UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

10 CFR 2.206 PETITION REVIEW BOARD (PRB)

CONFERENCE CALL

RE

INDIAN POINT

WEDNESDAY

JANUARY 28, 2015

The conference call was held, Christopher Miller, Chairperson of the Petition Review Board, presiding.

PETITIONER: PAUL BLANCH

PETITION REVIEW BOARD MEMBERS

Christopher Miller, Chairperson
Lee Banic
Thomas Setzer
Rob Carpenter
Dave Beaulieu
Dave Cylkowski
Ben Beasley
PETITION REVIEW BOARD MEMBERS (Continued)

Paul Prescott
Tahirih Solomon
Rao Tammara
Mike McCoppin
Dori Willis
Greg Oberson
Diane Render
Sergiu Basturescu
Doug Tifft
Stella Opara
Doug Pickett
Gladys Figueroa
Neil Sheehan
Sergiu Basturescu
Paul Prescott
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MR. PICKETT: Good afternoon. Again, my name is Doug Pickett. I'm the Indian Point project manager in NRR in Rockville, Maryland. We're here today to allow the Petitioner, Mr. Paul Blanch, assisted by Mr. Richard Kuprewicz of Accufacts, Incorporated, to address the Petition Review Board, also referred to as the PRB, regarding the 2.206 petition submitted by Mr. Blanch on October the 15th, 2014. I am the petition manager for the petition and the PRB Chairman is Mr. Christopher Miller.

As part of the PRB's review of this petition Mr. Paul Blanch has requested this opportunity to address the PRB. This meeting is scheduled from 2:30 to 3:30 this afternoon.

The meeting is being recorded by the NRC Operations Center and will be transcribed by a court reporter. The transcript will become a supplement to the petition. The transcripts will also be made publicly available.

I'd like to open this meeting with introductions. As we go around the room here in Rockville, Maryland, please be sure to clearly state your name, your position and the office that you work
for within the NRC. We're going to start introductions
with myself here in Rockville, Maryland.

I'm Doug Pickett, the petition manager.

CHAIRMAN MILLER: And I'm Chris Miller.
I'm with the Division of License Renewal in the Office
of Nuclear Reactor Regulation, and I'll be the PRB
Chair.

MS. RENDER: I'm Diane Render from the
Division of Operating Reactor Licensing, project
manager.

MR. McCOPPIN: Mike McCoppin. I'm Chief
of the Radiation Protection and Accident Consequences
Branch, Office of New Reactors.

MR. TAMMARA: My name is Rao Tammara. I'm
the technical reviewer, NRO.

MR. COLYER: Eddie Colyer, project
manager, Health Quality and Rulemaking.

MS. Banic: Lee Banic, NRR petition
coordinator.

MR. BLANCH: Yes, could people speak up a
little bit? I'm having trouble hearing.

PARTICIPANT: Can't hear.

MR. CYLKOWSKI: David Cylkowski. I'm an
attorney in the Office of General Counsel.

MS. SOLOMON: Tahririh Solomon, the senior
special agent with the Office of Investigations.

MR. CARPENTER: Rob Carpenter, Office of Enforcement, enforcement specialist.

MR. BEASLEY: Ben Beasley. I'm a branch chief in the Division of Operating Reactor Licensing.

MS. WILLIS: Dori Willis. I'm the team lead for Allegations and Enforcement in NRR.

MR. Harris: Brian Harris, project manager, DPR.

MR. OBERSON: Greg Oberson, materials engineer, Office of Nuclear Regulatory Research.

MS. SPIRA: Mattie Spira, Office of Enforcement.

MS. OPARA: Stella Opara, NRR, allegations specialist.

MR. PICKETT: We have completed the introductions in the NRC headquarters. You can tell we've got quite a few people in a lot of areas of expertise being represented.

At this time we'd like to know is there anybody else from NRC headquarters on the phone?

MR. PRESCOTT: Yes, Paul Prescott from the Office of NRO, Quality and Vendor Inspection Branch.

MR. BASTURESCU: Sergiu Basturescu, NRR, Technical Review.
MR. PICKETT: Okay. Anyone else from NRC headquarters?

(No audible response)

MR. PICKETT: And is there anyone from NRC from the regional office on the phone?

MR. SHEEHAN: Neal Sheehan, Office of --

(Simultaneous speaking)

MR. PICKETT: I'm sorry, we heard Neal Sheehan and who else?

MR. BURRITT: Art Burritt.

MR. PICKETT: Okay.

MR. SETZER: Doug, Tom Setzer, Region I.

MR. PICKETT: Okay. And the Licensee, Entergy, could you please introduce who you have on the phone?

MR. WALPOLE: Sure, Doug. It's Bob Walpole, Manager; Steve Prussman from Regulatory Assurance; and Rich Drake, our civil engineering supervisor.

MR. PICKETT: Okay. Mr. Blanch, Mr. Kuprewicz, would you please introduce yourselves along with anyone else that's with you for the record?

MR. BLANCH: Yes, this is Paul Blanch. I'm an energy consultant and the Petitioner. I'd like to introduce Rick Kuprewicz, who will be also making a
statement. I'd like to thank Jerry Shapiro of Senator Gillibrand's office; Dana Levenberg, who will also be making a brief statement; and Sara Levine of Assemblywoman Lowey's office. And I'd like to say hi to old friends Bob Walpole and Paul from Morgan Lewis.

MR. PICKETT: Okay. It's not required for members of the public to introduce themselves for this call, however, if there are members of the public; and I understand there are, could you please identify yourself at this time?

MS. CLAIRE: Paula Claire, Garrison, New York.


MS. ROSEMARY: Emily Rosemary, councilwoman, Town of North Salem.

MS. MCDONALD: Susan McDonald, New York.

MS. VAN DOLSEN: Susan Van Dolsen, Harrison, New York.

MR. PICKETT: Could we do those again, the last two. Susan McDonald I heard and --

MS. VAN DOLSEN: Susan Van Dolsen, Harrison, New York.

MR. PICKETT: Thank you.

MS. VANN: Nancy Vann, Peekskill, New
York.

MR. HOUSTON: William Houston, Binghamton, New York.

MR. BESSETTE: Paul Bessette, Morgan Lewis.


MS. SPEAR: Susan Spear, Office of U.S. Senator Kirsten Gillibrand.

MR. LOCHBAUM: Dave Lochbaum, Union of Concerned Scientists.

MR. PICKETT: Okay.

MS. LEVENBERG: Dana Levenberg, New York State Assemblywoman Sandy Galef's office.

MS. LEVINE: Sara Levine, Congresswoman Nita Lowey's office.

MR. PICKETT: Okay. If there's no one else, I'd like to emphasize that we each need to speak clearly and loudly to make sure that the court reporter can accurately transcribe this meeting. If you have something to say, we'd like you to first state your name. For those dialing into the meeting, please remember to mute your phones to minimize any background noise or distractions. If you do not have a mute button, you can do this by pressing the star, six buttons. To un-mute,
press the star, six keys again.

At this time I'll turn this over to the PRB Chairman, Chris Miller.

COURT REPORTER: Mr. Pickett, this is the court reporter. Before you proceed with the call this afternoon, at the conclusion of the call could you provide me with a service list of the names of everyone on the call? People that registered to speak and party members.

MR. PICKETT: I can certainly give the names of the NRC folks. I was hoping to rely on you to get the names of everybody else.

COURT REPORTER: So do you have a list of people who are registered to speak?

MR. PICKETT: This call is also being recorded by the NRC Operation Center, so we can go back over the recording.

COURT REPORTER: All right. Thank you.

MR. PICKETT: I'll help you out with that.

COURT REPORTER: Sure. Thanks.

MR. PICKETT: Okay.

CHAIRMAN MILLER: Thank you. And good afternoon, everyone. Thanks for convening with us today and agreeing to provide information. Thank you, Mr. Blanch and Mr. Kuprewicz. I'm Chris Miller and I'm
looking forward to hearing the information you have to provide for us.

    I'd like to first share some background on the process that we're using. Section 2.206 of Title 10 of the Code of Federal Regulations process is the primary mechanism for the public to request enforcement action by the NRC in a public process. This process permits anyone to petition the NRC to take enforcement-type action related to NRC licensees or licensed activities. Depending on the results of its evaluation, the NRC could modify, suspend or revoke an NRC-issued license or take any other appropriate enforcement action to resolve a problem. The staff guidance for the disposition of this 2.206 petition request is in Management Directive 8.11, which is publicly available on our Web site.

    Today's meeting's purpose is to give the Petitioner, Mr. Blanch, an opportunity to provide any additional explanation or support for the petition before the Petition Review Board's initial consideration and recommendation.

    So we have the initial documents that you sent, and I believe you supplemented with some additional items, Mr. Blanch, today. They came to us at the last minute and I don't know if everybody on the
Board has gotten a chance to look at all of them, but we do have them and we'll take them into consideration when the Panel meets.

So, a couple of things. This meeting is not a hearing. It's not an opportunity for the Petitioner to question the NRC or the PRB about the merits of the issues presented in the petition request. It's really an opportunity for you to give us a fuller picture, us, the members of the Board, a fuller picture that we can work from in making our deliberations.

No decisions regarding the merits of this petition will be made at this meeting.

Following the meeting the Petition Review Board will conduct its internal deliberations and then the outcome of the internal meeting will be discussed with the Petitioner, Mr. Blanch.

The Petition Review Board typically consists of a chairman, usually a manager at the senior executive level who serves with the NRC. And you've heard some of the other -- that's myself. And then a petition manager, which is Doug, and a PRB coordinator. Other members of the Board are determined by the NRC staff based on the content of the information in the petition request.

As described in our process, the staff may
ask clarifying questions in order to better understand the Petitioner's presentation and reach a reasoned decision whether to accept or reject the Petitioner's request for review under the 2.206 process. And we'll try to do that at the end of the call. We'll listen to everything that you and your speakers have, Mr. Blanch, and then we'll try to ask if there's any clarifying questions or any additional information that we think that members of the Board may need to ask of you.

With that being said, I want to summarize the scope of the petition under consideration and the NRC activities to date. On October 15th Mr. Blanch submitted a 2.206 petition to the NRC regarding the CFR 50.59 site hazards analysis prepared by Entergy Nuclear Operations, the Licensee, for Indian Point Nuclear Generating Stations 2 and 3.

The 50.59 analysis was performed by the Licensee to determine the safety impact on the Indian Point plant due to Spectra Energy's proposed 42-inch diameter natural gas pipeline that has plans to traverse a portion of the owner-controlled property at the Indian Point facility.

In the petition Mr. Blanch requests that the NRC take the following enforcement actions against Entergy, the Licensee, for the following violations:
Violation of 10 CFR 50.59, Completeness and Accuracy of Information, for providing inaccurate and incomplete information in the 50.59 site hazards analysis; violation of 10 CFR 50, Appendix B, Quality Assurance Criteria for Nuclear Plants and Fuel Reprocessing Plants, for relying on a contractor who was not qualified in accordance to Appendix B requirements, was not qualified in accordance with Entergy Quality Assurance Program, and, as a result, was not qualified to perform an analysis for such significant safety-related issue; and violation of 10 CFR 50.59, Changes, Tests and Experiments, for failing to perform the necessary safety evaluation requirements.

Furthermore, in the petition, Mr. Blanch requested that the NRC issue a demand for information against Entergy for the following: Demand an explanation from Entergy seeking an explanation as to why the previously identified violations do not also constitute a violation of 10 CFR 50.5, Deliberate Misconduct; demand that Entergy seek the results of a new and realistic risk hazard analysis consistent with the guidance providing in OSHA Appendix C, Section 1910.119, Compliance Guidelines and Recommendations for Process Safety Management; and demand that Entergy attest to the completeness and accuracy of Entergy
Report IP-PRT-08-00032, prepared in August 2008 that assessed the safety impact of the existing 26 and 30-inch diameter natural gas pipelines that traverse the owner-controlled property in Indian Point.

That report was performed by the same contractor that performed the current site hazards analysis for Entergy. In addition, the report from August 2008 contributed to NRC's rejection of a previous 2.206 petition submitted by Mr. Blanch concerning the existing natural gas pipelines.

The Petitioner has also supplemented his original petition with the following: The Town of Cortlandt, New York contracted with Accufacts, Incorporated to perform a review and analysis of the proposed Spectra Energy natural gas pipeline and how it may affect Cortlandt.

The Blanch petition is supplemented by the Accufacts letter dated November 3rd, 2014 that is critical of Entergy's 50.59 site hazards analysis and characterizes it as seriously deficient, inadequate and under-representing the real risks.

Point 2, the Petitioner letter dated November 11th, 2014 discusses the proposed West Point Partners' construction of a high voltage direct current transmission cable that may run near or adjacent to the
proposed natural gas pipelines before tying into the Buchanan Switchyard. This letter also supplements the Blanch petition. The Petitioner has expressed concern that stray DC currents emanating from the high voltage cable could adversely impact the existing gas pipelines, the new gas pipelines, and underground safety-related components at the Indian Point facility.

And if I may discuss the NRC activities to date, on November 24th, 2014 the petition manager contacted the Petitioner to discuss the 2.206 process and to offer the Petitioner an opportunity to address the PRB by phone or in person. Petitioner requested to address PRB by phone prior to its internal meeting to make the initial recommendation to accept or reject the petition for review.

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

Mr. Blanch, I'll turn to over to you and Mr. Kuprewicz to provide any information you believe the PRB should consider as part of this petition.

MR. BLANCH: Okay. This is Paul Blanch speaking again. With your introduction, which I appreciate, I'm sorry, that was Charles Miller is your
name?

CHAIRMAN MILLER: Chris Miller.

MR. BLANCH: Chris Miller?

CHAIRMAN MILLER: Yes.

MR. BLANCH: Okay. You stated obviously that this is being conducted in accordance with 10 CFR 2.206 and guidance provided by Management Directive 8.11. And you made a statement that this is not an opportunity for questions by the Petitioner. I'm not sure where that statement originated. I've reviewed Management Directive 8.11 and it's clear certainly that the Licensee is allowed to ask questions and the NRC can ask questions and it does not prohibit the Petitioner from asking questions. Again, we don't have to get into the details of the Management Directive.

But secondly, this meeting is somewhat a follow up of a telephone conversation the NRC had in early December with various congressional representatives of the New York and Westchester area, and during that meeting and confirmed by a Mr. Doug Tifft, T-I-F-F-T, that Mr. Blanch would have an opportunity with meetings with the NRC staff and those meetings would include this conversation. So the inference there was that I myself would be able to address technical issues, and that's my primary
interest. And the reason for my interest is primarily to decide whether I further want to amend my petition or take any other subsequent action, including -- well, whatever action I decide to take.

Again, I filed a Freedom of Information Act request for various documents related to the analysis, which has been totally redacted except for an introduction and one single reference, that reference being the submittal by Entergy of August 21st. We and the experts are extremely interested because we suspect there contains inaccurate information within the analysis, and I'll get into that a little bit later.

And other federal agencies, and Richard can expound on this. There's a process which I sent to you. It's called CEII, which allows members of the public and technical experts to sign an agreement to review various documents that are proprietary, confidential or could endanger the health and safety of the public, and so on and so forth. We'd like the NRC to consider entering into some type of agreement where our experts could review the Entergy and the NRC analysis, because we certainly believe that it contains questionable information at first, at best.

Our main concern, and there are many concerns; and Richard is probably the most qualified to
speak on that, but in the summary of the analysis provided August 21st by Entergy there was an assumption that the gas flow would be terminated within three minutes of its initiation. And I don't mean detection, but initiation. And based on historical experience and research we certainly question that. And I'd like to stick with that primary point and have Richard speak to that, if that's okay.

Now, Richard, if you would like to speak on that particular three-minute isolation time.

MR. KUPEWICZ: Sure. Maybe my preamble is, because I haven't spoken up before, and if I'm not getting clear, please speak up because it's hard over the phone on conference.

Let me just give you a brief background here. I won't spend a lot of time. I don't usually waste a lot of time selling myself, but I've got over 40 years experience in the energy industry, especially in incident investigations related to major pipeline failures. I've spent many years trying to improve pipeline safety regulations, especially after the terrible pipeline ruptures in Bellingham in '99 and in Carlsbad in 2001. That was a gas transmission line was the latter one. And in Bellingham it was a liquid line. Multiple loss of life, near loss of the city in
Bellingham, and obviously a tragic loss of life in Carlsbad, a very remote area. It killed 12 people, 5 of them children.

Anyway, I have assisted over many years in the improvement of pipeline safety regulation, trying to work with industry and various other parties, regulators as well as the public, usually representing the public as members on various committees. Many of those served in the development of pipeline safety regulation regarding integrity management, especially for transmission pipelines. And also in the area that may be very relevant to this particular subject, in the area of pipeline control room management. And those regulations have been promulgated and are now in regulation. And as again in all regulation, there's always a series of compromises, but hopefully you move the ball forward.

And I spent over 40 years trying to improve the area of control room management for not only refineries and chemical plants, but also in pipelines. I have very little tolerance for trying to blame the pipeline control room operator for some of these terrible incidents you've been seeing lately in the last 10 or 15 or so years.

On the issue that may be very relevant here,
you can get my CV. It's in the public domain. That will cover most of my documents that are in public. The investigations I've been brought into, that are hypersensitive are not in public domain, may involve criminal investigations, and I will not discuss any of that stuff. And I can bring lots of attorneys in on both sides of the fence that will try to protect that neutrality.

I am also a very experienced HAZOP team leader, and I only mention that because a HAZOP team leader used to carry under law under OSHA a requirement that you had to be field experienced, operational experience to lead the team. I don't know if that's in the current regulations, but that doesn't mean a couple years. So again, the experience requirement is there to assure you're asking the right questions and then the parties can reach a rational reasonable conclusion.

Now, let me focus in on the specific issue of the claimed three-minute closure time for the valves. I think the report that I've seen that's in public indicates that they'll close the valves in three minutes under the impression that that will actually stop the gas burning, or the gas explosions, more likely explosions than gas burning, within a three-minute time period. And I'll just tell you that my extensive
experience in this area, you won't even necessarily recognize this within three minutes, much less within a control room many, many miles away, take the appropriate actions to try to initiate actions to shut down, close -- shut some compressors and close valves. That can go for quite some time.

Now, in all fairness I need to point out in the San Bruno pipeline rupture, a slightly different animal, smaller line, lower pressure, not necessarily remote-operated valves, but that burned for over 90 minutes. Okay? And in that particular location the fire department was several hundred yards down the street. Okay? So my point is in these terrible tragedies -- nobody wants a pipeline rupture, but in these large diameter pipeline ruptures all kinds of dynamics and noise interfere so that what happens is a guy in a control room may or may not get information in a manner allowing him to make what I'll call executive decisions to take the appropriate action to handle a gas pipeline rupture. So time can go very quickly in a control room.

And so in this particular case I would say the illusion of a closure time in three minutes is -- it may be after you push the buttons to do that, you may be designed to do that, but the real relevant issue that
this Panel I think needs to consider is the actual
dynamics that in the event of a pipeline rupture in this
sensitive location, the system dynamics will
substantially delay the recognition and the appropriate
shutoff and responses such that gas will explode and
burn for quite a period of time. Right?

I need to just comment on one other issue
that's often confusing, and that is in federal pipeline
safety regulation there's an animal called the
potential impact radius that's used to decide what we
think might be the potential impact from a gas
transmission pipeline rupture. That animal was never,
ever intended -- and FERC knows this. I've said this
in enough cases under oath, that that was a screening
tool to help define high consequence areas. And I've
also said under oath in other cases that the PIR was
meant to help identify high consequence areas and should
not be used to cite the consequences of pipeline
ruptures.

As it turns out, the larger the diameter of
the pipeline, the potential impact radius moves in the
right direction, but the actual impact radius can be
much larger. And I have said to PHMSA on more than one
occasion, trying to go through a cycle to improve the
regulations for larger diameter pipelines, that became
very evident -- that there was a problem in the federal regulations that became very evident after the San Bruno rupture. And even the NTSB acknowledges this, there's something not quite right with this PIR equation for larger diameter pipelines.

Now with that said, I think the fundamental issue here from my perspective is if the pipeline were to rupture either as a 30-inch or a 42-inch; because the issues goes beyond just the 42-inch, would it generate blast? And the answer probably is mostly likely, though there are ruptures that don't generate blasts. They're rare. When I say "blasts," I mean blasts from the ignition of the gas cloud that is mixed with the turbulent action. And most likely in a rupture you'll get multiple blasts.

From what I have seen of the layout; and again, I haven't seen a complete detail of the layout, I don't expect blast forces because -- like major damage to like the reactor buildings or anything, because they're pretty reinforced, but the question would be would possible blast generated cause damage to structures that might be what I'd call safety-critical that would interfere with the possibility of having the fail-safe shutdown of the Reactors 2 and 3? And I don't have an answer to that one. I'll be very frank with you.
I would tell you this: Blast forces tend to dissipate. They're situation-specific. And from what I've seen I would expect that there are blast forces. While they will kill, they wouldn't necessarily damage a lot of structure because they dissipate quickly with distance. So the controlling issue regarding this from my perspective and experience is the tremendous amount of heat flux generated from these high-tonnage release gas transmission pipeline ruptures that have ignited.

And what happens is the higher the heat flux, the longer the duration, the more damage that can occur. I would expect extensive damage to auxiliary equipment such as transmission pipelines and equipment that might be related to fail-safe shutdown of the reactor facilities themselves.

And that's where I brought the very simple question in my report. In the event of a rupture of a sustained duration; it's going to be longer than three minutes given the transient dynamics on this system, what equipment would be affected and would it interfere with the fail-safe shutdown of the plant? I don't have an answer for you on that. I can tell you the burns will be substantially longer than three minutes with significantly high heat fluxes.
That's about it for me.

MR. BLANCH: Thank you very much, Richard.

Does anyone have any questions for what Richard just said?

Mr. PICKETT: Excuse me. I just take it -- I do have a question for Mr. Kuprewicz. And I am no --

MR. KUPREWICZ: Who's speaking?

MR. PICKETT: Doug Pickett. I am no pipe expert like you are, Mr. Kuprewicz, but in layman's terms, and I think I probably represent a lot of the people in the room here, when we think about a 42-inch gas line breaking, we would imagine a major explosion, but after that we would think this would be like effectively a torch and it wouldn't matter whether the valve closed in three minutes or three hours. Now am I wrong in my thinking?

MR. KUPREWICZ: Well, first of all, there's no dumb question, so please do not hesitate to ask, if you can. If I'm not clear, then please ask. I'm not here to give a speech.

That's a fair question you ask. The tonnage release on these, especially these large diameter pipelines are such that you can expect to see multiple detonations, multiple blasts. The initial
blast will probably be the highest force one. And so when you do site-specific blast pressure waves from the tonnage release and time to ignition, usually the initial blast ignition will have the greatest force. But then what will happen, because the gas releases are so great and the air cloud mixture is so turbulent, you'll see multiple secondary blasts, but they won't be as significant as the first one.

But those blast pressure waves will -- again, the science will tell you they dissipate quite quickly with distance. So if you're in a real congested area, that will contribute to the blast forces. But from what I've seen of the structure spacing, I think if you sat down and went through the detail of the layout of the critical structures at Indian Point, while blasts can be an issue of concern, my less-than-informed opinion at this stage given the limited information that can be made public is that while blasts can damage structures and actually cause some building failures, I don't think it will necessarily -- it won't interfere with the reactors structures. They're pretty hardcore.

So you'll get multiple blast explosions, but that's not the controlling factor. The controlling factor is the tremendous heat flux and the duration of
that heat flux. I have seen the heat fluxes so high that
they will liquify steel at a distance and vaporize
aluminum. And I'm not saying that to scare anybody. I
just want everybody to understand if that occurs, what's
that do to the equipment that could be used to fail-safe
the plant? If it can't affect the plant and the plants
can still be fail-safed, then even in a tremendous
tragedy such as a rupture the plant is protected. And
then I'd have to say I don't like rupture, but I can tell
you that the plant would be protected. But I can't say
that. I can't come to that conclusion from what I've
seen to date.

DR. GAVIN: Well, I'm just trying to get a
better understanding of the difference between the
valves closing in three minutes versus three hours.
And it sounds like the heat flux is the limiting factor.

MR. KUPREWICZ: Well, I think that --
Well, no, no. Let me be real clear here: There's more
than just the time to close the valves. You have to
recognize that while you have a rupture; and it won't
be pressure drop, okay, the dynamics of where this pipe
is located in proximity to the compressor station you
would most likely not see pressure drop. So you won't
see pressure drop alarms for quite a while in the control
room that may be 1,000 miles away. And that's not the
control room operator's fault. Okay?

The dynamics, the way the rupture will work, the way a pipeline ruptures, it unzips in a microsecond. It totally casts out pipe steel in all directions and forms these huge craters and then the gas roars at the speed of sound coming out of the pipe and the gas, the speed of the sound and the gas, which is higher than the velocity of the speed of sound and air. That's why you hear these roars and nobody can figure out what it is.

So my point is that if you had a rupture, it's going to be awhile before somebody in a control room gets the word that you might have a rupture. And that's going to be more than probability. If you ran the transient dynamics and you were trying to figure this out, you were trying to estimate how much time would it take before we'd understand we had a rupture and gave the command to close valves, it may be many, many minutes.

Mr. Pickett: Okay. Thank you.

MR. BLANCH: Yes, and this is Paul following up. We do have other structures. We have the gas turbine fuel oil tanks that are located in a very close proximity which hold hundreds, maybe millions of gallons of jet fuel oil which would flow downhill. We
have other vital structures. We have the switchyard. We have transformers. We have vital tanks that are used for cooling which are in the high-heat flux and blast radius.

We also have information that the flow in the existing lines, the 26 and 36-inch lines, may in fact be changed through this modification. We do not know if this has been addressed.

MR. KUPREWICZ: Yes, and that's a good point. And I didn't mention this, but Paul has brought up a good point. If that jet fuel tank is part of your fail-safe system, and if I understand it's within 150 feet of this pipeline, blast radius will take the tank out. Okay?

Now, if you don't need it to fail-safe the plant, it'll burn, it may even explode, but it won't necessarily -- if you don't need it to fail-safe the plant, then from my perspective I don't like it, but it's not going to jeopardize the plant.

MR. BLANCH: Well, it will burn -- it will be hundreds of thousands of gallons of burning fuel flowing down into safe-related structures.

MR. KUPREWICZ: Okay. If you know the detail, because I don't --

(Simultaneous speaking)
MR. BLANCH: That's why I --

(Simultaneous speaking)

MR. KUPREWICZ: -- the risk analysis would
look at.

MR. BLANCH: That's why I sent you the plan
view of a site showing elevations and distances. And
you can see it flows right down near safety-related
structures, which we all know what they are. The
switchyard will be taken out. There are other vital
components that will be taken out.

The bottom line here is that none of us know
everything about this. I certainly don't. Richard
will admit he doesn't know everything about nuclear
safety, and we all have our shortcomings. And we
desperately need to have the ability to review this
analysis and FERC has a procedure for allowing it called
CEII, which I don't know what means, but we can sign
confidentiality agreements for the very purpose that
you said we can't have it.

I have security clearance. I have worked
at Indian Point and other plants. Richard has security
clearance. Any other experts that we decide to bring
on would have the security clearance to review the
analysis and make sure it's complete and considered
everything.
We have significant safety issues, and we're not talking like in Connecticut where it killed seven people. We are talking tens of millions of people that could be endangered by releases from Indian Point. And we cannot take this lightly.

We cannot believe for instance the three-minute closure time, the fact that vital structures will not be jeopardized. Flow in the existing lines, which you said before in the final safety analysis report that the rupture of those lines is not feasible, yet it is feasible in the new lines. I mean, either you're telling me the truth now or something is amiss here. We have a probability of zero for one line and a finite probability for another.

We absolutely need an independent assessment of the analysis, and that is what we're questioning. And I think that we need to pursue this, that the NRC has to check with its management for an independent review, whether we do it in cooperation with Spectra, Entergy, NRC. That's fine with us. We'd love to hear all inputs. But it's an absolute necessity that further review be done by the experts in these various disciplines, especially Richard, and including myself, who has knowledge of Indian Point Nuclear Power, knowledge of the regulations, knowledge of the risks.
I have met with the chairman's office on issues similar to this where the chairman at the time allowed me to meet and shared with me information that is not necessarily publicly available. That is what we are asking in addition to the requests of the 2.206 petitions.

Again, I think that's pretty much what I want to say, and I would like to hear from Congresswoman Lowey's office by way of Dana Levenberg and hear some of her statements, if she is ready to make some statements. Dana?

MS. LEVENBERG: Sorry, I was on mute. Hi, I'm sorry. Just to clarify, Dana Levenberg, L-E-V-E-N-B-E-R-G, and I'm from New York State Assemblywoman Sandy Galef's office, so a state representative, not a congressional representative.

I just wanted to reiterate the assemblywoman has as recently as January 15th submitted a letter to the Secretary of FERC, as well as the chairman of the NRC underscoring her extreme concern that this independent risk assessment that was done both by Entergy and -- I mean, that the assessment that was done both by Entergy and NRC has experts like Rick and Paul overseeing it, looking at it, reviewing it, or even conducting their own analysis with the relevant
pertinent information that has been provided. And again, Paul laid out some possibilities. I'm not sure what the one that would be best for NRC is. She's extremely concerned that the issues that have been brought forth by these two experts preclude the safe siting of a larger pipeline so close to Indian Point.

She also wanted to make sure that as she understands it there's no precedent for this type of proximity and this size of gas line to be so close to a nuclear power plant. And this is the most critical nuclear power plant in our nation, one that has the NRC's -- maybe the most eyes on this plant, more so than maybe any other because its proximity to New York City.

And the radius of the impact of a blast and additionally the heat that would create these other issues that Mr. Kuprewicz has pointed out, based on the fact that this three-minute assumption that was used and that was articulated by the NRC expert on a phone call that the assemblywoman organized with some congressional offices, is sort of the most important issue that has come up, in her opinion, that precludes this from actually making any sense for this pipeline to be sited so close to Indian Point.

It is really a great and dire concern for her and for the safety and well-being of the
constituents she represents in the 95th Assembly District, which includes Montrose, Buchanan, the Town of Cortlandt, Croton, Peekskill and many of the other areas that would be directly impacted by any sort of rupture or an issue with the gas line that would impact Indian Point. So she really wants to make sure that some sort of analysis, an independent assessment of the analysis with cooperation of these types of experts be undertaken and either looking at again -- once again either looking at what's already been done with these experts or starting from scratch and undertaking something that's truly independent. That's it.

MR. KUPREWICZ: I might just want to interject here a process risk analysis doesn't take like man months, so that's just the basic --

(Simultaneous speaking)

PARTICIPANT: Sir, could you state your name?

MR. KUPREWICZ: -- probably thinks this is --

MS. LEVENBERG: I don't know what that means.

MR. KUPREWICZ: It's something that you get the right players in a room and they're cooperative
and open. Then you can get there fairly quickly. It
doesn't take weeks. It doesn't even take a day if you
really get the right people together.

MS. LEVENBERG: I'm sorry. Who's speaking?

MR. KUPREWICZ: Nor am I advocating that it
has to be me. I'm not --

MS. LEVENBERG: Oh, is this Rick? Is this
Rick? I didn't know who was speaking. Okay.

MR. KUPREWICZ: Oh, I'm sorry. I don't --

MS. LEVENBERG: It's Rick.

MR. KUPREWICZ: -- the problem with cell
phones.

MS. LEVENBERG: Yes.

MR. KUPREWICZ: This is Rick Kuprewicz.

MS. LEVENBERG: Okay.

MR. KUPREWICZ: So, the right players in a
room, including the Government folks, if they want to
be there, you get the right questions addressed with the
right information and then that hazard analysis or
something like that can go very quickly. Again though,
we know that some of this will be hypersensitive, and
so everybody has to respect that, too. Anyway --

(Simultaneous speaking)

MR. BLANCH: And I think it's safe to say
-- this is Paul Blanch -- safe to say that, speaking for myself, we would more than be willing to involve the experts from the NRC, the experts from Spectra and from Entergy such that we could hear all sides.

MR. KUPREWICZ: Fair call.

MS. GLIDDEN: This is Susanna Glidden. Congresswoman Lowey's aid is ready to say something, too.

MS. LEVINE: Well, actually, thank you, but this is Sara from Congresswoman's Lowey's office, Sara Levine, L-E-V-I-N-E. I am unfortunately not making a statement today. I'm here just to listen and observe. But thank you.

MS. GLIDDEN: Well, thank you, Sara.

MR. BLANCH: Dave Lochbaum, do you have any comments?

(No audible response)

MR. BLANCH: I guess not.

CHAIRMAN MILLER: Thank you, Paul. Is there any other information you want to pass before I ask the Panel and those listening in if they have any questions?

MR. BLANCH: Yes, there's one other statement that I want to make. Again, my petition is alleging wrongdoing on behalf of Entergy in submitting
inaccurate incomplete information, and it appears to me the NRC has already made a determination in its inspection report that this information is accurate. And how can we be assured of an independent assessment of this petition if it's the same chain of command that has already approved and said this information is accurate? That's an outstanding question and I'm not sure how we can get true independence. And according to Management Directive 8.11; and I know there was someone from the Office of Investigation, if there is an allegation of wrongdoing, which there is, the Office of Investigations has to be heavily involved with this assessment of the 2.206 petition.

CHAIRMAN MILLER: So, Paul, this is Chris Miller, and I just wanted to give you my short discussion of one of the things that the Panel is going to consider is if there's any allegations that we need to look at and move forward, if we move forward with any allegations from the material provided, the Office of Investigations will be a part of that, will be in on those discussions. That's how we do it in our normal allegation process. So the 2.206 Board will actually look and see if there are any new allegations that come up as a result of this.

MR. BLANCH: And I personally am not
advocating the treatment of this 2.206 as an allegation.

CHAIRMAN MILLER: Okay. Thank you.

Anything else that you want to provide to the Board before we go around for questions?

MR. BLANCH: I think again I'd like to reemphasize the possibility of an independent analysis which would include the parties that I mentioned before and some process where we could sign some type of confidentiality agreement to have access to the information that the NRC has restricted.

And the other question I have is for this three-minute isolation time. In the response to my FOIA request the references were not redacted, however, there was no reference to how this three-minute time was come up with, and I would like to see the reference for how the NRC determined that the three-minute time is sufficient.

CHAIRMAN MILLER: Okay. I've got that note. Let me ask around the table here at headquarters first. Is there anyone that has questions for Mr. Blanch or any of the presenters?

(No audible response)

CHAIRMAN MILLER: Seeing none, anybody from the regions?

MR. SETZER: Thank you, no, Chris.
CHAIRMAN MILLER: Okay. Anyone from members of the public that have questions for Mr. Kuprewicz or Mr. Blanch or the presenters?

MS. VAN DOLSEN: This is Susan Van Dolsen. I'm a member of the public. I just was wondering about the precedent. There was evidently some sort of independent risk assessment done for the Vermont Yankee plant in 2008. And so there was something commissioned. I think it was through the State of Vermont. Would it require like someone at the state level to do this, or is this something -- I just was curious as how to proceed forward if you were not willing to do it, if there's another way we could try to go forward.

MR. PICKETT: Can you help us out? Are you talking about a natural gas pipeline at Vermont Yankee or something --

MS. VAN DOLSEN: No, an assessment. Just an independent assessment. There was a team put together. So there's a precedent for putting together an assessment.

MR. BLANCH: I think it was called the CVA, and it's some vertical assessment that was done at Vermont Yankee. And there was also one done at Indian Point at the request of Senator Clinton and other
Congressional reps, again back in the same time frame, 2008-2010. So this request for an independent assessment is not without precedence.

MS. VAN DOLSEN: And have any been done near a gas pipeline? So, that's another question. I see this one, but I don't know if there has been an assessment independently done to do a risk assessment near a natural gas pipeline.

MR. BLANCH: The only one I could think is the one that was conducted by AREVA in Eunice, New Mexico maybe five, six years ago for a 16-inch line operating at 50 pounds. I have a copy of that assessment that was done.

MS. VAN DOLSEN: And how many nuclear plants operate near a gas pipeline in the proximity of the one that we're talking about in this case?

MR. BLANCH: Well, the closest one, even closer than Indian Point, is Turkey Point, which has never been analyzed.

CHAIRMAN MILLER: So I'm going to try to turn our direction back towards what we're trying to do in this call -- is to try to get any additional information for the Panel to consider in their deliberations. So I would ask is there any other questions that we want to ask of those who presented that
the Panel should consider for this issue?

MS. LEVENBERG: I'm sorry. This is Dana again from Assemblywoman Sandy Galef's office, and I just wanted to point out that we had received a response from the NRC related to the technical basis behind the assumptions that valves will close an isolated gas leak within three minutes, and that came directly from Resource Report 11, Reliability and Safety, filed with FERC by Algonquin in February of 2014 related to the AIM project. And it was Section 11.4.3.2. And it was specifically again from Algonquin. That was where it came from. And it was specifically about the pressure drops that would be noted from the remote -- the gas control center in Houston, Texas. And again, that was provided to me by the NRR office, by Doug Tifft at the NRC.

So again, I think that we continue to have concern based on Mr. Kuprewicz' review of this three-minute assumption that is so critical because it came from Algonquin, or Spectra, I guess.

MR. BLANCH: And that three-minute assumption is what they are basing this safety of Indian Point upon.

MS. LEVENBERG: Right.

MR. KUPREWICZ: Yes, this Rick Kuprewicz.
And it kind of gets down to -- if I recall -- again, I look at a lot of gas pipelines, but even if you close the valve in three minutes, which you will not, because a transient study for rupture in this particular location will clearly indicate that that's not the case -- even if you were to close those valves, it is still going to burn for many minutes at high heat flux, because that's what the laws of science, the laws of thermodynamics will dictate. If I recall, the valve spacings are 15 miles. If you have 15 miles of high-pressure gas pipeline, it's not going to go to zero pressure. It's going to burn for a long time at high heat flux.

So, if I were to comment on this, what the NRC has to think about is what is the actual -- the transient dynamics of a pipeline rupture in this location approximately three miles away from a compressor station and how long will this burn at heat fluxes that can affect equipment? End of subject.

It isn't I can close the valves in three minutes. It might be 20 minutes before you recognize that. So, that's the fundamental issue that you folks have to see if someone has done that.

MR. PICKETT: This is Doug Pickett again.

When you first started your presentation I thought I
heard you say something like the fellow who's going to be in Houston monitoring the pressure would not see a pressure drop if a pipe ruptured, and I was a little confused on that. Can you go into that again? What would he see?

MR. KUPREWICZ: Yes, most likely he's in the control room getting all kinds of alarms. If you've ever -- well, you guys have NRC control rooms, but pipelines get a lot more alarms. And so he's got to figure out how he's monitoring this and checking on this, and he may get an alarm. He may say, hey, something has changed, but I don't know what it is. But for a rupture release in which you've blown these pipes, the 42-inch pipe is going to shrapnel and come out of the line, out of the ground. Big crater. Huge gas velocities.

But the laws of thermodynamics dictate the rate at which the gas can be released out the full-bore ruptures from both ends. Okay? And that's limited to the speed of sound of the gas, the speed of the sound of the gas within the gas. Not in air. So it's roaring. But it limits the mass rate. It limits how much it releases.

So bottom line is in layman's terms the pressures don't drop as fast as you'd think. It's not
a balloon burst.

MR. PICKETT: Okay.

MR. KUPREWICZ: And if you close the valves and they're 15 miles apart, there are plenty of documents in the public domain that will show you it takes many, many minutes before the flames really start to decline. And so the real issue here is if you get a gas pipeline rupture, how long will this burn at heat fluxes that can affect equipment that is important? If the answer is there's no equipment there, then that's fine. Move on. But from what I'm seeing, that's not necessarily the case.

MR. BLANCH: And adding to that, NRC regulations dictates that we have to assume a single failure at the valve --

(Simultaneous speaking)

MR. KUPREWICZ: Yes, let me also point out to the NRC, don't feel like anybody's criticizing you folks because you don't understand this stuff. There are gas pipeline operators that we have to sit in a room and great detail and explain this. And they're closer to this and they don't get it until someone shows it to them. So don't think like I'm saying, oh, you missed this and it's your fault. That's not what I'm doing here. Please.
CHAIRMAN MILLER: Thank you. I wanted to ask is there anyone from the Licensee that would like to ask any questions of the presenters?

MR. WALPOLE: No, thank you, Chris.

CHAIRMAN MILLER: Okay. Any other questions, concerns? Did I go to the regions? Anything from the region?

(No audible response)

CHAIRMAN MILLER: Okay. Good. Well, I --

MR. BLANCH: And how long can we expect to have to wait for a transcript of this session?

MR. PICKETT: Doug Pickett here again. We've requested the transcript to be within a week, so then we have to review the transcript and make sure it's accurate. And hopefully within a few weeks you'll be able to see the transcript.

MR. BLANCH: Okay.

CHAIRMAN MILLER: Okay. Do you another question, Mr. Blanch?

MR. BLANCH: No, that's all I have.

CHAIRMAN MILLER: Okay. Well, I wanted to thank you and Mr. Kuprewicz. Good informative session. I got a lot of information covered. So thanks for taking your time. We'll continue with our process.
Before we close, does the court reporter need anything additional before we close the meeting, close the transcript?

COURT REPORTER: Yes. Mr. Kuprewicz, could you spell your last name for me?

MR. KUPREWICZ: Gee, I've never been asked that before.

MR. BLANCH: Yes. Right.

MR. KUPREWICZ: It's K-U-P-R-E-W-I, C as in cat, Z as in zebra.

COURT REPORTER: Got it. That's all.

(Whereupon, the above-entitled matter went off the record at 3:34 p.m.)