that will make the transitioning of power
15 reactors, from operations to decommissioning, more
16 safely.

17 There are no safety issues with that, but
18 we are going to make it more efficient for not only
19 the NRC staff, but also the licensees, to go into
20 decommissioning. The NRC has implemented an
21 integrated reactor decommissioning program, which
22 allows significant license flexibilities. For power
23 reactors, the licensee must complete the radiological
24 decommissioning within 60 years. That does not mean
25 decommissioning takes 60 years, but they're allowed to

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1 stay in a safe store situation for up to 60 years.
2 Actually, the basis of the regulation is that they can
3 stay in safe store for about 50 years, and it takes
4 anywhere between seven to ten years to actually do the
5 decommissioning and terminate the license. Indian
6 Point 1 has been in safe store, as we call it, for 43
7 years.

8 One of the first documents that will be
9 submitted to the NRC is the post-shutdown
10 decommissioning activities report. The post-shutdown
11 decommissioning activities report, or PSDR, as we call
12 it, provides the NRC with the strategy and the
13 approach that the licensee is going to take to
14 decommission the site.

15 It also contains a site-specific cost
16 estimate for the decommissioning, and it also has a
17 review in it that the licensee is reaffirming that
18 they can do the decommissioning within the current
19 environmental impact or environmental assessment.
20 When we receive that report, we will hold a public
21 meeting to obtain public comments from the PSDR. One
22 of the things I wanted to mention is that the NRC, as
23 an independent safety regulator, does not require the
24 licensee to sponsor a citizens' advisory panel or
25 advisory board. Since this is an industry good

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1 practice, some licensees choose to sponsor their own
2 citizens' panels to educate and inform the public
3 about the decommissioning. In some states, they have
4 legislated that these bodies be formed, so there's a
5 broad spectrum of types of committees. I want to
6 point out that regardless, about one third of them are
7 state or local regulators or representatives.

8 About one third are industry interest
9 groups, and others are just interested individuals
10 from the local community on the decommissioning.
11 Right now, we have completed the decommissioning of
12 ten power reactors, and those have had their licenses
13 terminated. Seven of those still have independent
14 fuel storage facilities on the site, meaning that
15 there's dry fuel in storage at the site, and that
16 remains under the license.

17 We will continue to inspect that facility
18 until the fuel is removed and taken title by the
19 Department of Energy, no matter how long that takes.
20 I want to remind everybody that all of the licenses
21 that we have terminated have been terminated for
22 unrestricted use. There are currently 20 power
23 reactors in decommissioning in the country; six of
24 those are in very active decommissioning. We expect
25 that we will terminate four of those licenses prior to

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1 Indian Point permanently shutting down, so there's a
2 tremendous amount of decommissioning work being done
3 in the country. We have seven other power plants,
4 including Indian Point, that have announced they will
5 be permanently ceasing operations over the next few
6 years.

7 The other issue I wanted to point out to
8 you is that there is a new business trend in
9 decommissioning. There's a business model where the
10 licensee, the utility, transfers a license to an
11 entity or private company which specializes in
12 decommissioning, and they perform the decommissioning,
13 and then return the license and the fuel back to the
14 utility or the original licensee or owner. Currently,
15 that's in effect at Zion Plant in Illinois, and at
16 LaCrosse in Wisconsin.

17 This is moving their decommissioning
18 schedule up dramatically over what they had originally
19 planned to do. There's also another business model
20 we're entertaining. I say entertaining because an
21 application has been submitted by a private entity to
22 not only transfer the license, but purchase the
23 Vermont Yankee facility from Entergy. This company
24 intends to decommission the site, I believe, on a
25 schedule that is more prompt than what Entergy had

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1 originally produced in their post-shutdown activities
2 report. However, this application is under current
3 NRC review, and it will go through a rigorous
4 technical review, and also a financial review. In
5 summary, I just want to point out that there are an
6 increasing number of plants entering decommissioning.

7 The NRC will remain focused on the safe
8 decommissioning of these plants, whether they're --
9 during the shutdown of those plants, and into the
10 decommissioning, and we'll be there until the license
11 is terminated. We have a strong regulatory framework
12 that is -- and an experienced inspection program that
13 has proven to work very well throughout the last 20
14 years.

15 We intend to continue to further
16 strengthen our program, as we have lessons learned
17 from the decommissioning activities that are currently
18 underway, and we've learned from the past. With that,
19 thank you very much.

20 MR. KLUKAN: Thank you very much. Again,
21 if you haven't registered to speak, please step
22 outside to do so. In fairness to those who might be
23 caught up in traffic, we're going to allow people to
24 continue to add their names to the container, or to
25 the speakers list, as the evening goes on. But at

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1 this point, we have collected those who've already
2 registered, those tickets, and we're going to start.
3 You'll see here, in a second, Mark is going to start
4 putting those names up on the board, or the projector,
5 and then I will call them. What I would ask is try to
6 prepare yourself or queue up behind the person who is
7 speaking in front of you.

8 For example, whoever is coming after 162,
9 queue up behind them at the aisle microphone, just so
10 we can keep things moving along. Do that two or
11 three. As you can see here, we're going to put up at
12 least a couple names on the board. Before we begin
13 that, though, in an effort to give as many people as
14 possible an opportunity to speak this evening, as was
15 noted in the meeting notice, please limit yourself to
16 three minutes when speaking.

17 Know that I'm really going to hold people
18 to that. You will see, in front of the stage, a
19 little -- it's not that little -- a gym clock. That
20 will count down from three minutes. At ten seconds,
21 you'll hear a beep to let you know that it's time to
22 wrap up. Once it is finished, I will ask you to
23 conclude your remarks. I have no desire to interrupt
24 anyone, but I will be forced to do so at that time if
25 you don't conclude the three-minute mark. This is

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1 simply in fairness to everyone who's registered to
2 speak, to make sure that we can accommodate as many
3 people who've registered to speak with the allotted
4 time that we have available to us. Before we begin
5 with public speakers, however, I now would like to
6 offer any elected officials or representatives of
7 elected officials an opportunity to speak or to give
8 prepared statements.

9 Note that I won't hold elected officials
10 to that three-minute limitation, unless they want me
11 to. I would ask that you, however, respect that
12 limitation, given the number of people who would like
13 to speak this evening, over the course of tonight.

14 With that said, if you are an elected
15 official or a representative of an elected official,
16 please queue up to the aisle microphone, in no
17 particular order, so we can begin the public comment
18 portion. I know that Ms. Manna Jo Greene -- whoever
19 would like to go first. Again, there's no limitation
20 on the elected officials, so please --

21 MS. GREENE: Thank you; I appreciate it.
22 I, in fact, do moonlight as an elected official. I'm
23 an Ulster County legislator, but my day job is that I
24 work for Hudson River (Inaudible) Clearwater. I have
25 to be clear that my comments are primarily on the

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1 basis of Clearwater, but I did arrange ahead of time,
2 and I appreciate being given the opportunity. I don't
3 want that to count for my three minutes. My first
4 question -- and I was caught in terrible traffic, but
5 my first question is about the O ring and why an O
6 ring would fail so soon after the recent outages and
7 repairs that have occurred.

8 The second major point I want to make --
9 and we have a petition that we're circulating -- is
10 the importance of a citizen or community advisory
11 board or oversight board. It is absolutely critical
12 that the community that's going to be impacted during
13 the process of decommissioning participate in that
14 process, and that there are independent experts
15 available.

16 In that regard, Clearwater, the NRDC, and
17 Lohud (Phonetic), on Friday of last week, held a
18 conference attended by approximately 100 people,
19 including elected officials from the impacted
20 communities, to begin to understand how serious the
21 issue of nuclear waste management and nuclear waste
22 storage is. I do have a question about sufficiency of
23 staffing, both by the NRC, and I want to ensure that
24 the Entergy employees that understand the history of
25 Indian Point are retained. If, as Entergy has

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1 indicated, they are interested in selling the plant,
2 that should be a condition of the sale is that those
3 employees that have put their career into Indian Point
4 be retained, so that institutional memory and specific
5 technical knowledge that they have can be part of the
6 decommissioning process, even if retraining is needed.

7 We also believe in a just transition and
8 want to work with the unions and with the workers to
9 ensure that those workers who don't retire and are not
10 retained are able to receive whatever retraining and
11 placement they need in similar industries in this
12 region, and not have to leave their homes. Finally, I
13 want to say that this is a new age that we're
14 entering, which is the age of nuclear waste
15 management.

16 We're phasing out nuclear waste
17 generation. There's a very rapidly expanding,
18 emerging renewable energy economy that will replace
19 most of that energy. But to face the problems that --
20 the mayor of Zion was one of our speakers on Friday --
21 that municipalities will be facing, we're going to be
22 holding a national summit of mayors and supervisors
23 and county officials, so that those communities that
24 have been through decommissioning can share their
25 knowledge and insight with those who are facing it.

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1 Thank you.

2 MR. LEW: Thank you, Manna Jo. I'm going
3 to ask Brian to talk about the O rings, as well as
4 staffing at the site, since he's closest to that. I
5 may then ask Bruce to touch on the community boards
6 associated with decommissioning. I would say that --
7 and I think I said at the outset, the NRC is primarily
8 focused on safety and security.

9 That's strictly what we're looking at. We
10 understand that with the shutdown of a plant -- and we
11 are sympathetic to the challenges of the employees of
12 the communities that are affected. However, that is
13 not within our purview, but we certainly understand
14 that will have a significant impact.

15 MR. HAAGENSEN: Yes, thank you for the
16 questions. Let's take the first one first. When we
17 call -- when we talk about an O ring, this is more
18 than what you might think of as being an O ring. This
19 is not a little rubber ring that you would use in one
20 of your valves or car or something like this. This is
21 a very large, more than 30 feet in diameter. The O
22 ring itself is about yay big, three to four inches in
23 cross-section. There's stainless steel wiring inside,
24 or there's kind of a spiral wire inside to allow it to
25 crush. Then the whole outside is coated in fairly

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1 thick silver, so that when the reactor vessel head is
2 installed, it deforms to fill in any minor small
3 cavities. There's actually two of these O rings
4 together, one inside the other. If the first O ring
5 fails, you'll see a leak off. You'll see some reactor
6 coolant coming down a leak off line. They close that
7 leak off line.

8 Now, it rides on the second O ring. It's
9 a fairly robust engineered system. We don't know the
10 reason why it failed yet because they haven't had a
11 chance yet to open up the reactor vessel head and take
12 a look underneath there. There's a couple of things
13 it could be. There could be foreign material that got
14 trapped in there. It could be that the O ring was
15 disrupted in the process of setting the reactor vessel
16 head down.

17 But until we pull the head off, or until
18 Entergy pulls the head off, we're not going to know
19 for sure what the cause was, so I'm not going to try
20 to speculate on that. As far as sufficiency of
21 staffing goes, matter of fact, that's a very timely
22 question. We had a recent brief on it today. As far
23 as the NRC goes, we will maintain our staffing levels
24 at the site until such time as both units shut down.
25 When Unit 2 shuts down first, we're likely to have one

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1 of the residents go do something else and two remain
2 behind. When Unit 3 shuts down, there will be one
3 resident remaining on site for some period of time.
4 It could be as much as a year or so. At that point in
5 time, we'll rely on the experts and specialists at the
6 regional office to come out and do the inspections to
7 make sure that the spent fuel pool storage and dry
8 cask storage is being properly conducted.

9 I understand your concerns about a just
10 transition. Suffice it to say, at this point, after
11 listening to some of the plans that Entergy has, it
12 certainly appears it would be a very just transition.

13 I'm not going to go into any of the details, but I
14 would encourage you to talk to some of the Entergy
15 senior management. They can perhaps describe some of
16 the steps they're taking to make sure that the people
17 who have worked for them for many, many years are
18 going to land on their feet.

19 MR. LEW: I would just add that our role
20 is to ensure that they have adequate staffing to
21 ensure plant safety. We do have a regular inspection
22 regime that's flexible, that can account for plants in
23 such transitions. In fact, we have done that for many
24 plants. As Bruce indicated, this is not the first
25 plant to undergo this transition. There are other

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1 plants which we're in the midst of providing
2 oversight.

3 MR. WATSON: The question was about
4 citizens' advisory panels or engagement committees.
5 The NRC's an independent safety regulator. Because
6 we're independent, we have to avoid all conflicts of
7 interest so, therefore, we cannot be the leader and
8 require that as a -- these types of panels or
9 committees formed.

10 We encourage them, though. One of the
11 lessons learned from Maine Yankee was they had a
12 citizens' advisory panel that was sponsored by the
13 utility, seemed to work very well with the local
14 community and with the state. Since all these sites
15 have been and, as far as we know, plan to have their
16 licenses terminated with unrestricted release -- the
17 land is not going to be any conditions left on it --
18 the NRC has no mandate to require such an entity be
19 formed.

20 I can tell you, like I said in my talk,
21 there's basically two types of them. One of them is
22 the utility chooses to sponsor a group. The other one
23 is that a state will legislate that they will have a
24 citizens' advisory panel, which we have a number of
25 different ones going right now. Southern California

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1 Edison sponsors the one at San Onofre. Vermont
2 Yankee, the Vermont Nuclear Decommissioning Advisory
3 Panel is legislated by the state. They also have
4 additional administrative requirements for reporting
5 back to, I think, the Governor's Office or the
6 legislature on that. There are two different types,
7 at this point, or sponsors.

8 At many of the sites, we've found that the
9 utility just -- or the state has no interest in it.
10 In many of these sites that are shut down, there is no
11 citizens' advisory panel, but we can't require it. We
12 have to remain independent, so we can hear all
13 concerns, all safety concerns, and be independent and
14 not give any of the appearance that we're biased in
15 any way over one group or another.

16 MR. KLUKAN: Thank you. I was just
17 notified that -- I know you're queued up next, but
18 apparently Mayor Thomas has to leave soon, so would
19 you mind ceding to him? Thank you.

20 MR. THOMAS: Mayor Thomas, City of Mount
21 Vernon. On Monday, it was over 90 degrees. The first
22 question I asked all my commissioners was are we ready
23 for a blackout? That's the question we have to wake
24 up to when we deal with a situation where the power
25 grid is stressed. Knowing that one of the reactors is

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1 offline is disconcerting going into a heat wave. I
2 can assure you that reliability is an issue and a
3 concern of my city. We're four square miles, one of
4 the most populated cities in America. Emissions are
5 the highest in this region. My concern is what are we
6 going to do about emissions when this plant eventually
7 powers down?

8 My hope is that part of the process is a
9 dialogue about communities like Mount Vernon, black
10 and brown communities that deal with respiratory
11 issues, obesity issues, issues of air quality, issues
12 of reliability, in terms of the strength of the
13 electric wiring of our old infrastructure. We had two
14 fires in a four-day period, one fatality, as a result
15 of smoke inhalation.

16 These are things that are caused by
17 increased demand on our electric grid, these electric
18 fires. So again, I want to make sure that as you
19 develop this process, communities like Mount Vernon,
20 that are impacted from a real human standpoint, from a
21 cost standpoint, and also an environmental standpoint,
22 were factored into the conversation. It's not just
23 about job training; it's also about wellness of the
24 overall community. Because when we look at the
25 situation and we wake up to a heat wave, we have to be

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1 ready to respond to everyone. I hope that's something
2 that we can think about as we move forward, toward
3 this decommissioning process. Thank you. For the
4 record, I do believe Indian Point is safe and that
5 reliable power is very necessary to maintain a
6 well-balanced energy portfolio. Thank you.

7 MR. LEW: Thank you.

8 MR. KLUKAN: Thank you for your comments.
9 Please.

10 MS. ALLEN: Thank you. Amy Allen
11 (Phonetic), with the Westchester County Association.
12 As vice president of the Westchester County
13 Association, which is a business membership
14 organization, representing hundreds of businesses and
15 hundreds of thousands of employees in the region, I'm
16 here to express our continued support for Indian Point
17 Energy Center.

18 Indian Point is a significant source of
19 power, putting out over 2,000 megawatts of electricity
20 for the homes and businesses in Westchester County,
21 and responsible for 11 percent of all power used in
22 New York State. Westchester County runs on Indian
23 Point. Its reliable power to hospitals, schools, and
24 offices and municipalities, as the mayor noted,
25 throughout the region has allowed Westchester to grow

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1 economically. Industry is attracted to the
2 affordable, reliable power. Indian Point supports
3 approximately 3,300 jobs in Westchester County, and up
4 to 40,000 jobs statewide. The New York Independent
5 System Operator, current and past New York City
6 mayoral administrations, and the Charles River
7 Associates have all included Indian Point is necessary
8 to maintain low electric rates and clean air in the
9 region.

10 The Westchester County Association is
11 focused on promotion economic development in
12 Westchester and encouraging businesses to grow
13 throughout the region. Westchester and all impacted
14 communities deserve a real plan for our economic and
15 environmental health following Indian Point's closure.

16 We only have four years. Thank you.

17 MR. KLUKAN: Thank you.

18 MS. VAN: Hi, my name is Nancy Van
19 (Phonetic). I didn't identify myself as an elected
20 official because I'm an appointed official, but I
21 suppose if a business council counts as an official,
22 than certainly the chair of the Peekskill Housing
23 Authority, under HUD, should count as an official. I
24 want to tell this panel, particularly in regard to
25 whether there is enough energy available, that as

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1 chair of the Peekskill Housing Authority, we are, at
2 the current moment, possibly as we speak, evaluating
3 all of our buildings to use solar energy. I think
4 that it bears noting that solar energy is the fastest
5 growing form of energy in the United States now, and
6 that we have four years until Indian Point will be
7 closing.

8 Despite the fact that we had a very
9 serious heat wave this past week, and the fact that
10 one of the reactors was offline, there were no
11 blackouts. I haven't had a blackout in my town of
12 Peekskill that wasn't caused by a tree falling on a
13 power line for many, many years, as long as I can
14 remember. I think that we've really addressed the
15 issue of the availability of power for the area.

16 I just hate to see people repeating the
17 same old spin on that issue. I also wanted to mention
18 that I'm happy to see representatives of Senator
19 Gillibrand and Representative Engel here tonight. I
20 wish that we had more of our local folks here because
21 this is the largest issue confronting our area in this
22 particular period of time, to be able to shut this
23 down safely, without any additional risks from the
24 decommissioning process, to be able to make sure that
25 the best available technology is used, is extremely

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1 important. I would like it if all of our
2 representatives could be here. Some of them were at
3 the Clearwater Forum that Manna Jo mentioned, but far
4 too few of them seemed to be willing to commit
5 themselves to really learning about what this will
6 involve. I do hope that the people that are working
7 at the plant now are able to remain.

8 They have the expertise. They know how
9 the plant works. I would just add my voice to that.
10 One of the other things that came up at the forum was
11 from the mayor of Zion about the possibility of
12 getting federal funds because we are now, and will be,
13 waste storage facilities. It is the federal
14 government's obligation to provide waste storage for
15 the spent fuel rods.

16 If they have no central repository, if
17 they have no way to get the fuel rods to those
18 repositories, then the communities which are now going
19 to be host not to a plant, which is producing
20 electricity and paying payments in lieu of taxes, when
21 we become simply a temporary waste storage facility,
22 we will need to be reimbursed from that by the federal
23 government. Thank you very much for holding this. I
24 look forward to our work going forward.

25 MR. KLUKAN: Thank you for your comments.

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1 MS. WININGER: Good evening. My name is
2 Ellen Wininger (Phonetic), and I'm ceding my time to
3 Mr. Paul Blanch. Thank you.

4 MR. KLUKAN: Thank you.

5 PARTICIPANT: (Inaudible.)

6 MR. KLUKAN: Yes, I think they are up now.

7 MR. BLANCH: Thank you. My name is Paul
8 Blanch. I have over 50 years of nuclear experience.
9 I've been studying the risk associated with Indian
10 Point spent fuel pools, gas lines, and a lot of other
11 issues. I'd like to point out to everyone that Indian
12 Point is, without a doubt, the most dangerous, not
13 nuclear facility, but facility in the U.S.A. This
14 photo here was taken by myself in a private airplane
15 and not any special telephoto lens.

16 This is how close one can get to this.
17 There are no requirements by the NRC, and Indian Point
18 does not have any protection. I circled this plant
19 for three times in a private airplane. Shown here are
20 some vital structures, like spent fuel pool, control
21 room. Gas line is around here. I'm not going to
22 specifically point it out. But should a private
23 airplane with one terrorist or one who wanted to do
24 harm and knew where to hit the gas lines, it would
25 totally engulf the nuclear power plant and probably

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1 disable most personnel in the control room, which is
2 not protected. Next slide, please. This graph, which
3 was presented at the decommissioning meeting, shows
4 the long-lived Cesium 137 from various situations.
5 The first one is the amount of cesium that is released
6 from a ten-megaton weapon. The next one, which is not
7 shown, would be Fukushima.

8 Then the orange one is Chernobyl, and then
9 atmospheric tests. The two to the right is the amount
10 of Cesium 137 that is presently in the spent fuel
11 pools at Indian Point. Should we experience a loss of
12 integrity and a fire, most of this cesium would be
13 released to the environment. I said this is the most
14 dangerous facility in the U.S., and possibly the
15 world, and it's because of its proximity to the gas
16 lines and a very attractive target for terrorists.

17 Next slide, please. This is a plot that
18 came out of a recent report by UCS and Princeton
19 University and is very consistent with NRC studies
20 done by Brookhaven, which Brookhaven, and also the
21 National Research Council and the National Academy of
22 Sciences. It shows the contaminated land. The
23 darkest color, in red, is a meaningless unit to most
24 people, and it was to myself until I looked it up.
25 The area in red, which covers tens of thousands of

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1 square miles, remains uninhabitable from cesium
2 contamination for generations. That area stretches,
3 it looks like, a few hundred miles wide and many
4 hundreds of miles long, can spread 800 miles. Final
5 slide. An area equal to Connecticut and Massachusetts
6 would be uninhabitable for generations.

7 The entire population and infrastructure
8 of New York City and the Hudson Valley would be
9 destroyed. Damage would be about 50 percent, or \$8
10 trillion to the gross domestic product. An act of
11 malice caused by a single person could accomplish
12 this. Now, there wouldn't be any prompt fatalities.
13 People wouldn't die immediately, but they'd suffer
14 long, slow, painful deaths.

15 Gas pipelines in the Indian Point
16 proximity significantly increase the probability and
17 consequences of a spent fuel pool release. NRC
18 refuses to address the gas line issue, due to the
19 nuclear economics. It would be very costly for the
20 industry, both the gas industry and the nuclear
21 industry, should they have to address it.

22 MR. KLUKAN: Thank you for your comments.

23 MR. BLANCH: Thank you.

24 MR. LEW: Thank you, Paul. Again, we're
25 here to listen. I take it as you're trying to make

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1 statements. I will say that certainly, what you
2 presented, we don't necessarily agree with it, but I'm
3 not going to tie up folks' time, so we should just
4 proceed to the next individual.

5 MR. KLUKAN: Okay, No. 179.

6 MS. CLAIR: Hi, I'm Paula Clair
7 (Phonetic), from Garrison, New York. I recently
8 attended a decommissioning seminar, the one that
9 Clearwater held. There were experts from around the
10 country and from Canada there. I was dismayed to hear
11 stories of people left by the industry with the
12 radioactive remnants to contend with after
13 decommissioning or during decommissioning, as well.

14 I was also dismayed to hear that the
15 Nuclear Regulatory Commission and the U.S. government
16 only require 5/8 inch of thickness for the dry casks;
17 whereas, Germany dry casks are one foot thick. Why is
18 Germany protecting their people more strongly than the
19 U.S.? The answer might be corporate greed and the
20 surrender of governmental bodies like the NRC and FERC
21 to the wishes and needs of corporations. These
22 corporations are all set up as limited liability
23 corporations, LLCs. That means if they create a
24 disaster in our area and destroy its habitability,
25 they can only be sued for a limited amount, much

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1 smaller than the destruction caused by them, and their
2 parent companies cannot be sued either. So the little
3 guy, the average citizen, is left with the devastating
4 losses and no hope of ever being made whole.
5 Something is very wrong with a system that protects
6 billionaires to the detriment of average citizens,
7 including destruction of their lives, health,
8 livelihood, and property.

9 The NRC is and has been a long-time
10 government body with strong ties to the nuclear
11 industry that, unfortunately, panders to the wishes
12 and needs of this industry, not people. Why would a
13 responsible government agency allow a massive 42-inch
14 high-pressure gas line, the AIM pipeline, to be built
15 adjacent to a nuclear plant 35 miles from New York
16 City and surrounded by residential neighborhoods and
17 highly populated counties within harm's reach?

18 Putting gas and nuclear together on two
19 earthquake faults at Indian Point doesn't make sense,
20 even to the average person with limited knowledge.
21 Independent nuclear and disaster preparedness experts
22 in the field without connections to either the nuclear
23 or pipeline corporations at Indian Point have
24 consistently warned of the dangers of this
25 combination. I recently learned that the public has

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1 no right, under the law, under NRC rules, to know how
2 decommissioning money is being spent. Even more
3 surprisingly, the NRC changed its rules so that the
4 agency, itself, does not have access to this
5 information.

6 What we have here is self-regulation by
7 the industry, and we all know that industry's first
8 priority is company profit and spending the least
9 amount of money to get the job done, not the safety
10 and wellbeing of the people surrounding the nuclear
11 plant.

12 For these considerations, and for the
13 safety of people in this region and others, I urge the
14 Nuclear Regulatory Commission to change its rules
15 again to more closely monitor the decommissioning
16 process and to allow citizens living in
17 decommissioning areas to have a voice in determining
18 safety rules and measures in the decommissioning
19 process.

20 MR. KLUKAN: Thank you very much.

21 MR. LEW: Those just are rhetorical
22 questions or statements.

23 MR. KLUKAN: Next up we have No. 8, Deb
24 Malone.

25 MR. DIFRANCESCO: Good evening. I'm

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1 obviously not Deb Malone. My name is Rob DiFrancesco
2 (Phonetic). I'm the executive director of the New
3 York Affordable Reliable Electricity Alliance. Thank
4 you all for being here this evening. I'm reading a
5 statement on behalf of Deb Malone, who is one of our
6 advisory board members. Deb is also the executive
7 director of the Hudson Valley Gateway Chamber of
8 Commerce.

9 Her statement reads as follows. The
10 Hudson Valley Gateway Chamber of Commerce knows the
11 important role that a clean and safe power source
12 plays in supporting the economy. Businesses need
13 affordable electricity to operate and expand, and
14 Indian Point has supplied this in a clean, reliable,
15 and safe manner for years.

16 Replacing Indian Point's 2,000 megawatts
17 of power will be an enormous challenge, and it remains
18 to be seen whether the required amounts of New York
19 power plants, new transmission lines, and increased
20 energy conservation measures will be able to replace
21 Indian Point. Our economy will take a hard hit
22 without Indian Point. Providing more than \$140
23 million in income a year to local families, these
24 wages support about 2,800 more jobs in our
25 communities. Few businesses in the area have, alone,

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1 the impact Indian Point has in our local economy. The
2 Nuclear Regulatory Commission conducts safety
3 inspections of every nuclear plant in the country.
4 Indian Point has long been the most scrutinized.
5 These inspections have all reached the same
6 conclusion, that Indian Point is a safe facility, and
7 Indian Point should receive its license renewal.

8 Indian Point is more than just a safe
9 energy source. It is the key to driving economic
10 growth, while attaining New York State's emission
11 goals. That's from Deb Malone of the Hudson Valley
12 Gateway Chamber of Commerce. Thank you very much.

13 MR. KLUKAN: Thank you. Next up we have
14 No. 3, Mr. Richard Webster.

15 MR. WEBSTER: Yes, hello. I'm Richard
16 Webster. I'm the legal director at Riverkeeper. I
17 actually do have questions. I'd appreciate it, after
18 I finish talking, if you could either answer a couple,
19 maybe, and then to the extent you don't have time,
20 give me a written response.

21 I'd like to ask mainly about the baffle
22 bolts, since we're here, and I have a couple of
23 colleagues here who will ask about a couple of other
24 things. My understanding is that Indian Point 3 had
25 259 bolts that had degraded, compared to Indian Point

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1 2, with 227 bolts degraded. But Entergy predicted
2 that Indian Point 3's baffle bolts would be in better
3 condition than Indian Point 2's baffle bolts. Then
4 the NRC, as far as I understand it, accepted Entergy's
5 prediction. Clearly, Entergy's prediction was wrong.

6 I want to know why was it wrong?

7 Why didn't NRC identify that it was wrong
8 before the inspection? What did NRC miss?
9 Apparently, at Salem 1, when a mere -- let me check --
10 a mere 189 baffle bolts were replaced, they provided a
11 report regarding an unanalyzed safety condition. Has
12 the NRC required such a report from Entergy? If not,
13 why not? If so, when will it be available? Finally,
14 will NRC or Entergy be conducting a root cause
15 analysis of the failure to accurately predict the
16 aging of Indian Point 3?

17 Those are my questions. Before you answer
18 them, let me just mention a couple of other things.
19 We are signatories to the agreement to close Indian
20 Point. There is no point now arguing whether Indian
21 Point is going to close. It is going to close. It is
22 time to start planning for the future, not looking
23 backwards into the past. We have to get over the
24 disputes that we've had. We have to work together to
25 replace Indian Point with safe, reliable, renewable

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1 power. We at Riverkeeper are going to do that, and we
2 hope everybody will join with us to do that. Thank
3 you, and I look forward to your answers.

4 MR. LEW: Thank you, Richard. I'm going
5 to ask Dave, who presented the baffle bolts, to touch
6 on what the operating experience is. Ray is the
7 director of our Division of Reactor Safety. He does
8 have the oversight relative to our inspections,
9 including our reviews of the licensees' analysis, so
10 I'll ask him to address that piece.

11 DR. RUDLAND: I'll start. Like I
12 mentioned in my presentation, the process that they
13 use for detecting these bolts is ultrasonic
14 inspection. It is a conservative predictive tool. As
15 the industry uses it more and more, they become more
16 sensitive to the signals that are found from these
17 tools, so they take the judgment to make a
18 conservative call.

19 For the Indian Point 2 versus Indian Point
20 3, the trends seemed to suggest that the degradation
21 is actually a little bit worse in Indian Point 2. The
22 reason that being is a couple of points that I made in
23 my slides. They do a visual inspection before they do
24 this ultrasonic inspection. What they found, they
25 found that in Indian Point 2 they had, I think it was

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1 35 bolts that actually had the heads broken off, which
2 again suggests a very degraded condition. In Indian
3 Point 3, they had zero bolts that were found that were
4 visually failed. So that right there indicates that
5 there was some differences, at least in the level of
6 degradation that occurred in the baffle bolts.

7 In addition, as they removed those that
8 had indications, some of those bolts, the heads would
9 break off as they torqued them, and some of them would
10 come out intact. From the chart here, you can see
11 that in Indian Point 2, a little less than 50 percent
12 of those bolts actually broke as they were pulling the
13 bolts out. Where in Indian Point 2, only about a
14 little bit more than 10 percent broke, again,
15 indicating that Indian Point 2 had a much more
16 degraded condition.

17 In several of the cases, also, as part of
18 their root cause analyses, Indian Point took some of
19 these bolts that they removed that had indications and
20 they actually did tensile tests on them, where they
21 put them into a machine and actually pulled them until
22 they failed. Even though they had indications, they
23 retained 100 percent of their load carrying capacity,
24 again, suggesting that the technique that they're
25 using to identify these degraded bolts are

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1 conservative. From all those indications, it suggests
2 that Indian Point 2 was in a more degraded condition
3 than Indian Point 3. That addresses, I believe, the
4 first question that you had.

5 MR. WEBSTER: Right. Are you saying that
6 the aging prediction for IP 3 was accurate, then? Is
7 that what you're saying?

8 DR. RUDLAND: Yes. I think, overall, that
9 the aging conditions between the two plants are
10 comparable.

11 MR. WEBSTER: But that wasn't my question.
12 At the time the Indian Point 2 bolt degradation was
13 found, Entergy made some predictions about degradation
14 in IP 3. Was that accurate?

15 DR. RUDLAND: What they did was they based
16 that on the age of the plant and the amount of fluence
17 that they had. What they found was that the degraded
18 condition was similar to that at Indian Point 2.

19 MR. WEBSTER: Was it similar to predicted
20 or similar to IP 2. I can see from your look that
21 it's similar to IP 2.

22 DR. RUDLAND: Yes, it was similar to IP 2.

23 MR. WEBSTER: But was it similar to what
24 was predicted?

25 DR. RUDLAND: I think they didn't give a

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1 quantitative number of bolts that they thought were
2 going to be cracked. They made an operability
3 suggestion based on what they knew from Indian Point
4 2, and it was similar.

5 MR. WEBSTER: I'm not understanding this.

6 When they made the prediction about degrading/aging
7 in Indian Point 3, what parameters did they use to
8 predict that aging? Did they use margin? Can I get
9 just a statement from you, was the prediction of aging
10 at Indian Point 3 accurate?

11 DR. RUDLAND: I believe it was, yes.

12 MR. WEBSTER: Can I get a written response
13 to the rest of my questions? The unanalyzed condition
14 report, Salem put one in. Why wasn't one put in for
15 IP 3?

16 MR. LORSON: I'll take the piece of the
17 similarities and differences between both Salem and
18 Indian Point. We do (Inaudible) inspections for every
19 refueling outage to look at material condition of the
20 plant. We have what we call in-service inspections.
21 We did an inspection at Salem, and we did an
22 inspection at Indian Point. We have folks that do
23 these inspections that are very knowledgeable in the
24 field. They look at things such as operability of the
25 (Inaudible) condition. They look at actions, whether

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1 or not the licensee has properly taken adequate
2 corrective actions to restore the condition, and we
3 found, both at Indian Point and Salem, that the
4 actions that the licensee took to address the
5 degrading condition were appropriate. We also look at
6 reportability.

7 The differences between Salem and Indian
8 Point, primarily, was that Salem, there was more
9 clustering, if you will, of the bolts. There were
10 actual panels that had a higher percentage of failed
11 bolts, as opposed to Indian Point, where the failures
12 were more distributed. If you'd like to talk further,
13 I can certainly provide you the inspection reports
14 that discuss our findings in this area. So thank you.

15 MR. WEBSTER: Okay, I'll look forward to
16 discussing that further with you. Thank you.

17 MR. KLUKAN: Thank you.

18 PARTICIPANT: I'm up next, but since I've
19 already spoken, I yield my time to Ellen Wininger.

20 MR. KLUKAN: Thank you.

21 MS. WININGER: Good evening. I have a few
22 questions, but I'll start with a few questions
23 interdispersed with those questions. Indian Point's
24 closure does not resolve multiple risks posed by the
25 nuclear plant, its permanent storage of massive

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1 quantities of highly radioactive nuclear waste, and
2 other major hazardous infrastructure co-located at the
3 site. Decommissioning will take decades and demands
4 expertise of many experts and must address the public
5 concerns. Among them is the explosive potential of
6 high-pressure gas transmission pipelines operating at
7 the site.

8 Pipelines and their infrastructure are
9 subject to leaks, fires, and explosions, not uncommon
10 events. In 2015, there were 143 accidents in gas
11 transmission pipelines, alone.

12 NRC's false assumptions, prohibited
13 modeling system, and lack of expertise in its analysis
14 of the impacts of potential pipeline rupture at the
15 plant failed to consider, in its analysis, the risks
16 associated with new pipeline installations, their
17 serious deficiencies and problems during their
18 construction phase, observed by PHMSA, and highlighted
19 in PHMSA data recording the alarming rise in pipeline
20 failure rates, especially in newly installed
21 pipelines.

22 NRC also failed to understand the factor
23 that pipeline ruptures of this magnitude generate
24 incredibly high methane gas release rates, with
25 extremely high heat fluxes that melt steel and

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1 vaporize aluminum at considerable distances. How is
2 NRC going to address these risk factors, and will you
3 be conducting a risk assessment, an independent risk
4 assessment that is incorporated into the
5 decommissioning plan?

6 Independent engineers calculated the blast
7 radius from a potential gas transmission pipeline
8 rupture at Indian Point using your own NRC data and
9 found that the blast radius exceeds 4,000 feet and
10 could engulf the entire nuclear site. How is it that
11 the NRC underestimated the probability of a gas line
12 accident using this data -- a gas line accident impact
13 at Indian Point by at least a factor of 1,000?

14 It also lacks supportive documentation.
15 Where is the documentation, in the event of a pipeline
16 rupture, that provides for safe shutdown of the plant
17 while it's still operating and protection of 45 years
18 of extremely vulnerable and highly radioactive nuclear
19 waste stored in densely packed cooling pools.

20 Also, where are the emergency protocols
21 for such a pipeline event at Indian Point? This has
22 been repeatedly raised by nuclear, pipeline, and
23 disaster preparedness experts, yet it's been
24 disregarded. I would like to know what experts will
25 be included as part of the decommissioning plan. The

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1 older pipelines, and the new AIM pipeline at Indian
2 Point are operating -- sorry, lost my spot here.

3 MR. KLUKAN: Your time's up, so thank you
4 very much. I appreciate it.

5 MR. LEW: I think there was a question on
6 the status of the pipeline. Let me just say that we
7 have looked at that extensively. We had, even, a
8 presentation during our last annual assessment
9 meeting. Your quotes there are not as we have
10 analyzed.

11 We have analyzed the plant to be able to
12 safely shut down on the gas pipeline, and we've gone
13 through that many times, gotten a lot of input. That
14 review had even gone through our commission. At this
15 point, we have not received any information that would
16 cause us to revisit our results. We did take it
17 seriously. We did do significant evaluations, and we
18 still stand by our conclusion.

19 MS. WININGER: Then how do you account for
20 that calculus of 4,000 feet, more than, actually,
21 4,000 feet of the impact radius, the blast impact
22 radius for a pipeline rupture, which would be
23 encompassing the entire site? This is using NRC data,
24 so how do you account for that differential, and why
25 is it that the NRC has not gone back and recalculated

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1 those amounts? Because this would have a serious
2 impact on decommissioning, on the nuclear waste,
3 especially the flammability of the spent fuel, the
4 cooling pools that are so densely packed, with five
5 times capacity.

6 MR. LEW: Let me just say that what you're
7 quoting there is not what our analysis indicated. We
8 (Inaudible) resolve the differences. When we did the
9 analysis, we looked at the closest point to the
10 security fence, looking at both the pressure wave, as
11 well as the heat flux at that fence.

12 It was well below the levels, and it was
13 correspondingly verified with actual events. When you
14 talk about the spent fuel pool, that is even much
15 further from the location that we're talking about, so
16 the plant can operate safely and be safely shut down.

17 We have high confidence that the spent fuel pool
18 would not be impacted.

19 PARTICIPANT: (Inaudible.)

20 MR. LEW: We will have to just disagree on
21 that. I'm sorry.

22 MS. WININGER: I'm not sure I understand
23 how using the same data, if you could explain to all
24 of us here how using the exact data that you used,
25 that quite a few independent engineering experts used

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1 your data and calculated, using your data and using
2 this system of calculation, and came up with different
3 figures. It's not an opinion. Math is math. How is
4 it that you came up with something much lower and
5 deemed this acceptable, an acceptable risk?

6 I'm asking that question. How is that
7 possible? This is not opinion. We're not talking
8 about opinion now. We're talking about calculation of
9 data that you used, which wasn't even correct data to
10 use. I'm just still waiting for that answer, thank
11 you.

12 MR. LEW: I understand your concern. I
13 think any time you do these calculations, there's a
14 question of what your experts have assumed and how
15 they've calculated. We have engaged, several times,
16 some of these experts. They have provided us their
17 information. We simply disagree.

18 We had experts from DOT involved in the
19 meeting back in February of 2016. We have gone
20 through many cycles of these reviews. We have
21 reviewed this pipeline (Inaudible), not only after
22 9/11, but also after it was raised by (Inaudible)
23 several times. We feel confident in our calculations.

24 MR. KLUKAN: I thank you for your
25 comments. We're welcome to talk about that --

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1 PARTICIPANT: (Inaudible) discuss it with
2 us. You absolutely refuse to discuss our differences
3 of opinion (Simultaneous speaking).

4 PARTICIPANT: (Inaudible.)

5 MR. LEW: We will ensure that any activity
6 is safe. At this point, there is not -- at this
7 point, they need to require that.

8 PARTICIPANT: (Inaudible.)

9 MR. LEW: Part of the challenge in sharing
10 this is there is sensitive information when you talk
11 about protecting a site from explosions and so forth.

12 PARTICIPANT: (Inaudible.)

13 MR. KLUKAN: Ma'am, I'm sorry. You've
14 made your point, and there's a number of other people
15 who've come here to speak tonight. I would like to
16 move on, out of fairness. The NRC staff will be happy
17 to have conversations afterwards and to do written
18 follow up, if you send us written questions, but out
19 of fairness to everyone else who came to speak
20 tonight, I just have to move on.

21 MR. WEBSTER: We have had proprietary
22 information about Indian Point in our files for about
23 ten years. None of that information leaked out. We
24 would be happy to receive these calculations, as
25 proprietary documents, so that we can review them and

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1 give them back to the NRC.

2 PARTICIPANT: (Inaudible.)

3 MR. WEBSTER: The idea that this is
4 sensitive information simply cannot be a reason to
5 make the public (Inaudible).

6 PARTICIPANT: (Inaudible.)

7 MR. KLUKAN: You're Ms. Susan Liefer
8 (Phonetic)?

9 MS. LIEFER: Yes.

10 MR. KLUKAN: Yes, okay, thank you.

11 MR. SHAW: Hi. My name's Gary Shaw. I'm
12 a member of the Indian Point Safe Energy Coalition,
13 and we live five and a half miles from Indian Point.
14 My wife and I became involved in this issue after
15 radiation releases from the steam pipe failure at
16 Indian Point 2 in February of 2000.

17 I've been observing the work of the NRC
18 ever since, and unfortunately, I have a very low level
19 of confidence that the agency adheres to its main
20 responsibility, which is protection of public health
21 and safety. At last year's meeting, I listed the
22 plethora of unplanned shutdowns that had occurred in
23 the year or so that had preceded the meeting, and I
24 asked this body to name any potential shutdown
25 situations that the NRC prevented during the year.

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1 There was no response. Because the State of New York
2 had filed relicensing contentions related to
3 inadequate aging management of reactor internals, the
4 March 2016 internal inspection of the IP 2 reactor
5 cooling system discovered that 227 baffle former bolts
6 were degraded, broken, or missing.

7 That represents over 27 percent of the 832
8 bolts that should have been in place and functional.
9 We who know that Indian Point 3 has the same reactor
10 design as Indian Point 2 loudly called for IP 3 to be
11 shut down and inspected, to see if the same
12 potentially catastrophic condition existed. NRC
13 declined and decided to wait another year, until IP 3
14 was taken offline for refueling. It did not surprise
15 us that the IP 3 inspection found that 256 of the
16 baffle bolts were non-functional or missing.

17 That represents a 31 percent failure rate.
18 Given that a reactor cooling system failure can
19 result in a meltdown, it was inexcusable that the NRC
20 was willing to roll the dice with the health and
21 safety of the 20 million people who live or work
22 within the 50-mile radius of the plant. The NRC
23 decision was confusing to me, until I realized that if
24 the NRC found the same or worse condition in the IP
25 reactor, then all reactors with the same design should

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1 be shut down and inspected. That means 27 other
2 Westinghouse four-loop pressurized water reactors. So
3 it became clear to me that industry financials are
4 more important to the NRC than is public safety.

5 Since the NRC is on site all the time and
6 the IP 3 was offline for months, I still don't
7 understand how the NRC missed that the O rings were
8 deficient, and that allowed the radioactive cooling
9 water leak that shut down the plant shortly after it
10 went back online. I'd like to get a better
11 explanation of that.

12 Now that Indian Point is going to end its
13 generation phase and will move to the decommissioning
14 phase and the need to manage thousands of tons of
15 high-level radioactive waste, including elements like
16 plutonium that has a half-life of 24,000 years and
17 will be mutagenic for ten half-lives, why should the
18 public have any confidence at all that NRC is up to
19 the task of safely overseeing this long duration
20 process?

21 From this stakeholder's perspective, there
22 must be a citizens' advisory panel or a citizens'
23 oversight board, as in effect at other reactors that
24 are in the decommissioning process. One last thing is
25 I'd like to know at what point in the process of

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1 management of high-level radioactive waste does the
2 NRC wash its hands of responsibility, and then puts it
3 in the hands of the Department of Energy?

4 MR. KLUKAN: Thank you.

5 MR. LEW: Thank you. I think I heard two
6 questions there. One is a little bit more explanation
7 of what was seen with the O rings, and the other
8 question is on DOE possession, where in the process.
9 Will you take that? Bruce, will you take the other
10 question?

11 MR. WATSON: Sure.

12 MR. LEW: Okay, thanks.

13 PARTICIPANT: With regards to the O rings,
14 we have no indication, at this point, that the O
15 rings, themselves, were deficient. We know there was
16 a leak. Until we get the head off the reactor and can
17 do an inspection, we won't know the cause of why the
18 leak happened. That should happen in the next couple
19 days.

20 PARTICIPANT: (Inaudible.)

21 MR. LEW: Yes, that will be made public.
22 I will maybe also add to that. The leak was detected.
23 It was well within tech specs, a small fraction of
24 tech specs. It was monitored by the licensee, as well
25 as our inspectors follow it. Well within the tech

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1 specs. They elected to proactively shut down and
2 repair the O rings. That's the sequence I think that
3 you were trying to better understand. This will be
4 inspected and documented in an inspection report.

5 MR. WATSON: With regards to spent fuel,
6 as long as the spent fuel remains on site, the NRC
7 will continue to inspect the facility and make sure it
8 stays safe. It has a specific license, which the
9 licensee is required to maintain the condition and
10 security of that facility, and we will back every
11 year, if not more often, to inspect that facility, to
12 ensure they're complying with the safety requirements
13 to make sure it's safe.

14 PARTICIPANT: (Inaudible.)

15 MR. WATSON: The NRC will continue to
16 inspect the facility until the DOE takes possession of
17 the fuel, which means whenever the national policy
18 makers make that decision on what the actual final
19 repository of the fuel will be.

20 PARTICIPANT: (Inaudible.)

21 MR. WATSON: I'm sure that -- it can be
22 repackaged at any time to make sure that the fuel
23 remains safe. Right now, there's a current design for
24 those packages, and they will continue to ensure that
25 package meets the safety requirements. That's far out

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1 into the future. What we really need is a resolution
2 of the issue with the national policy makers in
3 Washington to resolve the high-level waste issue, so
4 that DOE -- right now, there is one company
5 (Inaudible) that are looking at interim storage, what
6 they call interim consolidated storage.

7 They're trying to license facilities out
8 West, where they can consolidate all the spent fuel in
9 the country. I think one site's in New Mexico, and
10 the other one's in Texas. I know the one application
11 is under review. The other one was recently suspended
12 for a variety of issues, but that is one of the
13 avenues that could happen to resolve the issue with
14 having numerous spent fuel dry storage facilities
15 around the country.

16 MR. LEW: Gary, perhaps this --

17 PARTICIPANT: (Inaudible) still have to
18 maintain spent fuel pools because that (Simultaneous
19 speaking).

20 MR. WATSON: It does not mean that, no.

21 PARTICIPANT: So that material can be
22 moved in the open air?

23 MR. WATSON: It can be safely transferred.

24 MR. LEW: Gary, it may also help you that
25 these dry casks are actually licensed. They're

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1 licensed for a specific period of time. They would
2 have to relicense. They vary. I think some are 20
3 years, and some are 40.

4 PARTICIPANT: Cesium 137, I think, has a
5 half-life of 30 years, which means it would be
6 (Inaudible) for 300 years.

7 MR. WATSON: I think the point is that dry
8 storage systems have to be able to contain the
9 reactive elements as long as they're stored within.
10 That's really the licensing period. There's a renewed
11 license that you can apply for to get additional time.

12 But at any rate, it's the responsibility of the
13 licensee to maintain the cask in a safe and -- with
14 high integrity.

15 PARTICIPANT: (Inaudible.)

16 MR. KLUKAN: Thank you. I'm just going to
17 pause right now. All of these follow-up discussions
18 have been very, I think, good, and you've raised a lot
19 of important questions. In no way am I trying to
20 diminish this, but out of respect to the number of
21 people we have signed up tonight, I'm going to try to
22 limit that. Know that if you do have questions and
23 you feel like they did not answer your questions, you
24 can submit them in writing. I'll append them to the
25 transcript, so it's there for everyone to see, or you

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1 can have a conversation out in the hallway, or you
2 could do both. But we need -- I would like to keep
3 this moving forward, just to accommodate as many
4 people as we can to speak tonight. With that said,
5 No. 9.

6 PARTICIPANT: Yes, I'm Paul (Inaudible).
7 I yield my time to Jerry Cremer (Phonetic), chairman
8 of the New York Affordable Reliable Electricity
9 Alliance.

10 MR. KLUKAN: Thank you.

11 MR. CREMER: Mr. Chair and members of the
12 panel, I'm Arthur Jerry Cremer, and I'm chairman, as
13 you heard, New York Affordable Energy Reliance. We've
14 been in existence for 15 years. We have over 200
15 members, community groups, chambers of commerce,
16 unions, a whole variety. I served in the New York
17 State legislature for 23 years.

18 I chaired not only the Ways and Means
19 Committee, but the Energy Committee, and I was the
20 author of the original power plant siting (Phonetic)
21 law in New York State and worked with the legislature
22 on the renewal of that law. I was about to say, as
23 part of my remarks, it's the first hearing, in my ten
24 years of going to hearing, where the panel hasn't been
25 vilified or called any particular names, but I guess

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1 the record continues to be blemished. The fact of the
2 matter is past hearings haven't been as kind to people
3 who are just trying to do their job. Indian Point, in
4 our opinion -- and it's over 1,000 employees -- really
5 have done a spectacular job as an economic engine for
6 this region.

7 Aside from the fact that they provide
8 literally billions of dollars in economic benefits and
9 taxes to the local community, they've run a good
10 system. The independent system operators, the ISO,
11 continues, as late as 2012, to say that Indian Point's
12 2,000 megawatts are really a critical part, if you
13 will, of New York State's energy sector. This area,
14 this community represented by Indian Point, is going
15 to be very hard pressed, if you will, to provide the
16 amount of power reliability that Indian Point
17 currently provides.

18 There's another thing, and that is that
19 this panel and the panels before you have consistently
20 said that Indian Point is run well, that it's
21 reliable, that it's accountable to any particular
22 complaints that you raise. I think that should be the
23 hallmark of this whole discussion. I also know this
24 over the past ten years. I have heard the prophets of
25 gloom and doom at all of these hearings. It's going

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1 to fall apart. It's going to break down. It's going
2 to blow up. But we're sitting here ten years after
3 the application for relicensing and the prophets of
4 gloom and doom have failed on all of these occasions.

5 The last thing I want to talk about is transparency.

6 On each and every one of the occasions
7 that we've observed the operations of Indian Point,
8 the company has been the one to publicly point to the
9 NRC and say this is an issue that we found, which
10 includes, if you will, the baffle bolt.

11 Unless the panel knows anything different,
12 it's always been our impression that this company has
13 been zealous in announcing that things have to be
14 done, and they are ultimately accomplished working in
15 cooperation with the NRC. We're happy with the
16 regulatory powers of this commission. Some people say
17 the commission is biased in favor of one or another.
18 The answer is the record proves you haven't been, and
19 we applaud you for what you do, and we thank you for
20 your time.

21 MR. KLUKAN: Thank you. Next up we have

22 --

23 MR. SULLIVAN: John Sullivan.

24 MR. KLUKAN: John Sullivan, or 173.

25 MR. SULLIVAN: Prophet of doom and gloom.

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1 One comment and three questions, hopefully. The
2 first comment is my understanding is that the NRC is
3 reviewing procedures for decommissioning and has a
4 choice of guidelines versus regulations. Regulations
5 will continue to have hearing rights; guidelines
6 won't. I urge the NRC to keep as many procedures
7 under regulations.

8 I think you can see the difference between
9 San Onofre and Vermont Yankee. When you have citizens
10 involved, the decommissioning goes much better. I
11 think it would be wise for the company, for the NRC,
12 for the community. Questions. I would like Paula's
13 question answered. The difference between the German
14 and Japanese casks, they're 10 to 20 inches versus our
15 casks that are half inch, .6 inch, whatever it is.

16 Is there a rationale for that? Why did
17 the NRC approve that? Next question, how far down
18 will decommissioning down? We have a strontium leak
19 out of IP 1. How far down into the ground does the
20 NRC look to see that, in fact, the ground is safe?
21 The last one is will there be material analysis of the
22 plant as it is decommissioned, so we can see what
23 actually wore and did not wear and what other plants
24 are at risk? Thank you.

25 MR. KLUKAN: Thank you very much.

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1 (Simultaneous speaking.)

2 MR. WATSON: I'll try and answer, briefly,
3 all three of your questions. No. 1, the design
4 criteria that the German and the Japanese use is very
5 similar to what we do. The big difference is we
6 require the additional shielding in the form of
7 concrete to surround those metal casks. That makes
8 them impenetrable to many, what we call missiles or
9 planes or whatever thing, so they're inherently safe
10 by design.

11 As far as the underground structures that
12 may remain after the plant is decommissioned, it will
13 be really up to the licensee to determine how they're
14 going to leave the site. That would be in conjunction
15 with the stakeholders in the state, in the local
16 communities.

17 Like I said in my presentation, you can
18 leave all the structures up, but you have to prove to
19 us that the residual radioactivity meets the license
20 termination requirements, which means the underground
21 subterranean areas will be sampled and verified not to
22 contain any radioactivity that would exceed our
23 criteria. In general, I can say that some plants have
24 removed all of the underground facilities or
25 structures, foundations. Others typically, in a

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1 normal commercial decommissioning situation, remove
2 down to about six feet below the surface of the soil.

3 It's really up to the licensee to decide what they're
4 going to do.

5 All of these plans, their plans for the
6 decommissioning, will be outlined in what's called a
7 license termination plan, which is required to be
8 submitted to the NRC near the end of the
9 decommissioning, so that they can prove to us how
10 they're going to measure the residual radioactivity at
11 the site to demonstrate that they're going to meet our
12 license termination criteria.

13 That will be a document that will be
14 submitted to us. It's a very large technical document
15 that establishes how they're going to meet the dose
16 criteria in our regulations for terminating the
17 license. We will be holding a public meeting. We're
18 required by regulation to obtain public comments when
19 they do submit that to us, but it's fairly far down
20 the process, but it is an interaction we have with the
21 public. I think that pretty much answers it.

22 PARTICIPANT: (Inaudible.)

23 MR. WATSON: The licensee will come out
24 with a survey plan that is also part of this license
25 termination plan. In advance of that, they will do a

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1 significant, what we call characterization surveys of
2 the site, to make sure that they know what they're
3 going to be measuring and how they're going to measure
4 it. We will be reviewing all those steps in the
5 process as they go along. That's what part of the
6 inspection process is. We will also be independently
7 verifying their measurements in the field.

8 We have a world class laboratory at Oak
9 Ridge Associated Universities, which we use to
10 independently validate the sample analysis of soil,
11 whatever it is that pertained to the decommissioning,
12 and we also use that -- right now (Inaudible) our
13 contractor that would also come in and do independent
14 confirmatory surveys to verify that their measurements
15 meet the criteria that they said they did, to show
16 that they meet the residual radioactivity measurements
17 for the license termination. It's a lot to be spilled
18 out, but it is part of the process, sir.

19 MR. KLUKAN: Next up is No. 175.

20 MR. REYNOLDS: Good evening, my name is
21 Olney Reynolds. I'm vice president of the
22 African-American Men of Westchester. We are a
23 volunteer group of African-American men who live and
24 work in Westchester County. We provide county
25 programs throughout Westchester County for the last 30

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1 years. Many of those programs have been tied to
2 environmental programs to teach communities how to
3 protect themselves and protect the environment. We're
4 here because we're concerned about -- there seems to
5 be a lack of focus on the aftermath, should the Indian
6 Point plan actually go through with the decommission
7 and the aftermath.

8 The biggest concern is what replaces this
9 power should Indian Point shut down? We feel there's
10 been a lack of examination about that. I have a
11 prepared statement that we, as a group, have signed on
12 to, that I'd like to read. As an organization, we
13 would prefer Indian Point stay open, but should this
14 occur, these are our concerns. Indian Point's
15 operation is vital to reducing the reliance on fossil
16 fuels.

17 When Indian Point goes offline, there will
18 be significant pressure to replace this carbon-free
19 facility with power from fossil fuel plants, which are
20 disproportionately located in African-American and
21 other minority communities. A study commissioned by
22 the New York City Department of Environmental
23 Protection found that Indian Point's closure would
24 cause carbon emissions to increase by up to 15 percent
25 and nitrous oxide emissions to increase by 7 to 8

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1 percent, in both the city and the state. The New York
2 City Department of Environmental Protection reports
3 that air pollution in New York City is a significant
4 environmental threat, which contributes to an
5 estimated 6 percent of annual debts.

6 The New York State Controller added that
7 the cost to treat asthma has increased in recent
8 years, eclipsing \$1.4 billion annually, and impacting
9 minority communities most. The absence of Indian
10 Point's power threatens the health and welfare of
11 vulnerable populations, particularly the minority
12 community. We feel the state must make a plan to
13 mitigate the significant risk. We hope you take that
14 into consideration. Thank you.

15 MR. KLUKAN: Thank you very much. One
16 very quick announcement. You will notice that we are
17 -- it's 8:42. The scheduled meeting time was to end
18 at 9:00. We are going to extend the meeting to 9:30
19 to accommodate some additional speakers. With that
20 said, I'm also going to turn it over to Ms. Donna
21 Janda to do a little bit of facilitation. She was
22 just at the most recent class of NRC facilitators, so
23 she's getting her sea legs right now. Please be nice
24 to her, please. With that, I will turn it over to
25 Jerry -- I'm sorry. I'm just going to call you No. 4.

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1 PARTICIPANT: I heard this evening that
2 the NRC's primary concern is safety and security,
3 which certainly is reasonable. All of the issues that
4 I'm going to be mentioning are related to that.
5 Indian Point is the -- the juxtaposition of Indian
6 Point and the AIM pipeline, as was mentioned earlier,
7 is considered by many scientists as the most dangerous
8 place on Earth.

9 There is no nuclear facility that has a
10 pipeline like that running right alongside it, and for
11 good reason. The spent fuel rods that are within
12 Indian Point, most of them are very poorly protected
13 from damage. There could be faulty wells or other
14 kinds of weaknesses to the pipe. There could be
15 earthquakes from the two seismic faults that are
16 running alongside there.

17 There could be terrorist attacks. There's
18 apparently no protection of that pipeline right
19 outside the Indian Point property. I'd like to know
20 who is providing security for that pipeline because if
21 there's no security there, it's extremely vulnerable
22 to terrorists. If terrorists would attack every place
23 on Earth, apparently, any place they can, why would
24 they not be aware of the vulnerability of Indian Point
25 and the pipeline right next to it? I want to know

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1 who's going to be protecting that for the lifetime of
2 that pipeline, however long it might be. Without
3 that, you're not providing security for the people in
4 the area. If there is an explosion, 20 million people
5 would be impacted. That certainly is an issue of
6 security and safety.

7 I heard before there was mention that the
8 company could provide a shutdown, so that an explosion
9 would not engulf the entire plant and cause a
10 meltdown. I've heard, previously, talk about
11 three-minute shutdown. Has there ever been any
12 explosion, where the gas supply has been shut off
13 within three minutes? I don't think I've ever heard
14 of any. Generally, those I've heard of have been an
15 hour or more. A tremendous amount of damage can
16 occur, and we need to make sure that there's real
17 security, and not just token security.

18 MS. JANDA: Okay, thank you.

19 MR. LEW: Thank you. I think I'm going to
20 be counseled by Brett, here, in trying to answer too
21 many questions. I did hear a question that I'll try
22 to answer relative to security. The pipeline does run
23 through the owner-controlled area, which is the
24 controlled area by the licensee. That said, I know
25 that there's disagreement with our analysis, but our

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1 analysis for the pipeline does not assume closure in
2 three minutes. It assumes a (Inaudible) break of the
3 gas pipeline, the worst case, and the plant can be
4 safely shut down in response to that. That should
5 encompass the concerns that you were raising.

6 MS. JANDA: Thank you. At this point, I
7 would like to call Catherine Borgia (Phonetic), who is
8 the majority leader, legislator of the Ninth District.

9 MS. BORGIA: Thank you for allowing me to
10 speak. I'm sorry that I didn't know about the elected
11 officials meeting, which is a little bit surprising
12 because I represent the area right around Indian
13 Point, so typically, that is something that my office
14 is notified about. I would appreciate being notified
15 in the future, especially during these times, when we
16 have a lot of concern and things to make sure that we
17 are on top of in the community surrounding Indian
18 Point.

19 I'm sorry that I wasn't able to be here
20 for the whole entirety of this meeting, but I do want
21 to ask you, as the agency in America who is the one
22 who has the most influence over what happens during
23 the closure period, that you hear our voices, and that
24 you allow the concerns of the community, especially
25 for the custody of the material that's going to be in

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1 our community for a very, very, very long time, that
2 you are strong advocates for the -- understand the
3 needs and the concerns of the community and do not
4 seek to, in any way, lessen that responsibility as the
5 plant closure goes forward. We know that there is a
6 time period where there'll be a lot of oversight and
7 activity during the closure.

8 We just don't want to be forgotten once
9 that happens. There's a lot of environmental -- in
10 the community where Indian Point resides, there's a
11 lot of environmental injustice already. They are
12 dealing with a lot of things that are coming through
13 the community. We are dealing with a lot of things
14 that are coming with the community. The closing will
15 have an impact that is significant in many ways, but
16 as far as your purposes go, you're our last best hope.

17 We want you to be on top of this for as
18 long -- the 60 years or whatever it takes for this
19 site to be possibly fully remediated. I really speak
20 for the community when I say we don't want to be
21 abandoned by the Nuclear Regulatory Commission. Thank
22 you.

23 MR. LEW: I do apologize if there was an
24 error on our part. We'll look into it, and we'll get
25 back to you.

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1 MS. JANDA: Thank you. Our next speaker
2 is No. 166.

3 PARTICIPANT: Hi. I'm going to try to be
4 really, really fast here. There's a lot to cover. My
5 first question is who would I address questions to in
6 a follow-up letter?

7 MR. LEW: I would address it to Tom
8 Setzer.

9 PARTICIPANT: I'm sorry?

10 MR. LEW: Tom Setzer. His last name is
11 S-E-T-Z-E-R. He's the branch chief responsible. He's
12 standing right there. You can touch base with him
13 after the meeting.

14 PARTICIPANT: I'll get your information
15 after the meeting. I have a sort of an overarching
16 question, and then I'll give you the grounds for that
17 question, some examples. The overarching question --
18 and this is a real candid, honest, not trying to get
19 you question.

20 I am very confused about how, overall,
21 your agency, NRC, compares results that are determined
22 in these ongoing inspections and so forth with the
23 predicted values that were determined in previous
24 assessments. Just to some examples, so you can see
25 where I'm coming from. You talk about rigorous

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1 financial review. We have the bankruptcy of
2 Westinghouse. You talk about no knowledge of specific
3 deficiencies with respect to the O rings, and yet, I
4 spent most of the day looking back over seven years
5 through your annual and integrated assessments. I see
6 O rings, O rings, O rings. They're coming up over and
7 over and over again.

8 That suggests to me there's some sort of
9 underlying mechanism that's being missed. It may not
10 be in the rings, themselves; it may be in the metals
11 or other components to which those O rings are
12 attached or, perhaps, to the atmospheric conditions to
13 which they're subjected. Something's going on for
14 this many problems to be hitting the O rings. We all
15 remember the space shuttle O rings issues.

16 Baffle bolts. I had the pleasure of
17 sitting through virtually every single Atomic Safety
18 Licensing Board hearing on this reactor and do recall,
19 in December and November 2015, your Dr. Heiser
20 (Phonetic), of the NRC, testifying to the Atomic
21 Safety Licensing Board we're not really worried about
22 baffle bolts. I'm paraphrasing. His estimate was
23 that they would expect maybe 1.5 percent of the bolts
24 to have problems. Now, fast forward, you find that in
25 Indian Point 2, you're hitting close to 25 percent,

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1 Indian Point 3, close to 30 percent. In your latest
2 assessment, I notice that once again, during
3 refueling, there was problems in moving the fuel and
4 you almost put fuel in the wrong cell again. Problems
5 that keep cropping up -- and I can detail them in a
6 letter -- how are you monitoring these over the years,
7 especially when you have violations that are
8 non-cited?

9 MS. JANDA: Thank you.

10 MR. LEW: Okay, thank you. Let me try and
11 cover -- there's a few things. I think the question
12 on O rings, again, Brian has the background on that,
13 and we're continuing to inspect it. Relative to the
14 baffle bolts and the ALSB, I don't recall 1.5 percent,
15 but maybe Dave, he can try and address that after
16 Brian covers that. Maybe he can talk about how we
17 inspect, how we assess, and how we follow up. Bruce
18 will address the decommissioning fund issue.

19 MR. HAAGENSEN: With respect to
20 Westinghouse, Westinghouse made a number of business
21 decisions, which affected their overall profitability.

22 Westinghouse also has had a number of sites which
23 have been decommissioned. It still has one plant or
24 one site that is in the process of finishing
25 decommissioning. The key factor here is that all of

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1 these decommissioning funds are put in a separate
2 blind trust, administered by an independent trustee.
3 The bankruptcy for Westinghouse, which NRC does not
4 regulate their business side of what they do; however,
5 we do regulate the sites which have a license.

6 In this particular case, the one site that
7 still remains, that is finishing decommissioning, the
8 decommissioning funds still reside with the
9 independent trustee, so there are sufficient funds to
10 complete that decommissioning. There's kind of a
11 total separation of the two issues.

12 The adequacy of the decommissioning funds
13 are addressed in our regulations, what the
14 requirements are, and they are required to be
15 maintained in an independent trust. The trustee is
16 responsible for dispersing those funds for
17 decommissioning activities. The financial assurance
18 is there to ensure that the decommissioning is
19 completed when the business decides to shut down the
20 facility and decommission the site.

21 PARTICIPANT: Presuming the fund is
22 adequate.

23 MR. LEW: Relative to Indian Point, just
24 for -- I'm sure people are interested. Just for
25 Indian Point, there's actually three trust funds, one

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1 for each unit, combined total of about \$1.7 billion
2 for decommissioning, which is above our minimum
3 requirement.

4 MR. WATSON: I'll take the question on the
5 O rings one more time. We are well aware of the
6 history of the O rings. We've got, in our office, a
7 timeline plot of every O ring failure that goes way
8 back to the early days. We recognize that there was a
9 similar O ring failure on Unit 3 during the last
10 refueling outage.

11 All we ask is that you let us take a look.
12 We need to take a look at that O ring before we jump
13 to any conclusions over what went wrong. We're not
14 ducking the question. We just don't want to speculate
15 on what could have caused -- in fact, I've got a chart
16 of things that could have caused it, but we want to
17 know what caused it.

18 Because obviously, neither the NRC, nor
19 Entergy, want to keep having to do these corrective
20 repair outages. As far as putting fuel in the wrong
21 cell, that was during a wet transfer of fuel from Unit
22 3 to Unit 2 that was caught right after it happened,
23 immediately. It was the first fuel rod that went into
24 this wet cask transfer (Simultaneous speaking).

25 PARTICIPANT: It happened, what, a year

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1 ago, two years ago, the exact same thing. In that
2 case, the operator ignored the warning signs. The
3 equipment was saying there's a problem here. Because
4 the water was too dirty, they didn't identify that
5 there was already fuel there. So this has happened
6 again.

7 MR. WATSON: What I would point out on
8 this one is while it did happen, and we wrote a
9 violation about it, it was promptly identified.
10 Nothing was put in the wrong place. It was
11 immediately corrected. For long-term storage, it was
12 immediately corrected. From the safety consequence
13 perspective, there was no real safety concerns. It
14 was not particularly good practice on the part of the
15 licensee. We identified it; we wrote it out in the
16 report; we gave them a violation, and we move on.
17 They're taking corrective actions as a result of that.

18 PARTICIPANT: But again, how does the
19 agency -- I don't have time to go through this whole
20 thing, but one of the issues -- and this has gone back
21 over ten years --

22 MR. LEW: How does the agency -- what we
23 do is we do what's called an (Inaudible) cycle
24 assessment. What we do is we assess periodically --
25 we have senior managers from other offices, from other

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1 regions, the inspectors, we assess the overall
2 performance of the licensee. We look at repeat
3 issues. We expect that particularly repeat issues
4 that we fully understand, that they get to the root
5 cause. Issues will occur. We will ensure that we
6 understand it.

7 PARTICIPANT: I'm sorry; in this report,
8 there are a number of indications where you
9 specifically (Inaudible).

10 MR. LEW: There is an interest in the
11 response; I'm sorry.

12 DR. RUDLAND: I'll try to address that.
13 Like I mentioned earlier, before 2016, when this
14 clustering effect of bolts happened, the inspections
15 that were done never found more than about 10 percent.

16 A lot was less, but the maximum was about 10 percent
17 cracking.

18 Again, in response to that, the industry
19 initiated a variety of different vessel internal
20 inspection programs and aging management programs to
21 try to be proactive in managing this type of aging,
22 the stress corrosion cracking aging. When the
23 clustering happened, those types of programs were
24 revised and updated to include augmented and increased
25 inspections, in order to be able to mitigate and catch

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1 those types of degradations that would occur.

2 PARTICIPANT: (Inaudible) the issue after
3 the --

4 PARTICIPANT: The NRC spent a lot of money
5 on attorneys fighting New York State on the baffle
6 bolt issue.

7 DR. RUDLAND: I understand.

8 PARTICIPANT: What mechanism does the NRC
9 use, going back to my initial question, to identify
10 (Inaudible) assessments are over-optimistic over the
11 years? I have seen nothing, going through this
12 literature now (Inaudible) well over a decade
13 (Inaudible) since 2001. I have a background in
14 (Inaudible). I've not seen any protocol of your
15 agency to reassess, on an overall generic way, where
16 your assessments are over-optimistic overall. You're
17 just fixing the problems as they arise.

18 DR. RUDLAND: The NRC's approach is to use
19 analytical experience, expert judgment, and
20 operational experience to inform their safety
21 assessments. I understand (Inaudible) point of view,
22 and you use that operating experience to leverage how
23 you're going to make your safety assessment. You've
24 got to use all three in order to make the profit.

25 PARTICIPANT: (Simultaneous speaking) you

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1 have a disaster (Inaudible) and nobody's saying
2 there's going to be an accident (Inaudible). An
3 accident is, by definition, an unlikely circumstance.

4 You have a world (Inaudible) terrorism,
5 increasing extreme weather, with aging mechanisms
6 discussed in here, with repeated problems in
7 maintenance, repeated problems in operator assessment
8 (Inaudible) failures. Who at the agency -- what
9 protocol do you have, as an agency, to step back and
10 look at the whole picture, the gas pipelines, the
11 terrorism (Simultaneous speaking).

12 MS. JANDA: Excuse me. I'm sorry. We're
13 going to have to -- in the interest of fairness to
14 other speakers, we're going to have to move along. We
15 will have an opportunity, when we're done, to have a
16 discussion, or you can send in some written comments.

17 Our next speaker is No. 165, Dale Salzman (Phonetic).

18 MR. SALZMAN: This is a cathartic process
19 for me to talk about Indian Point and the ten-mile
20 zone I live in. Luckily, we can talk about it here,
21 as a major nuclear event has not occurred. Fifty-five
22 years is a lot of luck. Luck is the only factor
23 behind Indian Point's operation. What is it? What is
24 luck? If something goes the way you want it to go,
25 that's luck. If you don't hurt anyone, that's luck,

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1 although the NRC really doesn't know if that's true,
2 having chosen not to monitor health effects as part of
3 your nuclear facilities. Luck is believing in
4 something and hoping things don't go wrong, as they so
5 easily can, Three-Mile Island, Chernobyl, Fukushima,
6 Sandy, the Twin Towers, (Inaudible).

7 But luckily, Indian Point will close in
8 four years, unless our luck runs out. To further test
9 our luck is the 42-inch gas pipe drilled across the
10 river, on the third attempt, to be right next to our
11 soon-to-be de facto nuclear dump.

12 A number of years ago, in a similar
13 meeting as this, I commented on the decommissioning of
14 Indian Point, its placement in Peekskill, at the
15 estuary waters of America's early history, prompted my
16 thinking that after the 240-acre site was completed
17 entombed in concrete and a nuclear priestess and
18 priesthood was established to annually check the
19 containment buildings with the latest and newest
20 Geiger counters, if all was well, no leaks, no
21 radiation found, bell carillons would ring up and down
22 the Hudson River, and parties and festivals would
23 begin everywhere as another safely monitored year has
24 passed. These ideas are similar to the notion of
25 rolling stewardship. I hope you will institute this

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1 approach to the future, as you have no choice but to
2 keep us safe from the nuclear waste the industry has
3 produced. If we're paying attention to our world, our
4 country, our city, our river, we're all reeling in our
5 daily routines as the pace of life quickens.

6 The stupefying effects on our society by
7 movies and TV dystopias that accept constant
8 environmental dangers and the deliberate fake news of
9 the benefits of nuclear power do not let all of us
10 sleep well. Did I hear a bell? I didn't hear a bell.

11 MS. JANDA: Thank you. We need to move
12 on, sir.

13 MR. SALZMAN: (Inaudible.)

14 MS. JANDA: Sir, we need to move on.

15 MR. SALZMAN: (Inaudible) all poisoned by
16 corporate greed accept the fact of our police state,
17 protecting the rights of money, not citizens. I'm
18 almost done. Our rivers and streams, like the veins
19 in our bodies, all part of Mother Earth, will serve us
20 no more. It is clearly apparent that the NRC and the
21 current EPA and FERC will plunder and destroy our
22 environment, not helping, as it could be, but
23 (Inaudible) money is king. Last statement.

24 MR. KLUKAN: Sir --

25 MR. SALZMAN: (Simultaneous speaking) we

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1 will rise up and out of the mire. We will fight back
2 because that is what we must do. I, Dale Salzman,
3 citizen, charge you to serve as a protecting agency to
4 protect us, not the industry, and put the
5 decommissioning money you have, and all the money you
6 can influence, to work for us in the Hudson Valley and
7 New York City, to work for us now with enough money to
8 dry store the fuel rods (Simultaneous speaking) Hudson
9 River for the first leg of the next 240,000 years.

10 MR. KLUKAN: Here's the reason for the
11 three minutes. Maybe it's an arbitrary amount of
12 time, but the point of having these time limits is
13 because each of you who came here tonight has an equal
14 right to have their say. We may not get to all of you
15 tonight. I'm doing my best to get as many people as
16 possible.

17 What I would just ask is to ask yourself,
18 when you're up there, when you're speaking, do I have
19 more of a right to say than anyone else in this
20 audience? The answer to that should be no. Everyone
21 who came out here tonight has an equal right to that
22 microphone, based on the system we've employed. These
23 are the rules we all agreed to coming in here. I
24 would just ask -- this isn't about me; it's about
25 respecting each other in this meeting tonight and the

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1 voices of everyone who came here to speak, whether you
2 agree with them or not. With that said, let's move
3 on. No. 167.

4 MS. COLTER: I'm Maggie Colter (Phonetic),
5 and I'm going to cede my time to Mike Dulong.

6 MR. DULONG: Good evening, gentlemen. I'm
7 Mike Dulong, from Hudson Riverkeeper. I'm a staff
8 attorney. As our legal program director, Richard
9 Webster, said, we are moving on to a new phase.
10 Indian Point is closing. You have a number of very
11 concerned stakeholders in the room who are unsure and
12 concerned about how this process is going to unfold.

13 I think as more communities become aware
14 of the dangers and the impacts, the long-term impacts
15 of decommissioning, the safety, the economic, the
16 community impacts and the environmental impacts,
17 they're going to become concerned, too. That includes
18 the business community. Your cooperation and your
19 willingness to share information with these
20 communities will go a long way to helping them endure
21 these impacts. To wit, I'd like to ask you a few
22 questions to get this process rolling and help
23 Riverkeeper educate some of these communities. First,
24 what will New York State's role in the cleanup be, or
25 in the decommissioning be? Specifically, what will

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1 its role in the cleanup of the ground water
2 contamination be? Second, who sets the radiological
3 cleanup standards for a decommissioned site, and what
4 are those standards? Will NRC force Entergy to clean
5 up the ground water contamination? If so, when?
6 Thank you.

7 MR. WATSON: Your first question asked
8 about the role of New York State in the
9 decommissioning process. The NRC has its
10 requirements. The state can impose those that they
11 choose to, under their own legislation, or however
12 they want to do that. They could have more
13 restrictive standards than the NRC's if they choose to
14 do that. Some states have done that.

15 However, I can tell you that because of
16 those more restrictive standards, the actual cost of
17 the decommissioning goes up in most cases. In
18 general, the state can do what they really want. As
19 long as their requirements are more restrictive or
20 more conservative than the NRC's, they can implement
21 those. The NRC's standards for the residual
22 radioactive cleanup are in 10 CFR 20, Subpart E.
23 They've been in effect for almost 20 years now, as I
24 said in my presentation. The dose criteria is 25
25 millirem per year, plus ALARA. I can tell you that

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1 the ten plants that have completed decommissioning
2 were decommissioned and the resultant dose was 1 to 3
3 millirem, or a few millirem per year, which really is
4 very difficult to measure against natural background.

5 I think I answered both of your questions there, that
6 you had. I don't recall a third one.

7 I also want to state that your basic
8 premise is that decommissioning is an unsafe activity.

9 Actually, removal of the radioactivity from the site
10 and properly disposing of it makes the site more safe.

11 That's the whole purpose of the decommissioning is to
12 remove the radioactivity, so the site could be reused
13 for another purpose.

14 MR. DULONG: I think it's very clear that
15 we all share the same goal of a safe decommissioning.

16 Decommissioning, as far as we know, and as far as
17 other reactors have been decommissioned, does not
18 result in removing the radioactive materials from the
19 site. So there are dangers, but there are also
20 long-term impacts. Those are economic impacts and
21 community impacts. We are concerned about those, too.

22 I think everybody in this room is. Just to be clear
23 --

24 MR. LEW: I'll add, just to be clear, just
25 to amplify what Bruce is trying to say, clearly, we

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1 don't have a high-level repository. That's just the
2 spent fuel. There is a lot of other radioactive
3 components on the plant, in the plant, reactor
4 vessels, steam generators, you name it, all those
5 components. Those do get removed and sent to a
6 low-level radiation waste.

7 MR. DULONG: Just to be clear, the state
8 is not pre-empted from setting its own standards for
9 cleanup? That's NRC's position?

10 MR. WATSON: The NRC has its standards.
11 The state can implement additional standards, which
12 are -- as long as they're either consistent or more
13 conservative than our standards, they can do that.
14 This has been done by various states.

15 MR. DULONG: My other question, my last
16 question, will NRC force Entergy to clean up the
17 ground water contamination, and if so, when?

18 MR. WATSON: The ground water
19 contamination, I really don't know the extent of it,
20 personally. I haven't been following the plant that
21 closely since it's been operating. But we do have --
22 excuse me, I have 20 plants that are in
23 decommissioning. There's almost 100 that are
24 operating. I don't know the particular details of
25 every one. I know that there have been some ground

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1 water issues at Indian Point. We implemented
2 requirements back in 2012 to perform sampling at
3 sources which would have the potential for
4 contributing to the ground water contamination or the
5 subsurfaces.

6 These regulations went into effect in 2012
7 for this requirement, and they should be complying
8 with that. Secondly, the ground water will be under
9 what we call the all pathways analysis for meeting our
10 dose criteria. We do not have a specific criteria for
11 ground water. EPA has a 4 millirem per year drinking
12 water standard. If the state chooses to implement
13 that, that's one option. Like I said, in our
14 regulations, it's an all pathways analysis.

15 We look at all the pathways. They all
16 have to be below -- the total has to be below 25
17 millirem per year, plus the ALARA concept. That's the
18 standard. Entergy will be required to meet those
19 standards. When they request that the license is
20 terminated -- so whatever the residual activity is in
21 the ground water that would prevent them from doing
22 that, they would be required to clean that up.

23 MR. DULONG: I understand that some --

24 MR. WATSON: But I don't know what that
25 condition will be at that time.

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1 MR. DULONG: So some of the ground water
2 contamination may remain. What NRC's focus will be is
3 the mrem, the millirem per year?

4 MR. WATSON: The residual radioactivity at
5 the site will comply with our dose requirements for
6 terminating the license.

7 MR. DULONG: Okay, thank you.

8 MS. JANDA: Thank you. Our next speaker
9 is No. 6, Susan Van Dolson (Phonetic).

10 MS. VAN DOLSON: Thank you for allowing me
11 to speak. My name is Susan Van Dolson. I've lived in
12 Westchester most of my life. Indian Point's been
13 operating for most of that time. I was in college in
14 Central Pennsylvania during the Three-Mile Island
15 nuclear accident. Our school was evacuated.

16 The students were thrilled to get what we
17 called a radiation vacation, but at the same time,
18 concern about a radioactive disaster has stayed with
19 me since that time, in 1979. For many years, I
20 wondered whether oversight of the Indian Point Nuclear
21 Power Plant here in our backyard was adequate. In the
22 past four years, I've learned that the NRC is captive
23 to the industry it is supposed to regulate and
24 willingly ignores and dismisses serious problems with
25 potentially grave consequences. There are three gas

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1 pipelines currently operating on the Entergy property.

2 One is now dormant, the 26. One is a 30-inch
3 pipeline only 300 feet from the control room. That
4 was installed prior to the plant's construction.

5 The other is the recently completed
6 42-inch diameter Spectra AIM high-pressure fracked gas
7 pipeline that runs across Entergy property for 2,159
8 feet. The NRC never conducted an analysis of the old
9 pipelines. An analysis of the signing of the new AIM
10 pipeline was done using false information, and in
11 violation of the NRC's own regulations that require an
12 independent risk analysis to be conducted.

13 A back of the envelope calculation that
14 wouldn't be acceptable from an eighth grader was used
15 to justify the NRC's conclusion that the pipeline did
16 not pose any, quote, additional risk. National
17 pipeline expert Richard Kuprewicz said my extensive
18 experience in pipeline rupture investigation, spanning
19 many decades, indicates that Entergy, the NRC, and
20 others making statements that a 42-inch pipeline
21 rupture can be quickly isolated and implying that the
22 pipeline operator can quickly, remotely recognize and
23 isolate the pipeline rupture within minutes, are
24 misleading and downright false. A few months ago,
25 Entergy announced a deal with New York State and

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1 Riverkeeper to close the plant in 2021. The announced
2 closure of Indian Point now means that the NRC will
3 have the critical role of overseeing the
4 decommissioning process.

5 How are we to trust that the NRC will
6 bring in the proper experts and ensure that the
7 operator presents a viable and secure plan, when you
8 failed so miserably during the regulatory process for
9 the Spectra AIM pipeline?

10 The NRC must engage an independent
11 pipeline expert, along with other independent nuclear
12 experts, to fully evaluate the risks posed by the gas
13 pipelines and other hazards, including the potential
14 for terrorism and seismic activity at the plant,
15 whether it's opened or closed.

16 Additionally, an independent citizens'
17 advisory board should be engaged to participate in the
18 process of planning the decommissioning. The tons and
19 tons of irradiated fuel will continue to be extremely
20 vulnerable. As stated in Mr. Paul Blanch's
21 presentation, the recent article in Science Magazine
22 discussed what would happen if there was a fire in the
23 spent fuel pool. I'm going to give you a copy of that
24 article and of an analysis done by Princeton
25 University, Frank von Hippel, about the fire, which

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1 could easily happen if the pipeline were to rupture.
2 Other speakers have told you the statistics about
3 pipeline ruptures. I don't see any sense of
4 confidence here, in this room, that you have done
5 pipeline analysis.

6 You're not pipeline experts. You won't
7 even acknowledge that there could be a pipeline
8 rupture. How are you going to secure, to us, that
9 that spent fuel pool won't be compromised by a fire,
10 which could be, as they say in the article, itself --
11 what does it say here --

12 MS. JANDA: Thank you.

13 MS. VAN DOLSON: -- worse than Fukushima.
14 Thank you.

15 PARTICIPANT: (Inaudible.)

16 MR. ROTHMAN: My name is Bruce Rothman,
17 and I first want to acknowledge the difficulty of the
18 task you have ahead of you and thank you for all your
19 efforts. I'm going to give my time to Mr. Frank
20 Fraley (Phonetic).

21 MR. FRALEY: Good evening. My name is
22 Frank Fraley. I'm president of Share New York, and I
23 have a prepared statement from my organization. Share
24 is a non-profit coalition of organizations, including
25 community groups, local chambers of commerce, and

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1 churches committed to ensuring the continued supply of
2 reliable, clean and affordable electricity for all New
3 Yorkers. Asthma and other respiratory illnesses
4 continue to plague urban communities, especially
5 under-served communities where our members live.

6 Worse, the depth of this problem is
7 becoming clearer each year. One study showed that air
8 pollution is linked to nearly 16,000 premature births,
9 at a cost of \$4.3 billion annually. As efforts have
10 been undertaken to reduce air pollution, there is one
11 constant, Indian Point. Thanks to our nuclear power
12 plants, greenhouse gas emissions from New York's
13 electricity power plants, generating electricity for
14 all of us, is low.

15 It's just one-fourth per capita of what is
16 produced, on average, in the United States. Indian
17 Point has meant clean, reliable, abundant electric
18 power, made affordable by New Yorkers, for New
19 Yorkers. This electrical power is made safely, as the
20 independent U.S. Nuclear Regulatory Commission
21 rigorously inspects the plant, again and again
22 determined the plant to be categorically safe. Indian
23 Point has long been the backbone of New York's
24 electrical grid, providing 25 percent of the region's
25 power, with zero emissions. The plant's 2,000

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1 emission-free megawatts prevent 8.5 metric tons of
2 carbon, the equivalent of 1.6 million cars, and other
3 toxins from being emitted each year. The plant
4 annually avoids tons of carbon emissions that would be
5 released into the air that we all breathe.

6 If we relied on fossil fuel plants, we
7 would be breathing that dirty air. Indian Point is
8 the largest clean energy producer in the state and
9 generates \$1.6 billion of annual economic activity.
10 For this state, it is very important. It's cleaner;
11 it's a safer place because of Indian Point.

12 Thankfully, New York has four years to
13 plan for the closure of this plant, and we must all
14 find a way to minimize the impact of its closing on
15 our environment, so that there is not an increase in
16 nitrogen oxide, sulfur dioxide, carbon dioxide levels
17 in our atmosphere.

18 MS. JANDA: Sir, thank you.

19 MR. FRALEY: (Inaudible.)

20 MS. JANDA: Thank you, sir. Our next
21 speaker is No. 13, Ron Diaz.

22 MR. DIAZ: Good evening. My name's Ron
23 Diaz, and I'm the president of the Hudson Valley Area
24 Labor Federation, representing 114,000 public and
25 private sector union members around the surrounding

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1 counties. I was asked by my friend and colleague,
2 Thomas Carey (Phonetic), to read a prepared statement,
3 as he is away on business. I thank you all for this
4 very important hearing this evening on the issues
5 regarding Indian Point Energy Center.

6 I am Thomas Carey, and I am president of
7 the Westchester Putnam Central Labor Body, which
8 represents well over 100,000 members and their
9 families in both public and private sector unions. I
10 am also a business agent for Plumbers and Steamfitters
11 Local 21, and many of the members I represent are
12 involved in -- have been in the construction of all
13 three operating units at Indian Point over the
14 decades-long high safety ratings, as well as its safe
15 continued operations today.

16 On a personal note, my grandfather worked
17 on the construction of Unit 1. With my father and
18 uncle finishing their service in the Navy and the
19 Marines, they worked on the construction of Units 2
20 and 3. My sister, Colleen, began her career at Unit 3
21 with Pasney (Phonetic), later becoming NYPA
22 (Phonetic), and Entergy. My brother, Dan, and I
23 graduated from Hendrick Hudson High School and joined
24 the steamfitters' apprenticeship program in Yonkers,
25 both serving four years in the program. Couldn't wait

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1 to follow in our family's footsteps for the
2 opportunity to work at Indian Point. Both my brother
3 and I have worked three decades at the plant, and we
4 often joked that if it had not been for the fact that
5 we both raised all girls, they, too, would have been
6 working at the plant today.

7 That adds up to four generations at Indian
8 Point and has provided good paying, safe jobs to just
9 one family, let alone the thousands of others. Indian
10 Point's owners, through the years, have contributed
11 probably over a \$1 billion to helping with the tax
12 burden, education, libraries, and many civic groups.

13 As a past chief of the Verplank (Phonetic)
14 Volunteer Fire Department, which serves the fire
15 protection to Indian Point, I worked for years on the
16 onsite fire personnel, conducting training and drills,
17 which was overseen by the NRC.

18 We have an outstanding relationship with
19 Entergy, and a commitment to our community to provide
20 the best fire service in the industry. Indian Point
21 has contributed billions of man hours to the Utility
22 Workers Local 1 and 2, and all of the building trade
23 unions and vendors, providing good paying, quality
24 jobs, while also creating an environment to all who
25 work there on one of the safest sites in record. I

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1 speak on behalf of my members, my family, and myself,
2 personally, that we are proud of all that we have
3 accomplished and will continue to provide for the
4 safety of the plant while making it our primary
5 concern. Thank you, Thomas Carey. I thank you for
6 the opportunity to speak.

7 MS. JANDA: Thank you. Our next speaker
8 is 177, Amy Rosemarin (Phonetic).

9 MS. ROSEMARIN: You keep saying that the
10 NRC is focused on safety and security, yet it is an
11 outright deception. You know that the NRC used false
12 information and prohibited modeling to pretend that
13 the Spectra pipelines at Indian Point are safe, and
14 you know that independent experts using NRC guidelines
15 and numbers warned that the blast from a pipeline
16 rupture would destroy the infrastructure and backup
17 systems and cause a radioactive release greater than
18 that of Fukushima.

19 Do you actually think that pretending it's
20 safe is a valid way to protect us? That's the first
21 thing. Given that Indian Point is a key terrorist
22 target and pipelines are vulnerable, what are you
23 doing to protect us from the danger from the pipelines
24 on the spent fuel? That's my first question. My
25 second question is secondly, what can you do to

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1 expedite the movement of the spent fuel into hardened
2 dry cask storage? Can you force it to be moved to
3 hardened dry cask within five years, rather than
4 decades? If not five years, what's the fastest you
5 can force it to be moved to hardened dry cask?

6 MR. LEW: I think there were two
7 questions, first related to the analysis of the gas
8 pipeline. I think we've gone over that many times.
9 We've looked at extensively, and we're satisfied that
10 should there be an event that would involve the gas
11 pipeline that it wouldn't cause damage to any of the
12 safety-related structures at Indian Point that
13 prevent safe shutdown of the unit. We've looked at it
14 extensively with a number of internal (Inaudible) in
15 the agency.

16 We've consulted with other individuals. I
17 think we're satisfied that we've looked at it in the
18 level of detail that's necessary to ensure safety.
19 Second item refers to dry storage. We believe both
20 dry storage and wet storage are safe, and they're both
21 acceptable means for storing fuel. Typically, there's
22 a cooling period of approximately five years that you
23 wait to allow the fuel heat load to reduce to the
24 point where it can be placed into the dry storage
25 systems. We will inspect the storage of the fuel,

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1 whether it's wet or dry, to ensure it's safe from this
2 point on. Thank you.

3 MS. ROSEMARIN: Are you putting it into
4 hardened dry cask or the cheap kind of dry cask?

5 MR. LEW: They're putting it into dry cask
6 systems that are licensed in accordance with our
7 regulations in 10 CFR Part 72, which contains a
8 (Inaudible) series of rigorous design standards that
9 they have to meet.

10 MS. ROSEMARIN: What's the fastest that
11 you can get it into dry cask, and not the bowling pin
12 kind?

13 MR. LEW: As I mentioned, typically
14 there's a cooling period of five years. We don't
15 regulate how quickly it gets placed into the dry
16 storage systems; however, we do mandate that the fuel
17 be sufficiently cool before it's transferred.

18 MS. ROSEMARIN: Isn't some of it that's
19 been in spent fuel pools for 5 years, for 40 years,
20 for 30 years, isn't some of that cool enough?

21 MR. LEW: There is fuel that's being
22 continuously moved from wet storage into dry storage.
23 It happens all the time. We were on site today. I
24 think we learned about loaning plans over the next
25 year. That activity is occurring each and every year,

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1 as we sit here and speak.

2 MS. ROSEMARIN: Then what are you doing to
3 protect us from a pipeline rupture?

4 MR. LEW: I think I started off talking
5 about the pipeline rupture. We've analyzed the
6 pipeline rupture event, (Inaudible) pipeline rupture
7 event extensively, and have satisfied ourselves that
8 it does not constitute an undue risk to the safety of
9 the Indian Point, in terms of its ability to safely
10 shut down the plant. We're satisfied with respect to
11 the current status of the pipelines near Indian Point.

12 MS. JANDA: Thank you. Our last speaker
13 tonight will be No. 161, Al Samuels.

14 MR. SAMUELS: Good evening. You remember.
15 Are you the gentleman from the Navy?

16 PARTICIPANT: Yes.

17 MR. SAMUELS: Salute you, sir. My name is
18 Al Samuels. I'm president and CEO of the Rockland
19 Business Association, and I'm also a voting member of
20 the Governor's Mid-Hudson Regional Economic
21 Development Council. This is the second consecutive
22 year, ma'am, that I am the last speaker. I don't
23 believe in coincidence, so I wonder what it is that
24 puts me in this position. Sitting here for two and a
25 half hours, one could kind of forget why we're here.

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1 I admit that after ten years of coming here as someone
2 on a mission, looking to have a license extended for
3 Indian Point -- because I represent a significant
4 portion of the business community of the Hudson
5 Valley, and we believe in nuclear energy.

6 We believe that Indian Point was safe. We
7 have always been grateful to the people from the NRC
8 for confirming that year after year after year. But
9 as has been said, Indian Point has an end date. This
10 is kind of odd for me because I'm no longer on a
11 mission. As a marine, mission is very important. One
12 of the things I learned in the Marine Corps is that we
13 had brothers in the Department of the Navy who had
14 incredible knowledge about a lot of things.

15 For the ladies and gentlemen who served in
16 the nuclear component of our silent service, who now
17 serve on the NRC, we have the best minds relative to
18 nuclear power in the world, and they have been looking
19 out for us. I want you to know that in the business
20 community, we are grateful to those of you who come
21 from that background, and who use that background to
22 look out for us here. Most people in this room
23 probably are not aware of it. There are no better
24 trained people relative to nuclear power and nuclear
25 safety than the people who serve in the United States

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1 Navy. I thank you for that. I didn't mean to address
2 other people, but I do have to say to the gentleman
3 from Riverkeeper, who said that you are interested in
4 educating the business community, for myself and for
5 my colleague, John Ravitz (Phonetic), who is the
6 executive vice president of the Business Council of
7 Westchester, we do not look to Riverkeeper for
8 education.

9 I'm sorry, but that's something that you
10 ought to process in your game book. We don't look to
11 you for education. We do look for you to provide us
12 with the information we need to be secure, that IP has
13 been and continues to be safe, and will be for the
14 years that we have remaining with it. I thank you
15 very much again.

16 MR. KLUKAN: Thank you. We lied a little
17 bit. There is one more speaker. That is Mr. Timothy
18 Carey (Phonetic). The reason he's our last speaker is
19 he could have spoken during the elected official
20 portion, but that didn't happen. Anyway, go.

21 MR. CAREY: My name is Timothy Carey. I
22 am the director of Energy Conservation and
23 Sustainability for the County of Westchester, and I'm
24 here on behalf of County Executive Rob Asterino
25 (Phonetic). I want to thank you for holding this

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1 hearing and for the time you've spent tonight. It is
2 my understanding that comments made tonight will be
3 available, is that correct?

4 MR. KLUKAN: Yes.

5 MR. CAREY: Thank you. We all know that
6 Indian Point is going to close. Speaking for the
7 county executive, we just demand that it be done
8 safely, and that the decommissioning is done safely.
9 I am the former president and CEO of the New York
10 Power Authority, and I'm also proud to say that my
11 uncle was the first president of the Hudson River
12 Fishermen's Association. I am a member of Parker
13 (Inaudible) American Legion Post 1597, where the seeds
14 of Riverkeeper were formed. Thank you very much.

15 MR. KLUKAN: Thank you very much. With
16 that, I'm going to bring us to a close. Thank you all
17 for coming tonight. Again, as I mentioned earlier, if
18 you would like to have written comments appended to
19 the transcript, you can either hand them to me tonight
20 or email them to me, Brett Klukan. You can look up my
21 email on the NRC website for Region 1, or I can give
22 you a card tonight. Otherwise, thank you for coming.
23 We really appreciate it. There are also feedback
24 forms outside. If you believe that there are things
25 you could do to improve this meeting, please fill out

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1 one of those forms. I greatly appreciate the input.
2 It really does help me out. Thank you very much, and
3 have a good night, everyone.

4 (Whereupon, the above-entitled matter went
5 off the record, no time provided.)

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