

Official Transcript of Proceedings
NUCLEAR REGULATORY COMMISSION

Title: 10 CFR 2.206 Petition Review Board
Teleconference with Petitioner, Michael
Mulligan, Citizen, re: 2.206 - Emergency
Ultrasonic Inspection Test or Best Available
Flaw Detection Technology for USA Reactor
Plants Similar to the Thousands of Cracks
Discovered in Belgium Nuclear Power Plants.

Docket Number: 50-271

Location: teleconference

Date: Tuesday, May 19, 2015

Work Order No.: NRC-1581

Pages 1-32

NEAL R. GROSS AND CO., INC.
Court Reporters and Transcribers
1323 Rhode Island Avenue, N.W.
Washington, D.C. 20005
(202) 234-4433

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

+ + + + +

10 CFR 2.206 PETITION REVIEW BOARD (PRB)

CONFERENCE CALL

RE

BELGIUM NUCLEAR PLANT VESSEL CRACKS IN USA PLANTS

+ + + + +

TUESDAY,

MAY 19, 2015

+ + + + +

The conference call was held, Rob Taylor,
Chairperson of the Petition Review Board, presiding.

PETITIONER: MICHAEL MULLIGAN

PETITION REVIEW BOARD MEMBERS

ROB TAYLOR, Petition Review Board Chairman

STEPHEN KOENICK, Petition Manager

BOB HARDIES, Senior Technical Advisor

MERRILEE BANIC, 2.206 Petition Coordinator

PATRICIA JEHLER, Office of the General Counsel

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS
1323 RHODE ISLAND AVE., N.W.
WASHINGTON, D.C. 20005-3701

NRC HEADQUARTERS STAFF

ROBERT CARPENTER, Office of Enforcement

MEENA KHANNA, Branch Chief

REGIONAL OFFICE PARTICIPANTS

STEPHEN HAMMANN, Region 1

VIJAY MEGHANI, Region 3

JOON PARK, Region 3

REPRESENTATIVES FOR THE LICENSEE

PHILIP COUTURE, Entergy

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS
1323 RHODE ISLAND AVE., N.W.
WASHINGTON, D.C. 20005-3701

C O N T E N T S

	<u>Page</u>
Welcome and Introductions.....	4
PRB Chair for Introductory Remarks.....	7
Petitioner's Presentation.....	11
Staff Questions of Petitioner.....	30
PRB Chair Closing Remarks.....	31
Adjourn.....	32

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS
1323 RHODE ISLAND AVE., N.W.
WASHINGTON, D.C. 20005-3701

P R O C E E D I N G S

2:05 p.m.

MR. KOENICK: I'd like to thank everyone for attending this meeting. My name is Stephen Koenick. I'm a Project Manager in the Division of Reactor Licensing.

And we're here today to allow the Petitioner, Michael Mulligan to address the Petition Review Board regarding his 2.206 Petition dated March 25, 2015[sic] submitted by email on March 26, 2015.

I'm also the Petitioner Manager for this Petition. And the Petition Review Board Chairman is Robert Taylor.

As part of the Petition Review Board's review of this Petition, that can now be found in Adams under accession number ML15090A487. Michael Mulligan has requested this opportunity to address the Petition Review Board.

The meeting is scheduled from 2:00 to 3:00 p.m. eastern time. 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. And the Transcript will also be made publicly available.

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS
1323 RHODE ISLAND AVE., N.W.
WASHINGTON, D.C. 20005-3701

1 So I'd like to open this up with
2 introductions. I'd like the rest of the Petition
3 Review Board to introduce themselves. What we'll do is
4 we'll go around the room here at Headquarters. And then
5 we'll figure out how to get everybody on the phone.

6 So first, I'd like to turn it over to Rob.

7 CHAIRMAN TAYLOR: Hi, this is Rob Taylor,
8 Chair of the PRB.

9 MR. HARDIES: I'm Bob Hardies, Senior
10 Level Advisor, Office of Nuclear Reactor Regulations,
11 Division of Engineering.

12 MS. BANIC: Lee Banic, 2.206 Petition
13 Coordinator, NRR.

14 MS. JEHLE: Patricia Jehle, Office of the
15 General Counsel.

16 MS. KHANNA: Meena Khanna, Branch Chief in
17 the Division of Operating Reactor Licensing.

18 MR. KOENICK: Excellent. So that's here
19 with us at Headquarters. Can we go through any other
20 NRC participants from Headquarters on the phone?

21 MR. CARPENTER: This is Rob Carpenter, OE.

22 MR. KOENICK: Okay. Any other
23 Headquarters participants?

24 (No response)

25 MR. KOENICK: Hearing none, are there any

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS
1323 RHODE ISLAND AVE., N.W.
WASHINGTON, D.C. 20005-3701

1 Regional Office -- participants from Regional Offices?

2 We can start from Region I?

3 MR. HAMMANN: This is Steve Hammann from
4 the Region I, Decommissioning and Technical Support
5 Branch.

6 MR. KOENICK: Okay. Region II? We
7 probably don't have anybody from Region II.

8 (No response)

9 MR. KOENICK: Region III?

10 MR. MEGHANI: This is Vijay Meghani and
11 Joon Park from Region III, Division of Reactor Safety.

12 MR. KOENICK: Excellent. And Region IV, I
13 don't believe we have anyone?

14 (No response)

15 MR. KOENICK: Okay. Are there any
16 representatives for the licensee on the phone?

17 MR. COUTURE: Phil Couture with Entergy.

18 MR. KOENICK: And the Court Reporter is on
19 the line?

20 COURT REPORTER: Yes, Sir. Dylan Stroman
21 with Neal R. Gross Court Reporters.

22 MR. KOENICK: Thank you. Okay. Is there
23 any -- are there any other members on the call that have
24 not been identified? With the exception of our
25 Petitioner? We'll get to you last.

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS
1323 RHODE ISLAND AVE., N.W.
WASHINGTON, D.C. 20005-3701

1 (No response)

2 MR. KOENICK: Okay. Hearing none,
3 Michael Mulligan, would you please introduce yourself
4 for the record?

5 MR. MULLIGAN: Hello. I'm Michael
6 Mulligan. I live in Hinsdale, New Hampshire. I'm a
7 whistle blower. I worked at a nuclear plant, for
8 Vermont Yankee for ten years or so.

9 I was in the Navy on a submarine, on a
10 nuclear submarine. And that's it.

11 MR. KOENICK: Okay. Thank you. I'd like
12 to emphasize that we need to speak clearly and loudly
13 to make sure that the Court Reporter can accurately
14 transcribe this meeting.

15 If you do have something that you would like
16 to say, please first state your name for the record.
17 And for those dialing into the meeting, please remember
18 to mute your phones to minimize any background noise or
19 distractions.

20 At this time I'd like to turn it over to the
21 PRB Chairman, Robert Taylor.

22 CHAIRMAN TAYLOR: Thanks, Steve. This is
23 Rob Taylor from the Deputy Director of NRR's Division
24 of Safety Systems. And I'll be serving as the PRB
25 Chairman for Mr. Mulligan's Petition that we're

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS
1323 RHODE ISLAND AVE., N.W.
WASHINGTON, D.C. 20005-3701

1 discussing today.

2 Mr. Mulligan, thank you for submitting your
3 Petition. I think you're familiar with the process.
4 But there are some aspects that I do want to go through
5 at the beginning here before we get into your discussion
6 and presentation.

7 Just for some background on the process.
8 Section 2.206 of Title 10 of the Code of Federal
9 Regulations describes the Petition process. The
10 primary mechanism for the public to request enforcement
11 action by the NRC in a public process.

12 This process permits anyone to petition NRC
13 to take enforcement type action related to NRC licensees
14 or licensed activity. Depending on the results of this
15 evaluation, NRC could modify, suspend or revoke an NRC
16 issued license or take any other appropriate
17 enforcement action to resolve the problem.

18 The NRC staff guidance for this position of
19 2.206 Petition Request is in management directive 8.11,
20 which is publically available.

21 The purpose of today's meeting is to give
22 the Petitioner, Mr. Mulligan, an opportunity to provide
23 any additional explanation or support for the Petition
24 before the Petition Review Board's initial
25 consideration and recommendation.

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS
1323 RHODE ISLAND AVE., N.W.
WASHINGTON, D.C. 20005-3701

1 I want to be clear that this meeting is not
2 a hearing. Nor is it an opportunity for the Petitioner
3 to either question or examine the PRB on the merits of
4 the issues presented in the Petition Request.

5 No decisions regarding the merits of this
6 Petition will be made at this meeting. Following this
7 meeting the Petition Review Board will conduct its
8 internal deliberations. The outcome of this internal
9 meeting will be discussed with the Petitioner.

10 The Petition Review Board typically
11 consists of a Chairman, myself, usually a manager at the
12 senior executive service level at the NRC. It has a
13 Petitioner Manager and a PRB coordinator, who have
14 introduced themselves during the opening of this
15 meeting.

16 Other members of the Board are determined
17 by the NRC staff based on the content of the information
18 in the Petition Request. The members have already gone
19 around and introduced themselves, including the subject
20 matter experts that will weigh in or evaluate Mr.
21 Mulligan's Petition.

22 As described in our process, the NRC staff
23 may ask clarifying questions in order to better
24 understand the Petitioner's presentation and to reach
25 a reasoned decision whether to accept or reject the

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS
1323 RHODE ISLAND AVE., N.W.
WASHINGTON, D.C. 20005-3701

1 Petitioner's request for review under the 2.206
2 process.

3 I'd like to summarize the scope of the
4 Petition under consideration and the NRC activities to
5 date. On March 26, 2015, Mr. Mulligan submitted to the
6 NRC, a Petition under 2.206 regarding Kewaunee Nuclear
7 Power Plant and Vermont Yankee Nuclear Plant. And the
8 operating U.S. Nuclear Plants in which he requested a
9 number of actions.

10 The major ones are as follows. He
11 requested immediate full scale ultrasonic inspections
12 similar or with better technology on Vermont Yankee and
13 Kewaunee. He requested large bore hole samples be cut
14 out of both vessels and transport the vessel specimens
15 to a respected metallurgical laboratory for
16 comprehensive offsite testing.

17 He requested an immediate NRC report and
18 public meeting on the vulnerabilities with U.S. reactor
19 cracking and these weakened vessels. He requested all
20 U.S. plants be ultrasonically tested within six months
21 if distressed and unsafe results are discovered.

22 Now, let me take a moment to discuss the NRC
23 activities to date. On May 4 of this year, the
24 Petitioner Manager contacted you to discuss the 10 CFR
25 2.206 process. And to offer you an opportunity to

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS
1323 RHODE ISLAND AVE., N.W.
WASHINGTON, D.C. 20005-3701

1 address the PRB.

2 Mr. Mulligan requested to address the PRB
3 by phone prior to its internal meeting to make the
4 initial recommendation to accept or reject the Petition
5 or review it.

6 On May 13 of this year, the Petition Manager
7 arranged a courtesy call with the NRC technical expert,
8 Robert (Bob) Hardies to discuss the Petition. The call
9 between Mr. Mulligan, Mr. Hardies and the Petitioner
10 Manager took place last week.

11 As a reminder for the phone participants,
12 please identify yourself if you make any remarks. As
13 this will help us in preparation of the meeting
14 transcript that will be made publically available.
15 Thank you.

16 Mr. Mulligan, with that, I'd like to turn
17 it over to you, to allow you an opportunity to provide
18 information you believe the PRB should consider as part
19 of this position. We've allocated 40 minutes for your
20 presentation.

21 MR. MULLIGAN: I'm Mike Mulligan. Thank
22 you very much for this opportunity. I generally know
23 that I'm very lucky to be living in the United States
24 of America.

25 I know that if this was -- I mean, if I had

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS
1323 RHODE ISLAND AVE., N.W.
WASHINGTON, D.C. 20005-3701

1 this concern in another country, say Russia or China or
2 something like that, you know, they'd probably find me
3 on the side of the road dead.

4 So, I know that we live in the greatest
5 nation on the planet. And I'm thankful to be living
6 here. I thank the NRC for this opportunity.

7 I really thank them for talking -- for
8 allowing me to talk with Mr. Hardies. He was a -- he
9 just -- he was extraordinary as far as his abilities.

10 As far as you talked about, as far as for
11 Vermont Yankee and Kewaunee, I essentially wanted
12 either ultrasonic testing or the best technology or
13 similar to what they did over in Belgium or over in
14 Europe and stuff like that. So, I don't know if I said
15 that right in the way you just got done talking about
16 it.

17 We know with any crack in the vessel, none
18 have been discovered so far in that. In the worst case,
19 if a crack happened and it was large enough, and it would
20 basically bypass a lot of designs of the facility.

21 And so it would be a particularly nasty
22 accident. The most likely result would be a small leak
23 or -- but you never know. And the systems will be able
24 to handle it.

25 But, that would just be marginally better

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS
1323 RHODE ISLAND AVE., N.W.
WASHINGTON, D.C. 20005-3701

1 then the worst case. Because it would bring terrible
2 repercussions to the nuclear industry.

3 Even if we -- even if, you know, we went
4 through this and we did a lot of investigations on the
5 vessels we're testing, even finding a core crack would
6 be pretty dramatic as far as what it would do to the
7 industry.

8 As far, you know, if you -- generally, most
9 of the vessels have been immune to inspections. I know
10 they do ten year inspections on, thanks to Mr. Hardies,
11 on the weld areas and that type of stuff.

12 But it would be terrible repercussions.
13 Because it would, you know, question the NRC. It would
14 question the utilities. You know, how come, you know,
15 how come the reactor vessels weren't fully inspected and
16 have ultrasonic testing or better.

17 It's interesting, the Belgium nuclear
18 regulator, the FANC, the Federal Agency for Nuclear
19 Control, here's a quote. This is how they discovered
20 it. In 1912 -- in 2012, a new type of in-surfaced ISI
21 inspection of the reactor vessel by ultrasonic testing
22 was introduced in the Belgium nuclear plants.

23 These inspections were introduced in
24 France in order -- and to search for underclad cracks
25 that may be presented in the base metal directly below

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS
1323 RHODE ISLAND AVE., N.W.
WASHINGTON, D.C. 20005-3701

1 the interface to the cladding. These underclad cracks
2 if present, have particular orientations at a surface
3 and were created by the welding process of the
4 austenitic strip cladding and to the ferric base metal.

5 The underclad is like, I imagine is, it's
6 like our cladding in our domestic vessels that are
7 inside the -- that are on the outside -- inside the --
8 on the surface of inside the vessel.

9 So, I -- in talking with Mr. Hardies, we
10 talked about taking samples of some shutdown reactor
11 vessels similar to the Belgium reactors. And I know
12 what Mr. Hardies wants for Christmas next year. And
13 that there would be samples taken from an assortment of
14 reactor vessels.

15 That would be to cut out a piece of the
16 reactor vessel. And then bring it into a laboratory and
17 to, you know, to go wild with the testing and stuff like
18 that.

19 And as far as my understanding that would
20 be a wonderful idea as far as the verified and knowledge
21 that we have. And as far as what happens, what a reactor
22 vessel during its life.

23 And it would help us, you know, to do a lot
24 of testing that might discover some other flaws in the
25 reactor. And just like with the Belgium reactors, you

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS
1323 RHODE ISLAND AVE., N.W.
WASHINGTON, D.C. 20005-3701

1 know, they went on a journey looking for one type of flaw
2 and they discovered a completely different flaw.

3 One thing should be noted, is that they had
4 a discover -- they had to institute a special kind of
5 ultrasonic test. It sounds like it was more sensitive
6 then normal.

7 And then as this thing went on, they decided
8 that they even need a more sensitive type of ultrasonic
9 test. And I think there's a lot of limitations with
10 ultrasonic tests.

11 You should get it in -- if you could get some
12 of these, you know, these specimens into the -- into a
13 laboratory, you know, you could be -- you could have more
14 confidence that this type of accident would never happen
15 in the United States fleet.

16 AREVA recently had troubles -- well,
17 basically, it's my -- I've become educated with this
18 kind of problem. And I made a set of poor assumptions
19 whenever I started this.

20 But today it's generally, it's a forging
21 issue. And either did a state of the art type of thing.
22 They didn't think about it or there was a shortcoming.
23 And forging -- and during the forging process, water was
24 inside the forging as they were pouring it. And as it
25 was cooling down.

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS
1323 RHODE ISLAND AVE., N.W.
WASHINGTON, D.C. 20005-3701

1 And in this process, hydrogen was released
2 from the water. And it's this hydrogen business that's
3 causing hydrogen flaking, as far as I think, was going
4 on.

5 But I'm no expert. I do have a little
6 better understanding of what's going on here. And
7 there's uncertainty. You know, like there's
8 uncertainty if we can see everything in the vessel as
9 it sits right now.

10 Especially when we don't do a lot of
11 testing. We only test a small part of the vessel. And
12 there is uncertainty with the forging process. And
13 there's even uncertainty with the forging today, what's
14 going on. Which is really astounding.

15 With AREVA, they had lower than their
16 expected mechanical toughness properties. In other
17 words, it's weaker and probably it would -- cracks would
18 proliferate more easily.

19 It revolves generally around high carbon
20 contact. It's a -- that's what's the mechanism that
21 makes the metal weaker. And it is a simple forging
22 problem that everybody's astonished that they didn't
23 detect.

24 And you notice that. And even with all the
25 -- even if there is no radiation on it in the vessel or

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS
1323 RHODE ISLAND AVE., N.W.
WASHINGTON, D.C. 20005-3701

1 because the vessels are quite radioactive. AREVA still
2 didn't discover the flaws until much like they even got
3 one and the reactor plant just, you know, almost it's
4 all buttoned up and stuff. And they're going to have
5 to take it apart, take it out or something.

6 And so there you go again. Some of this
7 stuff is hard to detect. And there's uncertainty of the
8 bureaucracy. Are they capable of discovering these
9 things? It's like I said, that accented so bad. You
10 know, you can imagine if they -- or could be so bad.

11 You could imagine if it was, like I said,
12 a small crack was discovered and the repercussions would
13 be so dock and dire. You know, that would be hard to
14 stay to yourself. We've got to disclose this.

15 There would be a lot of pressure to not
16 disclose things. You know, maybe you get -- the higher
17 ups might not know about it. But the lower guys would
18 sit there and say holy smokes, you know, maybe the best
19 thing to do is keep this quiet.

20 Mr. Hardies is a Chief of Component
21 Integrity Branch of the Division of Engineering in the
22 Office of Nuclear Regulatory Research. He gave me a
23 pretty neat phrase. He said, you never know what is
24 discussed be -- you never know what is discussed
25 privately between the licensee and a regulator.

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS
1323 RHODE ISLAND AVE., N.W.
WASHINGTON, D.C. 20005-3701

1 He was talking about the Belgium guys. And
2 all I know is it was an interesting comment.

3 What is most interesting to me is the
4 Belgium regulator, they, you know, they went back and
5 then said they've got to do some more testing. They
6 tested hydrogen flakes in a test reactor.

7 And they put a lot -- put these pieces of
8 metal in a heavy radiation field. And the preliminary
9 results, the material properties, fracture test
10 toughness, is more strongly affected by radiation than
11 predicted in theoretical models.

12 And that, you know, I've talked to a few
13 people. And they basically say we -- between us and the
14 Europeans, we all generally got only a few of these
15 companies that do these kind of testings, contractors
16 or whatever have you.

17 And they're generally more alike than not
18 alike. And that type of thing. And they're all
19 intermixed and the information is kind of shared between
20 them and all that sort of stuff.

21 So, you know, we're -- like I said, we're
22 more alike than not. And so, you know, and so to have
23 -- the big thing is this testing of this metallic flake,
24 you know, is raising questions of their modeling of the
25 metal and how it responds.

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS
1323 RHODE ISLAND AVE., N.W.
WASHINGTON, D.C. 20005-3701

1 And that's a, you know, that's a -- the
2 regulators are usually looking for proof. You know,
3 everything they do is they look for proof. And they,
4 you know, they want everybody to have evidence and all
5 that sort of stuff.

6 And I think the harder things a lot of
7 times, because there's nothing there. And so a lot of
8 times it only really revolves around what's in your
9 head. And that is the idea of what are the
10 uncertainties associated with say the reactor vessel?

11 And that's the things that, you know, you
12 can't prove. And that is very worrisome. So, and you
13 know, I think the United States of America, you know,
14 the greater public would say, you know, we don't want
15 to push on the reactor vessel inspected or tested.

16 We want the vessel tested with the best
17 technology available. We're the greatest nation on the
18 planet. And we understand that it's probably an action
19 that's very infrequent. But if you had one, there would
20 be a tremendous amount of consequences to it.

21 And so I think the public would say, we want
22 to know the absolute current best technology type of
23 condition that the reactor vessels are in now. And we
24 want proof that, you know, that this terrible event
25 wouldn't occur.

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS
1323 RHODE ISLAND AVE., N.W.
WASHINGTON, D.C. 20005-3701

1 So like I said, I was told that, you know,
2 the ultrasonic testing on the welds happen every ten
3 years. It's from the insides and that. And the most
4 worrisome aspect about that is that Mr. Hardies told me
5 that there was never any flaw discovered in it.

6 And we look around and now once I talked
7 about the reactor heads, you know, once those were
8 considered a perfect barrier. And there was a lot of
9 margin of safety there. And the fact that barrier
10 should not -- should not, you know, there's no evidence
11 that the reactor heads could have a flaw in it.

12 Of course, now we know. Even as the
13 evidence and leaks were building up, the Agency and the
14 FirstEnergy failed to prevent that kind of an accident.
15 And stuff and we know that most of the Agency and
16 FirstEnergy had terribly flawed bureaucracies.

17 And I think if we could have seen a lot of
18 that, you know, if it was disclosed to the outsiders,
19 you know, and people would have rebelled. And we would
20 have fixed you. If we could see the flaw, the
21 bureaucratic flaws in both the agency and the utility
22 and stuff.

23 And so that was a -- that was one of the
24 lessons learned, is how much we don't know about what
25 these bureaucracies do behind our backs and stuff. And

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS
1323 RHODE ISLAND AVE., N.W.
WASHINGTON, D.C. 20005-3701

1 so, the reactor heads, we know that have flaws.

2 And we know a lot of different nozzles and
3 piping right next to the reactor have a -- they
4 discovered flaws in it or cracks in it and they dig them
5 out -- dig out the flaw and reweld it and stuff like that.

6 What is surprising is that in all this
7 testing in all these reactors, they never found one flaw
8 in it, in the weld area and stuff. It just doesn't make
9 sense. To me it doesn't.

10 And you know, they might have found a couple
11 of flaws that were there, you know kind of, or a couple
12 of indications that looked like a flaw. And then go in
13 there and did we report about it? We thought there was
14 a flaw in the core.

15 We discovered a flaw and we fixed it and all
16 that sort of stuff. But to never discover a flaw in the
17 welding -- in the components that were welded together
18 of a vessel is kind of a -- doesn't -- it's nonsensical
19 to me if you really want to know.

20 And the implications are that, you know,
21 you're not using the best technology and the most
22 sensitive technology available. And like I said, you
23 know, with the Belgium guys, they went in hunting for
24 one thing with sensitive gear. And that's how they
25 discovered the metallic flakes.

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS
1323 RHODE ISLAND AVE., N.W.
WASHINGTON, D.C. 20005-3701

1 So that kind of raises -- then they jacked
2 it up again. And you know, they found tens and
3 thousands of them and stuff. So, that just -- there's
4 a question of whether we're using the right sensitivity
5 for detecting these flaws.

6 You know, there's questions if we're
7 looking -- not looking at the whole vessel also. I
8 think, I don't know. You know, maybe when it was new,
9 it was -- we couldn't -- we, you know, we used the best
10 technology to look for flaws in these vessels.

11 And you know, and then decided, you know,
12 and then we're all busy with new construction and all
13 that sort of stuff. And we just couldn't conceive of
14 the ideas that these vessels could develop a flaw later
15 in life.

16 I know you have coupon testing. And I know
17 you have a lot of secondary I'd call it of theoretical
18 models of what radiation does to these vessels and stuff
19 like that. You have a lot of that.

20 But that's not -- that's not -- that's, you
21 know, that's that better theoretical stuff that I talked
22 about that is placed in question. Are your models all
23 accurate and stuff.

24 And I think there's a lot of uncertainty
25 there to be truthful. And I think, you know, the United

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS
1323 RHODE ISLAND AVE., N.W.
WASHINGTON, D.C. 20005-3701

1 States deserves to have proof with the best technology
2 available that these vessels are safe.

3 You know, like I said, maybe if we go in and
4 take the worst case PWR and take a couple of samples out
5 of there. Do a couple of ultrasonic tests of a dead
6 vessel and stuff, then you have like a, you know, you
7 would have a more sense of what might be going on there.

8 And then of course if you did find flaws in
9 the vessel, then you'd have to, you know, just like
10 jacking it up as far as going to all the rest of the
11 plants and demanding that they do similar kind of
12 testing. That would be the kind of things that I am --
13 I'm asking for in this.

14 It's been noted, this is sound -- this is
15 going to sound like, you know, not another issue. But
16 the flipping the Palisades primary cooling pump power
17 went out. One official told me that, you know, that
18 basically these components sit in the bottom of the
19 core.

20 That the blades break off and they found one
21 between the core shroud and stuck in the core. And then
22 there was a lot of other parts in different areas.
23 There was Salem 2 was the same problem.

24 But one official told me, NRC official said
25 -- basically implied that these guys sit in the bottom

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS
1323 RHODE ISLAND AVE., N.W.
WASHINGTON, D.C. 20005-3701

1 of the thing and they stay there the whole cycle.

2 And I had a recent -- a different official
3 tell me that oh no, those, there's a lot of flow in --
4 and now I'm paraphrasing, there's a lot of flow inside
5 these vessel -- the bottom of the core. And these
6 things are banging around.

7 And we just discovered cladding damage
8 caused by components being in the bottom of the vessel
9 and stuff. And you hear, you know, there's never no
10 pictures of what kind of cladding damage there was.

11 And again, you know, I worry about the
12 missing cladding. And what the vessel metal behind it,
13 you know, would do in a reactor vessel.

14 I know that there is oxygen. Somebody said
15 that there might be oxygen -- there was oxygen missing
16 in the vessel. But on the other hand, I know that oxygen
17 gets disassociated in water and a radiation field and
18 there is oxygen in there.

19 And I know that oxygen sometimes collects
20 up at the top of patrol light mechanisms in the housing.
21 And that causes hydrogen and oxygen and causes all sorts
22 of corrosion problems. And well, at least it did on one
23 plant. I don't know, I can't say for certainty if they
24 did.

25 So, I see a lot of uncertainty. Here, let

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS
1323 RHODE ISLAND AVE., N.W.
WASHINGTON, D.C. 20005-3701

1 me just -- I'm talking about this. Mr. Hardies sent me
2 this, the metallurgical sent me this document.
3 metallurgical -- metallurgical, what am I talking
4 about?

5 No, I was going to give it to him or --
6 well, anyways, the metallurgical aspects influence had
7 a potential for hydrogen flakes and forging for reactor
8 pressure components. You know, in the Belgium, seeing
9 all of their docket, I never seen any blackouts or
10 security or hidden information.

11 So, you know, I count -- so this document
12 is filled with blacked out pieces, information missing.
13 That you know, either is privacy issues or I don't know
14 what, you know, security issues.

15 And so, you know, there's 16 huge chunks of
16 this document missing information because the NRC
17 refuses to release it. One of the most interesting
18 pieces of blacked out or redacted information is, you
19 know, the -- at the bottom of this document, there's the
20 references. And three of the references are blacked
21 out.

22 I mean, it's just, you know, the labels or
23 the headings or the titles of the documents are too
24 classified. Or, you know, might give secrets away or
25 something.

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS
1323 RHODE ISLAND AVE., N.W.
WASHINGTON, D.C. 20005-3701

1 I mean, it's just ridiculous. So this goes
2 to kind of like what I'm saying about bureaucracies.
3 You never know what they -- you never know the reasons
4 why they're hiding things.

5 They say they might have one reason. And
6 all that sort of stuff. But there's never -- there is
7 not an independent outside person or an organization
8 looking and say for the NRC, is this legitimate that all
9 this information is missing and stuff?

10 Or should the public, you know, it might be
11 private information or competitive information. But
12 there's countervailing public interests in releasing
13 this information. And that is, you know, like I said,
14 would be to have an outsider have, maybe have the power
15 to, you know, straighten out our bureaucracy like
16 Davis-Besse or the situation in that incident there and
17 stuff.

18 And so we would never have a Davis-Besse
19 accident and stuff. So we debate these issues and fully
20 as the problem is developing. And you know, because
21 everybody afterwards, Davis-Besse said, you know, we
22 all had flaws. We had terrible flaws. And letting
23 this plant, you know, run away from us and stuff.

24 And you know, part of that would be that you
25 disclose all your flaws and you let the outsiders help

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS
1323 RHODE ISLAND AVE., N.W.
WASHINGTON, D.C. 20005-3701

1 you -- help you -- and it would probably be painful. But
2 it would help you clean up your bureaucracies.

3 And you know, that's always been my hope
4 that we'd have a strong industry and a strong NRC.
5 Where a lot of this stuff, this nonsense doesn't emerge
6 and is corrected before it happens.

7 And so there would be less negative
8 information out there that people use. And well, use
9 in a wrong way. So, you know, it seems to be, to me I've
10 seen a lot of the incidences that I've read about,
11 inability to anticipate cracks and corrosions.

12 I wish, you know, as far as taking them
13 samples, I wish the Agency would get, you know, move
14 heaven and earth as far as getting these samples from
15 some of these reactor vessels.

16 And I know that there's a radiation versus
17 an altruism or doing good type of conflict here and
18 stuff. But, you know, I don't know, is that an excuse
19 not to do it?

20 I know -- I can't think of -- Yankee Atomic
21 over in -- when they were shutting down and their
22 controversy after they were shut down. And that was the
23 question, what are you going to do with the core?

24 And the idea of taking samples of the core
25 came up. And basically, they said that there was more

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS
1323 RHODE ISLAND AVE., N.W.
WASHINGTON, D.C. 20005-3701

1 -- they were afraid of more negative information to the
2 industry then that might do finding information that
3 would be positive information.

4 In other words, they thought it was a risk
5 releasing -- doing any samples on their reactor vessel.
6 They thought it was a public relations risk and stuff.
7 Instead of, you know, saying, you know, we want the
8 honest truth.

9 We want all fundamental aspects of what
10 we're going out there in front of us. We want nothing
11 hidden. We want to see it all and then, you know, we
12 trust people to make the right decisions and stuff like
13 that.

14 It's only certain segments of a bureaucracy
15 decide on their own that hey, this is not good. I'm
16 going to hide this information and the rest of the
17 bureaucracy doesn't see that. That's when we lose
18 faith in the institution and all that sort of stuff.

19 So, like I said, the specimens are
20 important. I'd like to, as far as to get some of the
21 most vulnerable plants. I know there's 31 that have
22 these forgings as Belgium. I think, or is it 61? In
23 that document.

24 And so, there's a vulnerability of these
25 having these metallic flakes in the United States fleet.

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS
1323 RHODE ISLAND AVE., N.W.
WASHINGTON, D.C. 20005-3701

1 And so, that specimen, collect a specimen and a quick
2 ultrasonic test of one of these dead vessels to make --
3 too just, you know with a high ability to detect flaws.

4 Probably much higher than we're currently
5 doing now. Similar to the Belgium regulatory agency.
6 And if we get nervous finding flaws, then I'd like to,
7 you know, I think that proper thing to do is start
8 testing vulnerable reactors on a, you know, within six
9 months type of thing.

10 Again, I'd like to thank you for attending
11 this opportunity to speak. Thank you. I'm all done.

12 CHAIRMAN TAYLOR: Mr. Mulligan, this is
13 Rob Taylor. Thank you for taking the time and providing
14 those additional perspectives and thoughts for our
15 consideration.

16 So at this time what I want to do is ask if
17 there are any questions from staff here at Headquarters
18 or our office enforcement representative who's on the
19 phone, for Mr. Mulligan?

20 MR. CARPENTER: Yes, this is Rob
21 Carpenter. I was going to say -- this is Rob Carpenter.
22 I don't have any comments. But thanks Mr. Mulligan.

23 MR. MULLIGAN: Thank you. Thank you for
24 being here.

25 CHAIRMAN TAYLOR: Let me ask now, if the

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS
1323 RHODE ISLAND AVE., N.W.
WASHINGTON, D.C. 20005-3701

1 representatives from Region I and Region III have any
2 questions for Mr. Mulligan?

3 MR. HAMMANN: No questions from Region I.

4 MR. MEGHANI: No questions from Region
5 III.

6 CHAIRMAN TAYLOR: Thank you, Regions.
7 Lastly, I would like to ask if the Licensee
8 representative has any questions for Mr. Mulligan?

9 MR. CARPENTER: No questions.

10 CHAIRMAN TAYLOR: Thank you. With that,
11 Mr. Mulligan, the NRC would like to express its
12 appreciation for you taking the time to engage in the
13 2.206 process. And for taking the time today to provide
14 additional perspective and clarification on your
15 Petition.

16 We will move forward with our process and
17 evaluating your Petition to determine whether we need
18 to take any action.

19 With that I would like to ask the Court
20 Reporter if there is any additional information that you
21 need for the transcript?

22 COURT REPORTER: Yes. I was actually
23 wondering if I could get some spellings for a few of the
24 names of the participants on the call?

25 CHAIRMAN TAYLOR: Of course.

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS
1323 RHODE ISLAND AVE., N.W.
WASHINGTON, D.C. 20005-3701

1 COURT REPORTER: First, is it Ms. Khanna or
2 Connley? The Branch Chief of Operating Rental Agency?
3 Could you possibly spell your name?

4 MS. KHANNA: I'll provide you, but we can
5 do this offline if you'd like. I think we'll be happy
6 to get in touch with you if you'd like to do that.

7 CHAIRMAN TAYLOR: Is that acceptable?
8 We'll get you the spellings of all the participants.

9 COURT REPORTER: Oh, yes. That would be
10 very helpful.

11 CHAIRMAN TAYLOR: Okay.

12 COURT REPORTER: Aside from that, I only
13 had one question that was a technical term. Was it
14 potting damage or clotting damage?

15 CHAIRMAN TAYLOR: Cladding.

16 COURT REPORTER: Cladding damage. All
17 right, great. Okay, that was the only question aside
18 from the participants' names spellings.

19 CHAIRMAN TAYLOR: Okay. Well, we'll
20 reach out offline to get you those spellings.

21 COURT REPORTER: Excellent. Thank you.

22 CHAIRMAN TAYLOR: Thank you for your time
23 today. So with that, I'd like --

24 MR. MULLIGAN: Thank you.

25 CHAIRMAN TAYLOR: I'm sorry?

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS
1323 RHODE ISLAND AVE., N.W.
WASHINGTON, D.C. 20005-3701

1 MR. MULLIGAN: Thank you.

2 CHAIRMAN TAYLOR: All right. Thank you,
3 Mr. Mulligan. And we're going to conclude the meeting
4 now. Take care.

5 (Whereupon, the above-entitled matter went
6 off the record at 2:48 p.m.)

7

8

9

10

11

12

13

14

15

16

17

18

19

20

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS
1323 RHODE ISLAND AVE., N.W.
WASHINGTON, D.C. 20005-3701