

RAS 12357

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

ATOMIC SAFETY AND LICENSING BOARD

Before Administrative Judges:

Alex S. Karlin, Chairman
Dr. Anthony J. Baratta
Lester S. Rubenstein

DOCKETED
USNRC

October 12, 2006 (12:09pm))

OFFICE OF SECRETARY
RULEMAKINGS AND
ADJUDICATIONS STAFF

SERVED October 12, 2006

In the Matter of

ENERGY NUCLEAR VERMONT YANKEE
L.L.C.
and
ENERGY NUCLEAR OPERATIONS, INC.

(Vermont Yankee Nuclear Power Station)

Docket No. 50-271-OLA

ASLBP No. 04-832-02-OLA

October 12, 2006

ORDER

(Transmitting Redacted Version of Transcript from Proprietary Session)

On September 14, 2006, the Board held a closed session of the evidentiary hearing for the purpose of questioning witnesses about information in documents claimed to be proprietary by Entergy Nuclear Vermont Yankee L.L.C. and Entergy Nuclear Operations, Inc. (collectively, Entergy).¹ On September 27, 2006, we ordered Entergy to submit proposed redactions to the transcript of the proprietary session that would protect the proprietary information, and on October 4, 2006, Entergy did so. The Board adopts Entergy's proposal. A redacted version of

¹ No party challenged Entergy's claim that the documents were proprietary.

the transcript for the closed session is enclosed as an attachment to this order and shall be incorporated into the record.

It is so ORDERED.

FOR THE ATOMIC SAFETY
AND LICENSING BOARD²



Alex S. Karlin
ADMINISTRATIVE JUDGE

Rockville, Maryland
October 12, 2006

² Copies of this order were sent this date by Internet e-mail transmission to representatives for (1) licensees Entergy Nuclear Vermont Yankee L.L.C., and Entergy Nuclear Operations, Inc.; (2) intervenor New England Coalition of Brattleboro, Vermont; and (3) the NRC Staff.

**Official Transcript of
Proceedings {PRIVATE }**

**NUCLEAR
COMMISSION**

REGULATORY

Title: Hearing ITMO Entergy Nuclear
PROPRIETARY SESSION

Docket Number: 50-271-OLA; ASLBP No.: 04-832-
02-OLA

Location: Newfane, Vermont

Date: Thursday, September 14, 2006

Work Order No.: NRC-1247

Pages 1579-16

1323 Rhode Island Avenue, N.W.
Washington, D.C. 20005
(202) 234-4433

1 UNITED STATES OF AMERICA

2 NUCLEAR REGULATORY COMMISSION

3 + + + + +

4 ATOMIC SAFETY AND LICENSING BOARD PANEL

5 + + + + +

6 HEARING

7 -----x

8 In the Matter of: :

9 ENTERGY NUCLEAR VERMONT :

10 YANKEE L.L.C. and : Docket No. 50-271-OLA

11 NUCLEAR OPERATIONS INC., : ASLBP No. 04-832-02-OLA

12 (Vermont Yankee Nuclear : :

13 Power Station) : :

14 -----x

15 Thursday, September 14, 2006

16
17 The above-entitled hearing was convened,
18 pursuant to notice, at 2:00 p.m. at the Windham County
19 Superior Court, 2nd floor Courtroom, 7 Court Street,
20 Newfane, Vermont.

21 BEFORE:

22 ALEX S. KARLIN, Chair

23 ANTHONY J. BARATTA Administrative Judge

24 LESTER S. RUBENSTEIN Administrative Judge

25
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1 APPEARANCES:

2 On Behalf of the Licensee:

3 MATIAS E. TRAVIESO-DIAZ, ESQ.

4 SCOTT VANCE, ESQ.

5 of: Pillsbury Winthrop Shaw Pittman

6 2300 N Street, N.W.

7 Washington, DC 20037

8 (202) 663-8142

9
10 On Behalf of the Nuclear Regulatory Commission:

11 SHERWIN E. TURK, ESQ.

12 STEVEN C. HAMRICK, ESQ.

13 of: Office of the General Counsel

14 U.S. Nuclear Regulatory Commission

15 Mail Stop O-15D21

16 Washington, DC 20555

17 (301) 415-1533

18
19
20 ALSO PRESENT:

21 MARCIA CARPENTIER, ESQ., ASLBP Staff

22
23
24
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I-N-D-E-X

EXAMINATION

EXAMINATION BY THE LICENSING BOARD PANEL OF:

CRAIG NICHOLS and JOSE CASILLAS.....1581

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1:56 p.m.

CHAIR KARLIN: We are now in the confidential proprietary session of the hearing on the uprate for Entergy's application for the uprate. We'd like to call to the stand the Entergy witnesses again, please, Mr. Casillas and Mr. Nichols.

(Pause.)

CHAIR KARLIN: Let me once again remind you that you're under oath and please remember that as we ask you these questions. Okay. Judge Baratta?

ADMINISTRATIVE JUDGE BARATTA: Okay. In reading the constant pressure power uprate document I was a little bit confused about a couple of statements that appeared in there.

And really what I was confused about was that the -- it appeared -- and it may be my misreading of it, so bear with me -- that it talked about doing

And it also talked about doing
Could you maybe describe that a little bit and help clarify my understanding?

WITNESS CASILLA:

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[REDACTED]

And so, every time the plant is refueled a limited set of FSAR cases are directly calculated using the projected fuel characteristics of the next fuel cycle. And so, that is done all the time.

ADMINISTRATIVE JUDGE BARATTA: And that's normally what's done regardless of whether it's an uprate or --

WITNESS CASILLA: That is correct.

ADMINISTRATIVE JUDGE BARATTA: Yes.

WITNESS CASILLA: And certainly if there is a change of some -- there is actually quite often changes made to the plant that do not involve any kind of a licensing action.

ADMINISTRATIVE JUDGE BARATTA: Right.

WITNESS CASILLA: Positions, characteristics, positions of valves, characteristics, and so on. And so, all of that is updated as well as set points.

ADMINISTRATIVE JUDGE BARATTA: What I'm referring to is page five where it reads, for the record, it reads that the [REDACTED]

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WITNESS CASILLA: Correct.

ADMINISTRATIVE JUDGE BARATTA: See that there?.

CHAIR KARLIN: What document?

ADMINISTRATIVE JUDGE BARATTA: I'm sorry, that is the CPPU update.

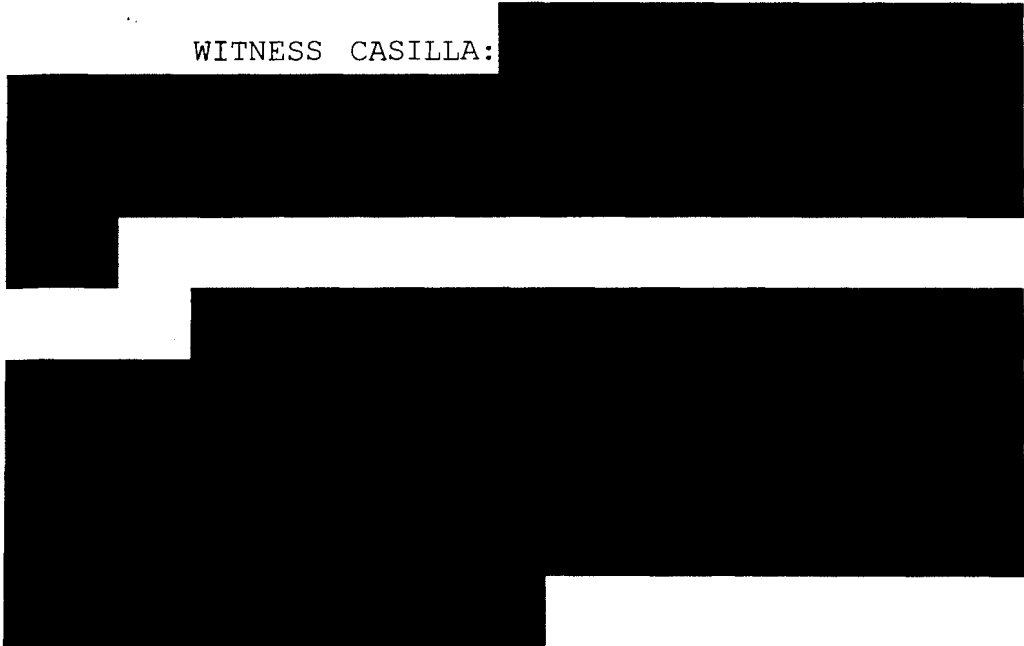
WITNESS CASILLA: Correct.

ADMINISTRATIVE JUDGE BARATTA: And that is - - sorry, the exhibit number escapes.

WITNESS NICHOLS: Entergy Exhibit 30.

WITNESS CASILLA: Yes, Entergy Exhibit 30.

CHAIR KARLIN: All right, great.



And they're going to be factored into the

1 specific calculation of the cycle when it comes up in
2 the future. And, as you can tell, you know, the EPU
3 process takes quite a long time.

4 [REDACTED]
5 [REDACTED]
6 [REDACTED]
7 [REDACTED]
8 [REDACTED]
9 [REDACTED]
10 [REDACTED]

11 ADMINISTRATIVE JUDGE BARATTA: Okay.

12 WITNESS CASILLA: However, other parts that
13 would -- go ahead.

14 ADMINISTRATIVE JUDGE BARATTA: Well, I
15 wanted to, other parts wouldn't --

16 WITNESS CASILLA: Correct.

17 ADMINISTRATIVE JUDGE BARATTA: -- for
18 example, be included. Could you be specific as to --

19 WITNESS CASILLA: What is done?

20 ADMINISTRATIVE JUDGE BARATTA: [REDACTED]
21 [REDACTED]
22 [REDACTED]

23 WITNESS CASILLA: Yes.

24 ADMINISTRATIVE JUDGE BARATTA: Was there
25 anything in connection -- specifically, was there

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1 anything in connection with an MSIV or a --

2 WITNESS CASILLA: Yes. The MSIV
3 overpressure -- excuse me.

4 CHAIR KARLIN: Pardon me.

5 (Audience interruption.)

6 WITNESS CASILLA: [REDACTED]

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16 ADMINISTRATIVE JUDGE BARATTA: Okay, and
17 what about the turbine trip?

18 WITNESS CASILLA: The turbine trip and the
19 load rejections are -- [REDACTED]

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22 ADMINISTRATIVE JUDGE BARATTA: All right.

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24 WITNESS CASILLA: [REDACTED]

25 ADMINISTRATIVE JUDGE BARATTA: Now, and they

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have been done now?

WITNESS CASILLA: Oh yes.

ADMINISTRATIVE JUDGE BARATTA:

[REDACTED]

WITNESS CASILLA:

[REDACTED]

ADMINISTRATIVE JUDGE BARATTA: I gather the specific difference that we would see at Vermont Yankee is the degree of bypass. Well, of course, that doesn't come into play there.

WITNESS CASILLA: Exactly.

ADMINISTRATIVE JUDGE BARATTA: I'm sorry, forget that question.

WITNESS CASILLA:

[REDACTED]

ADMINISTRATIVE JUDGE BARATTA:

[REDACTED]

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[REDACTED]

WITNESS CASILLA:

ADMINISTRATIVE JUDGE BARATTA: Without
bypasses.

WITNESS CASILLA: Correct.

ADMINISTRATIVE JUDGE BARATTA: Right. Okay.

Let me see if I have anything more on that. Just
bear with me for a second

ADMINISTRATIVE JUDGE RUBENSTEIN: Can I ask
an intervening question?

WITNESS CASILLA: Sure, please.

ADMINISTRATIVE JUDGE RUBENSTEIN: This is
nothing related. It seems to me you operate on the
power of flow curve and you have rod positions. And
the thrust of the question is the hydraulic stability
issue.

Under EPU conditions are you going to
operate differently? Do you have a different regime
on startup to follow the curve? Or is it essentially
the same?

WITNESS CASILLA: Well, the region of low
stability margin happens to increase slightly for EPU.

But the practice of starting up and avoiding the
regions is the same.

ADMINISTRATIVE JUDGE RUBENSTEIN: The

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1 methodology is the same and the rationale?

2 WITNESS CASILLA: Correct. Yes, the
3 rationale is the same. And they will avoid it in
4 startups.

5 ADMINISTRATIVE JUDGE RUBENSTEIN: I was
6 wondering if it really shifted the curve. And not
7 really.

8 WITNESS CASILLA: It shifts it very small
9 amount because the fuel design, in order to have the
10 core operate at the 120, as you would imagine, is a
11 little more reactive.

12 And so, it will tend to indirectly affect
13 the stability margins.

14 ADMINISTRATIVE JUDGE RUBENSTEIN: So you do
15 this with a larger burnable poison load?

16 WITNESS CASILLA: A lot more, right.

17 ADMINISTRATIVE JUDGE RUBENSTEIN: A lot more
18 than this?

19 WITNESS CASILLA: Yes, because --

20 ADMINISTRATIVE JUDGE RUBENSTEIN: Are you
21 using lithium?

22 WITNESS CASILLA: Excuse me?

23 ADMINISTRATIVE JUDGE RUBENSTEIN: Are you
24 using lithium oxide? What do you use?

25 WITNESS CASILLA: No just gadolinium.

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ADMINISTRATIVE JUDGE RUBENSTEIN: Oh,

gadolinium.

WITNESS CASILLA: Yes.

ADMINISTRATIVE JUDGE RUBENSTEIN: Okay.

ADMINISTRATIVE JUDGE BARATTA: Yes, I guess what we just talked about is there, just for the record so we know where it is, on page six of the CPU document, the Exhibit that we already cited.

There's a statement that appears towards the top of that page, about the middle of the second paragraph,

[REDACTED]

WITNESS CASILLA: Yes.

ADMINISTRATIVE JUDGE BARATTA: That would be the --

WITNESS CASILLA:

[REDACTED]

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ADMINISTRATIVE JUDGE BARATTA: Okay. The CPPU approach, referring to page eight, is achieved by just increasing the overall core, thermal power and flow. Is that through the core?

WITNESS CASILLA: Which? Where is it?

ADMINISTRATIVE JUDGE BARATTA: I lost my space, sorry.

ADMINISTRATIVE JUDGE RUBENSTEIN: I think the question speaks for itself.

WITNESS CASILLA: What is the question?

ADMINISTRATIVE JUDGE BARATTA: According to this document, the increase is achieved. First you don't increase the pressure.

WITNESS CASILLA: Correct.

ADMINISTRATIVE JUDGE BARATTA: What you do though is you increase the core power.

WITNESS CASILLA: Correct.

ADMINISTRATIVE JUDGE BARATTA: Obviously. And you also increase the core flow. Is that correct?

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1 WITNESS CASILLA: Well, increase it in an --
2 not in an absolute sense, but in an average sense, if
3 you will. If I may draw a picture, I can.

4 ADMINISTRATIVE JUDGE RUBENSTEIN: You can
5 just draw it. You increase the heat generation rate

6 WITNESS CASILLA: This is showing what I can
7 graph here, what we call the operating plant. Power,
8 that's a function of flow. And I can put here the 100
9 percent and 100 percent value, which is where the
10 plant currently operates.

11 And I can put here 120, 100 percent where
12 the plant will operate after the uprate. And we have,
13 if you will, a normal what we call minimum flow
14 characteristic and then an increase in flow.

15 And I'll just draw here. The plant will
16 follow this path to reach the 100 percent power, being
17 able to operate at low flow and at high flow and
18 having this boundary here of operatin, which we call a
19 rod line.

20 So when they operate now up here, they are
21 limited to this boundary also. This boundary has
22 approximately constant Boyd fraction. And so the
23 characteristics are very, very similar.

24 Ass you increase flow you increase power. And so
25 the balance is -- so this is -- so you do increase

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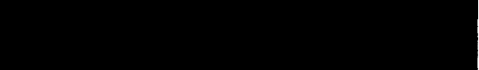

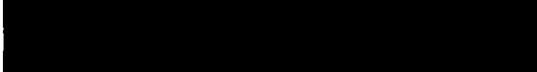
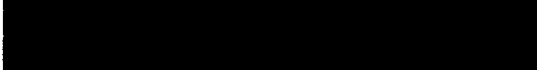
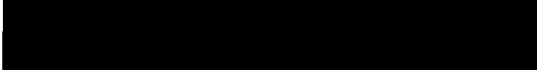







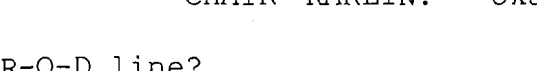

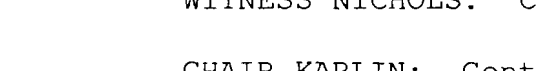
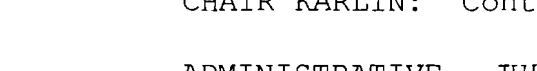
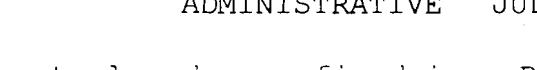
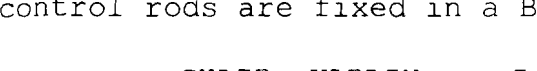
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1 flow along with power. But you're not allowed to
2 operate in this region.

3 So you have lost, if you will, some
4 flexibility of operation.

5 ADMINISTRATIVE JUDGE BARATTA: Is that how
6 your minimum power to flow ratio if you went below the
7 rod line?

8 WITNESS CASILLA: 
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13 CHAIR KARLIN: May I ask a clarifying
14 question?

15 WITNESS CASILLA: Yes.

16 CHAIR KARLIN: You referred to that as the
17 rod line.

18 WITNESS CASILLA: Correct.

19 CHAIR KARLIN: Okay, how is that spelled?
20 R-O-D line?

21 WITNESS NICHOLS: Control line.

22 CHAIR KARLIN: Control line, okay.

23 ADMINISTRATIVE JUDGE RUBENSTEIN: Your
24 control rods are fixed in a BWR.

25 CHAIR KARLIN: I just wanted the Court

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1 Reporter to be able to get that down.

2 ADMINISTRATIVE JUDGE RUBENSTEIN: Oh, okay.

3 Sorry.

4 MR. TRAVIESO-DIAZ: Mr. Chairman, I hate to
5 do this to my own witness. But, could you ask Mr.
6 Casillas to summarize in words if he can what he
7 described to you graphically so it will be on the
8 record?

9 CHAIR KARLIN: Yes, I think that would be a
10 good idea. Could you? The Court Reporter, that's not
11 going to be in the evidence. So, could you describe
12 in words something that will appear in a narrative.

13 WITNESS CASILLA: Yes. What I have made is
14 an illustration of what is called the power to flow
15 operating map for a boiling water reactor. And it
16 illustrates how when the reactor increases power on a
17 constant rod line it maintains its characteristics
18 constant.

19 That is, it does not increase in Boyd while
20 it increases in power.

21 ADMINISTRATIVE JUDGE BARATTA: What I was
22 referring to was the statement, by the way, that
23 appears along page nine that briefly describes the CPU
24 approach. Again, that's that same reference where it
25 says the CPPU approach to power uprate by increasing

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1 core power density to core thermal power increase.

2 I want to get the details of that in light
3 of what you said about the core flow yesterday. I
4 think you may have answered that.

5 ADMINISTRATIVE JUDGE RUBENSTEIN: And not
6 necessarily germane to the EPU, but I'll ask it
7 anyway. You alluded to the fact that you're trying to
8 negotiate a way from your creepings up the power flow
9 curve to crossing the BWR stability columns. Are
10 you saying you now, for my identification, you now
11 know what the problem is a little better and how to
12 avoid it?

13 WITNESS CASILLA: The problem?

14 ADMINISTRATIVE JUDGE RUBENSTEIN: Yes.

15 WITNESS CASILLA: What problem?

16 ADMINISTRATIVE JUDGE RUBENSTEIN: The EPR
17 stability.

18 WITNESS CASILLA: Well --

19 ADMINISTRATIVE JUDGE RUBENSTEIN: You know,
20 that's why you're creeping up the power flow curve.
21 Do you want to answer it?

22 WITNESS CASILLA: No, the -- certainly the
23 loss of core flow range is an important flexibility
24 that boiling water reactors need to operate
25 efficiently.

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1 And so, we're in the process of restoring
2 that range. But restoring that range involves a lot
3 of technical challenges.

4 ADMINISTRATIVE JUDGE RUBENSTEIN: And you
5 had --

6 WITNESS CASILLA: And one of them is
7 stability.

8 ADMINISTRATIVE JUDGE RUBENSTEIN: -- little
9 piece of insight that -- we can move on.

10 ADMINISTRATIVE JUDGE BARATTA: Going to page
11 12, there was a statement that I was curious as to
12 what is meant by that. Just prior to section 1.6
13 conclusions there's a statement that appears at the
14 very end of that paragraph.

15 And I don't know what this refers to. It
16 says this is a difference in approach from previous
17 power uprate submittals. Could you explain what
18 that's referring to?

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(Pause.)

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WITNESS CASILLA: This part of the NRC's

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1 conclusion. [REDACTED]

2 [REDACTED]

3 [REDACTED]

4 [REDACTED]

5 [REDACTED]

6 [REDACTED]

7 [REDACTED]

8 [REDACTED]

9 [REDACTED]

10 [REDACTED]

11 [REDACTED]

12

ADMINISTRATIVE JUDGE BARATTA: Okay. I just didn't quite understand what this was referring to.

13

14

WITNESS CASILLA: Right.

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ADMINISTRATIVE JUDGE BARATTA: I think you already answered that one. And that one too. I think that's probably all I had on Entergy Exhibit 30P. Do you have any?

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ADMINISTRATIVE JUDGE RUBENSTEIN: Just an understanding EPU. Is your MAPLHGR the same?

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WITNESS CASILLA: Yes.

22

CHAIR KARLIN: What?

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ADMINISTRATIVE JUDGE RUBENSTEIN: Mass of average heat in linear heat generation range. It's a term of --

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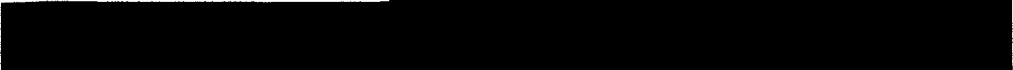
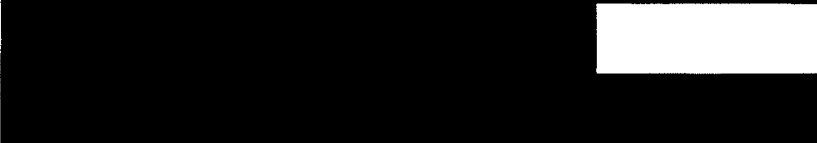
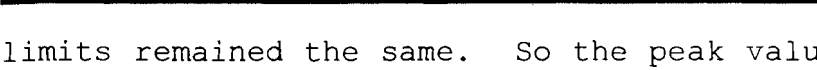
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1 CHAIR KARLIN: Well, what's the acronym?

2 ADMINISTRATIVE JUDGE RUBENSTEIN: M-A-P-L-H-
3 G-R.

4 ADMINISTRATIVE JUDGE RUBENSTEIN: Okay,
5 that's the same. But your average linear heat
6 generation over the axial portion of a fuel rod is
7 increased a little bit.

8 WITNESS CASILLA: Yes, the MAPLHGR value,
9 sorry, the limit is derived from a loss of coolant
10 accident analysis. 

11 
12 
13  So the
14 limits remained the same. So the peak value that the
15 NE-1 node in the core is allowed to operate. It
16 remains unchanged while the average increases.

17 And so, EPU requires a lot more control on
18 peaking designing the core with flatter peaking.

19 ADMINISTRATIVE JUDGE RUBENSTEIN: So your
20 heat flux over the full length of a rod is increased a
21 little bit?

22 WITNESS CASILLA: If it's a peak rod.

23 ADMINISTRATIVE JUDGE RUBENSTEIN: Not the
24 peak.

25 WITNESS CASILLA: Yes, on the average it is.

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1 ADMINISTRATIVE JUDGE RUBENSTEIN: Yes. I'm
2 just trying to get a feel for how you achieved the
3 power density increase. I didn't read the sales
4 brochure.

5 WITNESS CASILLA: Okay.

6 ADMINISTRATIVE JUDGE RUBENSTEIN: Thank you.

7 ADMINISTRATIVE JUDGE BARATTA: Okay. If we
8 could turn to, I believe it's exhibit 32P,
9 qualification of one dimensional core transient model
10 ODYN for boiling water reactor, supplement one, volume
11 four.

12 WITNESS NICHOLS: Volume four?

13 ADMINISTRATIVE JUDGE BARATTA: Yes, volume
14 four.

15 WITNESS NICHOLS: Exhibit 32?

16 ADMINISTRATIVE JUDGE BARATTA: Thirty-two,
17 yes.

18 CHAIR KARLIN: Thirty-two P?

19 ADMINISTRATIVE JUDGE BARATTA: Yes. I think
20 you said yesterday in this volume there was a
21 comparison of ODYN calculations to MSIV closure.

22 WITNESS CASILLA: No.

23 ADMINISTRATIVE JUDGE BARATTA: Sorry.

24 WITNESS CASILLA: No, this was to flow, MSIV
25 closure being a pressure transient. It was the basis

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1 for approval for pressure transient, given by the
2 qualification to the three Peach Bottom tests.

3 ADMINISTRATIVE JUDGE BARATTA: Right.

4 WITNESS CASILLA: This volume extends the,
5 was provided in support of qualifying OLYN to non
6 pressurization transients such as flow related
7 transients and others level inventory. And so this
8 provides that qualification.

9 ADMINISTRATIVE JUDGE BARATTA: All right, I
10 see. Okay.

11 WITNESS CASILLA: There is an internal GE
12 report which we provided that includes a comparison to
13 an MSIV closure. And that's the one that we --

14 ADMINISTRATIVE JUDGE BARATTA: Okay, is that
15 an exhibit?

16 WITNESS CASILLA: Yes, that's an exhibit.

17 ADMINISTRATIVE JUDGE BARATTA: Okay. I must
18 have misunderstood you as to what exhibit it was.

19 WITNESS CASILLA: It's Exhibit 34.

20 WITNESS NICHOLS: Thirty-four P.

21 ADMINISTRATIVE JUDGE BARATTA: Thirty-four?

22 WITNESS CASILLA: Yes. Is that the entitled
23 qualification of the OLYN -- I assume MO means mod
24 five.

25 WITNESS CASILLA: Actually, the M and the V

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1 that proceed 05 are internal nomenclatures that
2 indicate M is for motor recirculation, variable motor
3 speed recirculation in BWRs.

4 And V is for valve flow control
5 recirculation plants. So this is for ODYN version
6 '05.

7 ADMINISTRATIVE JUDGE BARATTA: Okay.

8 CHAIR KARLIN: Try to speak up if you could,
9 please.

10 WITNESS CASILLA: Okay.

11 CHAIR KARLIN: I just wanted to confirm that
12 it was the same document I was looking at. Could you
13 briefly point me to the comparisons and maybe just
14 very briefly summarize them that would be pertinent to
15 the discussion?

16 WITNESS CASILLA: Yes. I will take your
17 attention to table 1-1 in page 1-2.

18 ADMINISTRATIVE JUDGE BARATTA: Okay, table
19 1-1. That's a summary of the qualification cases.

20 WITNESS CASILLA: Yes. So this is a series
21 of cases by which we are qualifying internally this
22 new model. And the very first on is a Hatch MSIV
23 closure case.

24 And in there we say the key parameters, the
25 objectives for this, using this test, is the dome

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1 pressure and the water level. And so, the comparison
2 to that --

3 ADMINISTRATIVE JUDGE BARATTA: And that's
4 because of an MSIV closure, those are the two critical
5 --

6 WITNESS CASILLA: Correct, yes. The power
7 doesn't go anywhere. So you will see that in pages 2-
8 2 and 2-3.

9 ADMINISTRATIVE JUDGE BARATTA: Okay, on page
10 2-2, this is a plot of the dome pressure versus time.
11 And the test data is the solid line, is that correct?

12 WITNESS CASILLA: The test data is the solid
13 line, correct.

14 ADMINISTRATIVE JUDGE BARATTA: Okay. And
15 then there's two ODYN results.

16 WITNESS CASILLA: Yes, one is '05 and the
17 other one is '06.

18 ADMINISTRATIVE JUDGE BARATTA: Okay. So I
19 assume in the -- is it -- could you describe the
20 difference between those two?

21 WITNESS CASILLA: Models?

22 ADMINISTRATIVE JUDGE BARATTA: As far as the
23 importance of this transient.

24 WITNESS CASILLA: Yes, this version was
25 being derived to improve the water level predictions.

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1 And the key to the water level prediction had to do
2 with the annulus modeling.

3 So we wanted to add more nodes there and be
4 able to capture the level more discrete set of nodes.

5 And, as an improvement of that, also it has improved
6 the back end of the pressure rise as we briefly
7 discussed earlier.

8 And so, in fact, you can see that the
9 pressure of the new code, of the '05 code is an
10 improvement over the '06.

11 ADMINISTRATIVE JUDGE BARATTA: The other way
12 around, isn't it? It looks like it's over '05.

13 WITNESS CASILLA: Right.

14 ADMINISTRATIVE JUDGE BARATTA: I know the
15 numbers look the sae.

16 WITNESS CASILLA: I know.

17 ADMINISTRATIVE JUDGE BARATTA: Okay. In
18 figure 2-2, could you describe what --

19 WITNESS CASILLA: Yes, figure 2-2 is the
20 water level comparison.

21 ADMINISTRATIVE JUDGE BARATTA: Now, what --
22 well, is this in the core region? Is it collapsed?
23 Is it a mixture?

24 WITNESS CASILLA: No, this is the two phase,
25 what we believe is the two phase mixture.

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1 ADMINISTRATIVE JUDGE BARATTA: Okay, two
2 phase mixture level.

3 WITNESS CASILLA: Two phase mixture in the
4 annulus, right.

5 ADMINISTRATIVE JUDGE BARATTA: Oh, in the
6 annulus, okay.

7 WITNESS CASILLA: Correct, measured, the
8 measured level. And so, we have the measured in the
9 predicted. And that's the comparison.

10 ADMINISTRATIVE JUDGE BARATTA: Did you
11 attempt to make any -- did you make any attempts to
12 model the level instrumentation? Because there is a
13 disparity between even the later version of the code
14 and the earlier version, between the later version of
15 the code and the test data that is not insignificant.

16 WITNESS CASILLA: 
17 
18 
19 
20 

21 So this is the instrument as we believe it
22 existed in the plant.

23 ADMINISTRATIVE JUDGE BARATTA: Okay. So you
24 did try to model the instrumentation then?

25 WITNESS CASILLA: Correct, it's all in

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1 there.

2 ADMINISTRATIVE JUDGE BARATTA: Okay.

3 WITNESS CASILLA: The level has always
4 presented challenges.

5 ADMINISTRATIVE JUDGE BARATTA: I understand.

6 I won't go any further with that. Okay. So, based
7 on that, your conclusion for -- what you were doing
8 was a developmental assessment, I guess is what we'll
9 call it.

10 WITNESS CASILLA: Correct.

11 ADMINISTRATIVE JUDGE BARATTA: For this
12 particular as opposed to --

13 WITNESS CASILLA: Version.

14 ADMINISTRATIVE JUDGE BARATTA: -- licensing
15 arena type of assessment, is that correct?

16 WITNESS CASILLA: Yes, and of course, in the
17 case of the MSIV design event, the pressure is the
18 more pertinent parameter for application.

19 ADMINISTRATIVE JUDGE BARATTA: Because, even
20 though the tracking level was not as good as one would
21 like, you're still, I assume, at these levels well
22 above the top of active --

23 WITNESS CASILLA: Oh yes, significantly,
24 right.

25 ADMINISTRATIVE JUDGE BARATTA: And, Mr.

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1 Nichols, do you know, are these the same Hatch
2 transients that were discussed in the LERs, or maybe -
3 - either one of you. I'm not sure.

4 WITNESS NICHOLS: I don't believe so.

5 WITNESS CASILLA: No, this MSIV closure is
6 the cycle one Hatch test. It was not an unplanned
7 event. It was a --

8 WITNESS NICHOLS: This was not an EPU event.
9 It was from 1983.

10 ADMINISTRATIVE JUDGE BARATTA: Okay. All
11 right. I think that's it.

12 CHAIR KARLIN: All right, that's it then.
13 Okay. Thank you. You all may step down.

14 (Pause.)

15 CHAIR KARLIN: All right, we are completing
16 this session, the proprietary session. It's less than
17 an hour. So I think that worked pretty well. And we
18 appreciate the witnesses' patience on this.

19 ADMINISTRATIVE JUDGE BARATTA: Do you want
20 to give them ten minutes to see if they have any
21 questions that they would ask? We said we would.

22 CHAIR KARLIN: Well, I guess we did. We did
23 say that if there were any follow-up questions that
24 you would like to suggest that we ask arising from the
25 questions we just asked.

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1 MR. TRAVIESO-DIAZ: I don't believe so.

2 MR. TURK: No, Your Honor.

3 CHAIR KARLIN: All right. Thank you. I'm
4 sorry. I did want to give you that opportunity. You
5 can take a break if you wanted to think about it.
6 But, I think if we can proceed, that's great.

7 What we'll do now is break and re-convene at
8 ten of. That's about an hour. Ten of three we will
9 reconvene. That's 20 minutes. That's a goodly amount
10 of time.

11 And we'll finish up, hopefully for the day
12 at that time. So, okay. Thank you. We will adjourn
13 at this time.

14 (Whereupon, at 2:34 p.m. the above-entitled
15 matter was concluded.)

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UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

In the Matter of)
)
ENTERGY NUCLEAR VERMONT YANKEE L.L.C.) Docket No. 50-271-OLA
and ENTERGY NUCLEAR OPERATIONS, INC.)
)
)
)
(Vermont Yankee Nuclear Power Station))

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Office of Commission Appellate
Adjudication
U.S. Nuclear Regulatory Commission
Washington, DC 20555-0001

Administrative Judge
Alex S. Karlin, Chair
Atomic Safety and Licensing Board Panel
Mail Stop - T-3 F23
U.S. Nuclear Regulatory Commission
Washington, DC 20555-0001

Administrative Judge
Anthony J. Baratta
Atomic Safety and Licensing Board Panel
Mail Stop - T-3 F23
U.S. Nuclear Regulatory Commission
Washington, DC 20555-0001

Administrative Judge
Lester S. Rubenstein
4270 E Country Villa Drive
Tucson, AZ 85718

Sherwin E. Turk, Esq.
Steven C. Hamrick, Esq.
Office of the General Counsel
Mail Stop - O-15 D21
U.S. Nuclear Regulatory Commission
Washington, DC 20555-0001

Raymond Shadis
New England Coalition
P.O. Box 98
Edgecomb, ME 04556

Docket No. 50-271-OLA
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TRANSCRIPT FROM PROPRIETARY SESSION)

John M. Fulton, Esq.
Assistant General Counsel
Entergy Nuclear Operations, Inc.
440 Hamilton Avenue
White Plains, NY 10601

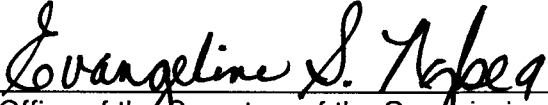
Anthony Z. Roisman, Esq.
National Legal Scholars Law Firm
84 East Thetford Rd.
Lyme, NH 03768

Jonathan M. Rund, Esq.
Law Clerk
Atomic Safety and Licensing Board Panel
Mail Stop - T-3 F23
U.S. Nuclear Regulatory Commission
Washington, DC 20555-0001

Sarah Hofmann, Esq.
Special Counsel
Department of Public Service
112 State Street - Drawer 20
Montpelier, VT 05620-2601

Jay E. Silberg, Esq.
Matias F. Travieso-Diaz, Esq.
Scott A. Vance, Esq.
Pillsbury Winthrop Shaw Pittman LLP
2300 N Street, NW
Washington, DC 20037-1128

Terence A. Burke, Esq.
Associate General Counsel
Entergy Services, Inc.
1340 Echelon Parkway
Jackson, MS 39213


Office of the Secretary of the Commission

Dated at Rockville, Maryland,
this 12th day of October 2006