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STATE OF VERMONT

2 PUBLIC SERVICE BOARD

3

4 DOCKET NUMBER 7440

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6 PETITION OF ENTERGY NUCLEAR VERMONT YANKEE, LLC, AND ENTERGY NUCLEAR OPERATIONS, INC., FOR

7 AMENDMENT TO THEIR CERTIFICATES OF PUBLIC GOOD AND OTHER APPROVALS REQUIRED UNDER 10 V.S.A. SECTIONS

8 6501-6504 AND 30 V.S.A. SECTIONS 231(a), 248, & 254, FOR AUTHORITY TO CONTINUE AFTER MARCH 21, 2012,

9 OPERATION OF THE VERMONT YANKEE NUCLEAR POWER STATION, INCLUDING THE STORAGE OF SPENT-NUCLEAR

10 FUEL.

11

May 26, 2009

12 10:10 a.m.

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13 112 State Street

Montpelier, Vermont

14

EXHIBIT 2

15

16 Technical Hearing held before the Vermont Public Service Board, at the Third Floor Hearing Room,

17 Chittenden Bank Building, 112 State Street, Montpelier, Vermont, on May 26, 2009, beginning at 10:10 a.m..

18

19 P R E S E N T

20 BOARD MEMBERS: James Volz, Chairman

David C. Coen

21 John D. Burke

22

23 CAPITOL COURT REPORTERS, INC.

P.O. BOX 329

24 BURLINGTON, VERMONT 05402-0329

(802) 863-6067

25 (802) 879-4736 (Fax)

0002

1 STAFF MEMBERS: Kurt Janson, Esquire

George Young, Esquire

2 Jay Dudley

3 A P P E A R A N C E S

4 SARAH HOFMANN, ESQUIRE

JOHN COTTER, ESQUIRE

5 Appearing for the Department of Public Service

112 State Street

6 Montpelier, VT 05620-2601

7 DOWNS RACHLIN MARTIN, PLLC

Appearing for the Petitioners

8 P.O. Box 99

St. Johnsbury, VT 05819-0099

9 BY: JOHN H. MARSHALL, ESQUIRE

ROBERT A. MILLER, ESQUIRE

10 BARCLAY JOHNSON, ESQUIRE

11 SHEEHEY, FURLONG & BEHM, PC

Appearing for Green Mountain Power Corporation

12 P.O. Box 66

Burlington, VT 05402-0066

13 BY: PETER H. ZAMORE, ESQUIRE

14 KENNETH C. PICTON, ESQUIRE

Appearing for Central Vermont Public Service Corp.

15 77 Grove Street

Rutland, VT 05701

16

JAMES MATTEAU, EXECUTIVE DIRECTOR

17 Appearing for the Windham Regional Commission

139 Main Street, Suite 505

18 Brattleboro, VT 05301

19 JARED M. MARGOLIS, ESQUIRE

Appearing for New England Coalition, d/b/a

20 New England Coalition - Opposing Nuclear Pollution

151 Cilley Hill Road

21 Jericho, VT 05465

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1 degradation because of wear of internal components,

2 bearings, rotating elements, certainly seals, and require

3 periodic replacement or refurbishment.

4 Q. What about the condenser, that's something

5 that has been discussed as being in need of retubing or

6 replacement, is that part of aging management?

7 A. It is. The condenser has not been replaced on

8 the life of the plant. We do predictive inspections

9 during the refuel outages to assess the condition of it.

10 We do periodic tube plugging if we see any indications of

11 leakage, and so, yes, a condenser would be one of those

12 things we watch in an aging management program.

13 Q. And reactor vessel embrittlement which we

14 discussed before, that's something also dealing with aging
15 management?
16 A. Yes, it would be.
17 Q. What about things like bolt integrity or
18 fatigue monitoring, are those also issues with aging?
19 A. Bolt integrity would be. That's, again, we
20 have processes in place for bolting and equipment to do
21 inspections when we do disassembly. So that would be
22 something that would be -- usually that's more
23 attributable to loosening and tightening continuously than
24 just aging in place, but, yes, it would be something like
25 that.

0105

1 Q. I just want to make sure we understand it's
2 not just pumps and motors. There's larger issues
3 regarding reliability as plants age; is that correct?
4 A. My intent was to give an example, not an
5 extensive list of things we watch. Again, that's -- we
6 watch many, many systems and components in the plant as
7 part of ongoing maintenance which is intended to, amongst
8 other things, to be aware of the effects of aging.
9 Q. Does Entergy Nuclear Vermont Yankee have a
10 comprehensive aging management program?

11 A. Yes. As I described earlier and to be
12 enhanced with license renewal, we do -- we do continual --
13 continuous monitoring of equipment, and I described some
14 of the types of equipment we look at; motors, pumps, you
15 know, many types of active components, and also passive
16 components to ensure we understand the effects of aging of
17 the plant.
18 Another example would be our flow accelerated
19 corrosion program. We are always monitoring pipe
20 conditions to ensure they are good for continued operation
21 and reliability. So I would say, yes, we do have a
22 comprehensive aging management program.
23 Q. Can you turn to page 65 of the NSA report?
24 And under aging management programs the second paragraph
25 of that section starts out by saying; as part of its
0106
1 application to the NRC for license renewal, ENVY committed
2 to implement a comprehensive aging management program
3 consistent with the GALL report of 2012. So that would
4 indicate to me that there is no comprehensive aging
5 management program in place right now. Can you please
6 explain that inconsistency?
7 A. Yeah. As part of license renewal we've

8 committed to the NRC to put many, I guess, enhanced
9 programs in place, one-time inspections to ensure the
10 condition of components out there. That those are
11 commitments we made and they are monitored by the NRC.
12 Q. I don't think that answers the question. Is
13 there an aging management program in place right now or
14 are you still promising to do it by 2012?
15 A. We -- you know, we don't have on the shelf
16 something you would pull off and call aging management
17 program, but our maintenance programs are intended to
18 monitor for aging. So we will have this program in place
19 as committed, but it's not to say we don't do many things
20 now.
21 I guess I'm not quite sure what question I was
22 answering, but we do monitor for aging effects on the
23 plant right now.
24 Q. But to be clear there's no comprehensive aging
25 management program in place right now something that you
0107
1 would call --
2 A. That is correct. We need to put that program
3 as titled for the NRC.
4 Q. So this Board would have to make a decision

5 regarding an extended license without having that
6 completed aging management program in hand?
7 A. That is correct.
8 Q. What is the GALL report anyway?
9 A. I'm sorry. Would you ask that --
10 Q. Yes. What is the GALL report that's referred
11 to there aging -- the Generic Aging Lessens Learned
12 report? Can you give us some background on that?
13 A. I'm not familiar with that particular report.
14 Q. But it's referenced in here as the fact that
15 your comprehensive aging management program will be
16 consistent with the GALL report, correct?
17 A. Correct. Could you tell me where you're
18 reading from this?
19 Q. The same place we were just reading from, the
20 second paragraph under aging management programs on page
21 65.
22 A. Yes.
23 Q. But you're not quite sure what the GALL report
24 is?
25 A. I just haven't reviewed that particular
0108
1 report.

2 Q. How can you then ensure that Entergy will
3 create a reliable aging management program consistent with
4 the GALL report by 2012?
5 A. Well, we -- there are several programs we
6 committed to the NRC to put in place or enhance for
7 license renewal. We're tracking those with our internal
8 processes to make sure they get done and verified and
9 completed. So I'm confident that we will meet our
10 commitments for these program enhancements or improvements
11 for license renewal.
12 Q. Is there a comprehensive integrated asset
13 management and long range planning program in place to
14 meet those commitments?
15 A. Yes, there is.
16 Q. Can you turn to page 67 of the NSA report?
17 Underneath table 4 the first sentence says; the current
18 long range asset management process is not yet fully
19 developed. Is that an outdated statement or --
20 A. We have -- in our long range plan we have --
21 we do have a project that is intended to implement these
22 license renewal commitments. The project is identified,
23 funded, and as a matter of fact soon to be started as far
24 as working on it. So -- so it's degrees of plan here I

25 guess is what I would call it. It's in our long range

0109

1 plan. It's funded to complete. Is it all complete? No,

2 it is not. The details all there? No, they are not, but

3 that is our intent to finish that before required.

4 Q. When are you required to finish that by?

5 A. When you say that you mean the long range

6 management --

7 Q. Yes. You said it would be --

8 A. Long range asset management --

9 Q. Yes. You said it would be finished before

10 required so I'm wondering when it would be required to be

11 finished by?

12 A. Most of that plan has to be developed and much

13 of it implemented prior to license renewal.

14 Q. Prior to the decision of this Board?

15 A. No.

16 Q. Are you planning on having it finished before

17 this Board makes its decision?

18 A. I'm not sure I can answer that. I'm not sure

19 when the Board is going to make a decision, you know, but

20 I expect we'll be working on this plan for years. So

21 right up through 2012 and, again, some of the actions

22 probably go beyond that. So I would expect the Board is
23 going to make their decision well before that.
24 Q. Can you explain how the issues in that
25 management long range planning program affect reliability
0110
1 of the plant?
2 A. The -- yeah, for the most part the plans just
3 ensure continued safety and reliability. So, you know,
4 they are intended to tell us the plant continues to be
5 safe which is the reason -- the basis for the NRC review,
6 but there's some link to reliability because we want aging
7 management. Again, I talked earlier about the processes
8 we already have in place to watch for the effects of aging
9 and it does not affect the plant operation.
10 Q. This is a very specific question, but I'm
11 hoping you can shed some light upon something that we saw
12 during discovery. There's a top 10 equipment reliability
13 list provided to us through discovery. Latest one I
14 remember seeing said condensate demineralization
15 performance, which is listed as number three, had a
16 resolution date of April '09. Do you happen to know if
17 that's been fixed?
18 A. That is, I believe, condensate filter

19 demineralizer performance and, yes, that has been. That
20 called for the upgrade of our filter demineralizers with
21 an improved design and they have all been completed.
22 Q. I want to turn to some of the conclusions of
23 the CRA. Couple questions for you. One of the findings
24 was that ENVY has been slow to adopt an industry equipment
25 reliability index, and I know you've touched on this in
0111
1 previous questioning, but when was this index adopted?
2 A. The industry standard equipment reliability
3 index, which is the one referred to in the report, was
4 adopted by Entergy fleet I believe in November, or, excuse
5 me, September of 2008 and we used it in a management
6 review meeting in December of 2008. So within about three
7 months Vermont Yankee had put it in place and was using
8 it.
9 Q. And when it was first adopted where did ENVY
10 -- where did Entergy Vermont Yankee rank on the list?
11 A. When you say when it was adopted, first
12 adopted by the fleet?
13 Q. When it was first ranked? How's that?
14 A. In our first --
15 MR. MARSHALL: First ranked?

16 A. Let me try to answer. If I don't answer your
17 question please tell me, but I can tell you the history,
18 our history, with equipment reliability index. When we
19 first started tracking it, which at least in a backwards
20 look back to last summer, June time frame, we were at
21 about a 57 which put us in the fourth quartile for the
22 nuclear fleet, and since then we have made progress
23 improving that. Today we are approximately 72 there. So
24 it puts us right around median in the Entergy fleet.
25 Q. That's what I was getting at. Prior to
0112
1 adopting that index how was equipment reliability being
2 tracked?
3 A. Entergy -- prior to adopting industry standard
4 index Entergy had a fleet equipment reliability index
5 which contained some of the same elements and a few
6 different elements and tracked the industry standard, and
7 most of the elements that are in the current industry
8 standard were being tracked by Entergy in our performance
9 indicators, just not rolled up in this index.
10 Q. So there was an internal index of indicators
11 that you were using?
12 A. That is correct.

13 Q. And you said there were some similarities and
14 some differences, but would you say that the ENVY index
15 was substantially the same as the equipment reliability
16 index or were they quite different?
17 A. There were differences. I can't speak to all
18 the specific differences, but there were differences in
19 the types of indicators that rolled up to the aggregate
20 index.
21 Q. So if they were different and when you
22 switched to the industry standard reliability index and
23 that put you in the bottom quartile, doesn't that indicate
24 that the internal review process was not looking at the
25 whole picture regarding reliability or was missing
0113
1 something?
2 A. Let me see if I answer this correctly. Let me
3 know if I answer your question. As I said earlier, we
4 were watching most of these indicators, inputs. Some were
5 in our performance indicator system. So -- so it's -- we
6 were aware of those things that detract from our
7 performance indicator did detract in June and are still
8 detracting now. An example would be forced loss rate
9 which inputs to that indicate are -- we knew that our

10 forced loss rate was not meeting expectations, most of
11 that based on the cooling tower events that we talked
12 about here today.
13 So I don't believe it's accurate to say that
14 we -- it was giving us an imperfect picture because we
15 didn't have that index in place. We were well aware of
16 our performance in those areas, and, as a matter of fact,
17 had initiated improvement actions prior to implementing
18 this improved reliability index. The index does give us
19 the advantage of comparing ourselves to the rest of the
20 industry.
21 Q. So you knew prior to adopting the equipment
22 reliability index that you would rank at the bottom of the
23 industry?
24 A. We knew prior to adopting this index that
25 there were elements of it that were certainly not top
0114
1 quartile, were in the bottom quartile in the industry, and
2 again forced loss rate is probably the best example of
3 that.
4 Q. What would be your definition of resolving
5 this placement in the index? Where do you want to be in
6 the index?

7 A. Our goal for this index is to be top quartile
8 and we expect -- we expect by the end of this year to be
9 -- to go into top quartile performance.
10 Q. And how will this Board or the public or
11 anyone know if that's the case?
12 A. That index is now part of our internal
13 performance indicator system and the state nuclear
14 engineer has access to that. As a matter of fact, our
15 improvements in equipment performance are some of the
16 things that are talked about in the matrix and I'm sure
17 that's one of the things he would look at for evidence
18 we're being successful.
19 Q. I want to go back to the condenser we touched
20 on briefly.
21 MR. YOUNG: I just wanted to follow up
22 on that. He asked -- Mr. Margolis had just
23 asked you how the Board would know about that
24 and your answer was the state nuclear engineer
25 would know about it. Are you aware that the
0115
1 state nuclear engineer is a totally different
2 agency?
3 MR. COLOMB: Thank you. Yes, I am aware

4 of that, so I'm not sure how the Board would
5 become aware of that. Thank you for that
6 correction.
7 MR. YOUNG: Excuse me.
8 MR. MARGOLIS: No problem. Thank you.
9 BY MR. MARGOLIS:
10 Q. I want to go back to the condenser which we
11 touched on. Are there plans to replace the condenser?
12 A. Replacement of the condenser is in our current
13 long range plan, yes.
14 Q. Can you tell us why exactly it needs to be
15 replaced and by when it will be replaced?
16 A. I can. Our ongoing monitor of the condition
17 of the condenser tells us that it would not be reliable
18 through the 20-year license extension period, therefore,
19 we would have to replace it sometime in that period.
20 That's currently slated for I believe 2013/2014 time
21 frame.
22 Q. So it will happen after the current license
23 period is over?
24 A. That is correct.
25 Q. In Docket 6812 Entergy represented that

1 condenser tubes would be staked to ensure their integrity
2 prior to operation and uprate conditions. Do you happen
3 to know if they were staked?
4 A. I do not know that. I'm sure we could get
5 that.
6 Q. Do you happen to know if the integrity of the
7 condenser has been compromised since the beginning of
8 uprated operation?
9 A. I don't believe -- we certainly haven't had
10 extensive condenser problems since power uprate. We did
11 last cycle operate with some in-leakage into the
12 condenser. In the last outage we actually went in and did
13 a detailed assessment of that in-leakage, found the
14 problem, and it turned out to be a loosened condenser plug
15 that had been put in place from previously. So I would
16 not attribute that to uprate issues.
17 So we have not -- to answer that we have not
18 had, you know, condenser issues or certainly that
19 challenge reliability since we did power uprate.
20 Q. But there's been leaks. Has that leak been
21 completely fixed?
22 A. Again, and the leak we had during last cycle
23 we did fix during the outage and it turned out to be not a

24 new leak, but a previously replaced plug that we had to

25 replace.

0117

1 Q. Do the issues with the condenser pose any

2 short term reliability issues over the next three years,

3 let's say until end of this license period?

4 A. Yes. It could. I wouldn't expect significant

5 reliability challenges, but we could -- we could see more

6 indications of in-leakage which we would have to repair.

7 In fact, that's one reason in the next outage we are going

8 to do tube sleeving. As we monitor the condition of the

9 condenser tubes during outages, most of the wear or

10 erosion we see is at the beginning of the tube where the

11 river water enters that tends to be the place where

12 because of the pipe -- the effect of the water going in

13 seems to be the place it affects it the most, and we are

14 going to do what's called tube sleeving. We're going to

15 insert a liner in that entry area to give us more margin

16 and reduce the potential for challenges of more condenser

17 tube leaks.

18 Q. If there's a loss of condenser efficiency,

19 does that cause a power reduction at the plant?

20 A. Would you repeat that? I'm sorry.

21 Q. If there's a loss of condenser efficiency,
22 does that mean you have to reduce power at the plant?
23 A. If we had a significant loss at the condenser
24 efficiency, yeah, we might have to reduce power. That
25 would probably be in the hotter summer months.

0118

1 Q. And if the condenser completely fails, would
2 you have to shut down the plant?
3 A. When you say completely fails?
4 Q. If it's inoperable.
5 A. Yeah, I think -- could we -- question. Could
6 we have condenser issues significant enough to make us
7 shut the plant down? I guess that could happen, although
8 the history at this plant certainly doesn't support that
9 as a very probable thing.
10 Q. And right now you're waiting to see what the
11 decision will be regarding relicensing to make major
12 modification, to fix the condenser. Is that true?
13 A. I wouldn't say it that way. Again, our
14 evaluation of the condition of the condenser is that it
15 will not cause significant reliability issues between now
16 and end of our current license, although we know to
17 operate another 20 years we will have to replace the

18 condenser. So it's not necessary before an end of current
19 license. It is necessary to ensure reliability through
20 the following 20 years.
21 Q. Can you turn to page 3 of the NSA report? And
22 this carries over on to page 4. Maybe it actually starts
23 on page 4. Let me just get -- yes.
24 On page 4, the first paragraph, it says; the
25 options to retube or replace the condenser with erosion
0119
1 resistant materials to mitigate these effects or to
2 increase demineralizer capabilities are on hold until the
3 decision is made regarding the plant license extension.
4 It is the opinion of the NSA team that this is a challenge
5 to both near term and long term reliability. So would you
6 admit that NSA at least found this to be a -- the
7 condenser issues as they exist right now to be a challenge
8 to near term reliability?
9 A. Could you -- I'm sorry, but what document are
10 you citing?
11 Q. It is the NSA report at page 4 top paragraph.
12 A. I see that. What was your question again?
13 I'm sorry.
14 Q. Would you agree that the NSA team found that

15 the current state of affairs poses a near term reliability
16 risk?
17 A. I do. Yes, I agree with that.
18 BOARD MEMBER COEN: Are you moving on to
19 a different subject?
20 MR. MARGOLIS: No, but you can ask your
21 question. Please go ahead.
22 BOARD MEMBER COEN: If the condenser
23 went out tomorrow and you did not have a
24 decision on the relicensing of the plant,
25 would you replace it?
0120
1 MR. COLOMB: I would have to look at the
2 details of that, but that's a pretty major
3 investment. So we would have to look at the
4 cost benefit of replacing that condenser for
5 the next two years or so.
6 BOARD MEMBER COEN: Thank you.
7 BY MR. MARGOLIS:
8 Q. Following up on that, if you were denied a
9 Certificate of Public Good, would Entergy fix the
10 condenser in the next three years?
11 A. I believe we would stay with our current plan

12 which is to install the sleeving in the next outage.

13 Q. But as you just said there is a possibility

14 that if it did break, the condenser were to break and you

15 were not issued a Certificate of Public Good for continued

16 operation, there is a possibility that you would shut the

17 plant down and not replace it?

18 A. Probably -- let me think about the question

19 asked here because we're talking about the condenser

20 breaking or some kind of catastrophic failure. That kind

21 of failure is really not very probable.

22 We're talking the type of wear we're seeing

23 and there's erosion wear in the tubes, typically that will

24 manifest itself in small leaks over some time which,

25 again, could cause us some reliability issues. I don't

0121

1 think it will be as significant reliability challenge to

2 us between now and the end of the current license, and

3 that's because of the actions we took in the last outage,

4 the extended condition will continue in the next outage,

5 plus the sleeving we are planning on doing. I believe

6 we're going to address any short term with that and --

7 and, again, the probability of them having any

8 catastrophic failure is pretty minimal here.

9 So I mean I understand your question that if
10 we had some kind of a catastrophic failure, what would we
11 do. That's really fairly improbable to have that kind of
12 failure.
13 BOARD MEMBER COEN: My question did not
14 take into account probability.
15 MR. COLOMB: Okay.
16 BOARD MEMBER COEN: Okay.
17 BY MR. MARGOLIS:
18 Q. Has the condenser at an Entergy nuclear plant
19 ever imploded?
20 A. I'm not familiar with a condenser at an
21 Entergy plant imploding. I'm not familiar with that.
22 Q. Not familiar with any situation at River Bend
23 that was similar to that at all?
24 A. It might have happened. I'm just not familiar
25 with it.

0122

1 Q. Once again I just want to reiterate this.
2 There is the possibility that if something did happen you
3 would not want to replace the -- there's the possibility
4 that you wouldn't replace the condenser and you would shut
5 down operations if you didn't have extended operations?

6 A. Again, I'll say the -- you know, most failures
7 that I would be familiar with on condenser would be
8 repairable and the plant would be put back in service. If
9 there was something that would somehow require replacement
10 of the whole condenser, that's something we would have to
11 look at from a cost benefit standpoint. I'm not saying we
12 wouldn't shut it down. I'm not saying we would. I just
13 can't answer that without knowing more detail than was
14 provided in the question.
15 BOARD MEMBER BURKE: Mr. Colomb, is
16 there an industry standard for useful life for
17 condenser tubes that you're familiar with? Is
18 there a -- or just as long as they last or
19 what's the industry standard?
20 MR. COLOMB: I'm not aware of an
21 industry standard. I've been at plants that
22 have had to replace condenser tubes earlier
23 certainly than Vermont Yankee has had to do
24 it. I worked in a plant that had to replace
25 condenser tubes after about 25 years of
0123
1 operation and it's very specific to the
2 service of the plant. You know Vermont Yankee

3 is very fortunate that we have the Connecticut
4 River which is a high quality water source
5 and, therefore, we're not seeing the types of
6 problems that other plants can see or have
7 seen.
8 BOARD MEMBER BURKE: Having to sheath
9 the condenser tubes is generally considered to
10 be a short term cure for a chronic problem,
11 though, isn't it?
12 MR. COLOMB: That is correct. That is a
13 short term adding, if you will, confidence to
14 our -- to the margin we have to reliability,
15 but it does address, as I described, it does
16 address that phenomena we see where most of
17 the erosion in the tubes is in the first short
18 section of them.
19 BY MR. MARGOLIS:
20 Q. Similarly, if you are granted relicensing for
21 another 20 years and let's say 15, 16 years in something
22 like the condenser fails, would you then need to do
23 another cost benefit analysis to see if you would fix that
24 item and keep operating the plant or versus shutting down?
25 A. Again, and I'll qualify this a little bit with

1 probability, our plan now is to replace the condenser
2 shortly into the license renewal period based on what
3 we've seen, experience with the condenser we have, that we
4 would probably not have any kind of significant challenges
5 through an extended 20 years, and any significant, you
6 know, event at the plant would go through whatever cost
7 analysis necessary to say should we do it or what should
8 we do to ensure continued operation or reliability and
9 make sure that if we operate it will be safe and reliable.
10 Q. My question is actually a little bit broader.
11 I'm trying to figure out is the time frame wherein you
12 would have to make a decision about repairing something
13 major like a condenser, doesn't have to be a condenser,
14 when that failed how close in time to the end of the
15 license period would you have to do a cost benefit
16 analysis to see if continued operation is worthwhile to
17 you versus automatically saying okay we're only five years
18 into a 20-year extended license and this failed we're
19 going to replace it because we have another 15 years?
20 What's that time period right now? We're three years out
21 and you would need to do a cost benefit analysis. What
22 about five years out, would you still need to do a cost

23 benefit analysis?

24 A. Well, that's hard to answer that question

25 without the specifics of, and it depends on how extensive

0125

1 the problem is, what we would have to do. You know, it's

2 -- I can't answer that in general terms.

3 Q. I would like to push. I would like an answer.

4 Let's say it's something that would cost 20 million

5 dollars to fix. Would you fix it with five years left of

6 licensing?

7 A. There's other factors in there; how long the

8 plant would be shut down in order to implement that fix,

9 and so, again, most of those have many elements those

10 types of decisions. I mean that's -- would 20 million

11 dollars in five years, probably yes, sir, we would fix it.

12 You know, depending on the amount, the extent of the

13 shutdown of the system we're talking about that would --

14 answer could vary.

15 Q. The reason I ask is because the economic

16 benefits that have been put forth for continued operation

17 rely on 20 years of operation of the plant, and I want to

18 get a sense for if something does happen at some point, if

19 the plant's going to shut down, should we really be

20 counting that full 20 years at this point of benefits?

21 And I think, as you've explained, that's very difficult to

22 figure that right now and I understand that so --

23 A. It's true, but the history of operation, you

24 know, we just -- typically plants don't -- fortunately

25 aren't faced with those types of decisions. So it's, you

0126

1 know, there's very few plants that have been shut down

2 early. Many plants have been -- now been relicensed and

3 we expect to have the same success.

4 CHAIRMAN VOLZ: In the 20 million dollar

5 example a second ago would the price of power

6 on the market, or would the price that you

7 would be getting for your power, affect your

8 decision about --

9 MR. COLOMB: Definitely. Definitely.

10 CHAIRMAN VOLZ: Okay.

11 BY MR. MARGOLIS:

12 Q. One of the other findings of the panel, moving

13 on here, was that programs should be put in place to

14 eliminate the higher than expected preventative

15 maintenance backlog at Vermont Yankee, and I would like to

16 understand a little bit more about what that means.

17 Exactly what is backlogged, how extensive is it, and does
18 that mean that preventive maintenance is not getting done
19 in a timely manner?
20 A. No. I don't believe it does mean that. We do
21 have some of our preventative maintenance is deferred for
22 different reasons. We typically try to align our
23 preventative maintenance to outage times. For example, if
24 certain electrical buses are being out for an outage, we
25 try to make sure all the preventative maintenance and

0127

1 corrective maintenance is performed during that outage.
2 That may require adjusting of frequencies or referrals to
3 ensure that takes place.
4 We don't have what I would consider an
5 extensive backlog, although we are always working on
6 getting any backlog work done. Elective maintenance is
7 probably a good example of that too, and we've been very
8 successful at reducing our elective maintenance backlog
9 now, and since the beginning of the outage to today cut it
10 by more than a third.
11 Q. Does that mean you disagree with the statement
12 that there is a higher than expected preventive
13 maintenance backlog?

14 A. I believe -- I believe the NSA team made that
15 comparing those with excellence in the industry and that's
16 one of the things we key on is closing gaps like that.
17 Q. So if they are comparing it with excellence in
18 the industry, then you're not excellent in the industry?
19 A. In that particular area we -- we have an
20 improvement to make. That's true.
21 Q. And when do you expect to catch up on the
22 backlog?
23 A. We expect by the end of this year that we will
24 have most of those indicators reflecting top quartile
25 performance.

0128

1 Q. Is the catching up on the preventive
2 maintenance backlog in your matrix founded in MJC-3?
3 CHAIRMAN VOLZ: Mr. Margolis, you have
4 about 10 minutes left. Are you on track for
5 that or --
6 MR. MARGOLIS: No. Not at all. I've
7 been going that long already? I thought I had
8 90 minutes.
9 CHAIRMAN VOLZ: We started at quarter of
10 1 -- quarter to 2 and 90 minutes will take you

11 to 3:15, but I'm just trying to figure out
12 when to take our break. So if you were going
13 to be done in a few minutes, I would wait
14 until you were done.
15 MR. MARGOLIS: We can take a break. I
16 have quite a bit more. Try to do some triage
17 over the break.
18 CHAIRMAN VOLZ: Okay. That will be a
19 good idea.
20 BOARD MEMBER BURKE: Time flies when
21 you're having fun.
22 CHAIRMAN VOLZ: We have had a few
23 interruptions so we'll give you a little bit
24 of slack. Why don't we take a 15-minute
25 break.

0129

1 (Recess.)
2 CHAIRMAN VOLZ: All right. Mr.
3 Margolis, you may continue.
4 MR. MARGOLIS: Thank you.
5 BY MR. MARGOLIS:
6 Q. Hello again. Try to move through this a
7 little quicker and I did some triage so we'll move around

8 here.

9 One more thing I wanted to touch on that was a

10 statement made by NSA in the report is that foreign

11 material exclusion and housekeeping practices were not up

12 to par potentially, and this is something I know that is

13 in your matrix. So if you can turn to page 1 of the

14 matrix in MJC-3, and I have a question for you that

15 pertains not only to this issue but to the matrix in

16 general.

17 I see at 2C on page 1 of 15 where foreign

18 material exclusion and housekeeping practices are

19 discussed you set forth the recommendation. You say that

20 ENVY should develop a focus and improvement plan, et

21 cetera, but I don't see any due date for that. I don't

22 see any comments regarding how that's going to be done. I

23 don't see how that's going to be tracked, and I don't see

24 that for anything in the matrix. So I know there's been

25 an updated matrix which I actually don't have in front of

0130

1 me, but how come there are no dates of completion?

2 There's no comments regarding how things are going to be

3 implemented? How is this an action plan versus just a

4 list of items?

5 A. This -- we put this matrix together working
6 first with NSA with input to make sure we had captured
7 everything properly, and then with the Department to
8 ensure that we were capable of tracking all of the
9 recommendations and making sure we addressed all of the
10 recommendations. In its initial form, which is referenced
11 here, it existed just as that list of recommendations to
12 make sure we had captured everything to get that
13 agreement.
14 Since then we have worked very closely with
15 the Department to make sure this -- all of the due dates,
16 the references to the internal processes that would track
17 actions being addressed and status are filled in in this.
18 So this has progressed pretty extensively since we
19 submitted this, which was basically a matrix to ensure we
20 had captured all the recommendations in the report. Some
21 of them were a little difficult to extract just because of
22 the way the report was formatted.
23 Q. So will a completed matrix with all of that
24 information, dates of completion, how it's going to be
25 tracked, will that be provided to the parties here and
0131
1 this Board prior to the ending of these proceedings?

2 A. Again, we have worked closely with the
3 Department to make sure this information is available and
4 can be made available.
5 BOARD MEMBER BURKE: To whom?
6 MR. COLOMB: Well, to -- we'll certainly
7 make it to the Board -- make it available to
8 the Board.
9 BOARD MEMBER COEN: So is that a yes?
10 MR. COLOMB: Yes.
11 BY MR. MARGOLIS:
12 Q. And the parties, can we have it too?
13 A. Pardon me.
14 Q. Can we have it too?
15 A. I'm sorry. Could you have it too? Is that
16 what you said? Yes.
17 Q. Thank you. As far as you know does the Board
18 have the ability to condition license renewal on the
19 completion of these items?
20 A. I'm not sure I'm the person to answer that.
21 I'm sure the Board has latitude in what they condition
22 license renewal on. We don't think it is necessary,
23 should be tied to completion. Some of these action items
24 will take extensive time to complete, but we do -- again,

25 our commitment is to address all of them.

0132

1 Q. And your commitment is to address all of them

2 by 2012?

3 A. There are actions in here that will take

4 beyond 2012 and they talk, for example, about condenser

5 reliability issue and replacement of the condenser.

6 That's an action that's tracked in our long range plan

7 beyond 2012 which is an example what would go beyond.

8 Q. But you will address them. That doesn't mean

9 you will complete all of them, but you will address them

10 all by 2012?

11 A. Yeah, our plan is to address all of these,

12 yes, before 2012.

13 Q. So if they are not all addressed by 2012, what

14 will be the repercussions?

15 A. Our plan is to address them. I guess if there

16 were -- if there were some or one or whatever the

17 condition is that wasn't addressed, I guess it would be

18 specific to what it was, but we plan to address them so --

19 Q. But if you then don't follow through on that,

20 there's no way for this Board to follow up and do anything

21 about it if they have already granted you a Certificate of

22 Public Good?

23 MR. MARSHALL: Objection. Calls for a

24 legal conclusion.

25 CHAIRMAN VOLZ: Mr. Margolis, do you

0133

1 have a response?

2 MR. MARGOLIS: I'm thinking. That's

3 fine. Strike it.

4 BOARD MEMBER COEN: You can withdraw.

5 You can't strike.

6 MR. MARGOLIS: What's that?

7 CHAIRMAN VOLZ: You can withdraw a

8 question. You can't strike a question.

9 MR. MARGOLIS: I apologize. Withdraw

10 it.

11 CHAIRMAN VOLZ: It's an ongoing joke.

12 BOARD MEMBER BURKE: We've been working

13 on this for at least nine years. We're still

14 getting it together.

15 MS. HOFMANN: As a lawyer you only do it

16 once and you never do it again.

17 BY MR. MARGOLIS:

18 Q. Earlier we had discussed the fact that there

19 are certain things that have been identified -- withdraw

20 that. Can I withdraw that?

21 CHAIRMAN VOLZ: Sure.

22 BOARD MEMBER BURKE: Did you do that on

23 purpose?

24 MR. MARGOLIS: I did.

25 BY MR. MARGOLIS:

0134

1 Q. We discussed earlier that the CRA is a subset

2 -- looked at a subset of the issues and the systems at

3 Vermont Yankee and that there are other systems that have

4 not been looked at, correct?

5 A. That is correct.

6 Q. And we discussed the fact that the matrix only

7 discusses those recommendations made by NSA; is that

8 correct?

9 A. That is correct.

10 Q. And you have stated that many of those

11 recommendations have already been identified in

12 preexisting site or fleet initiated plans and action

13 plans; is that correct?

14 A. That is correct.

15 Q. I'm wondering if Entergy would be willing to

16 submit a list of other items that have been identified in
17 the preexisting site or fleet initiated plans and action
18 plans that are similar to the recommendations of NSA that
19 require attention and to create a matrix regarding those
20 items as well?
21 A. I don't believe that would be in the best
22 interest of -- certainly not necessary because I think the
23 NSA, we did establish earlier, looked at a subset of
24 systems. They did, however, look at many of the processes
25 that go across all systems like system health, corrective
0135
1 action program, use of operating experience, and I think
2 you use terms like all, I guess, and putting it in a
3 matrix that would certainly affect our ability to do our
4 business to have that level of administration put on us
5 because, as I said earlier, our day-to-day business at the
6 plant is monitoring, testing, observing, identifying
7 issues, following up on issues. We have a corrective
8 action program that involves condition reports, CRs as we
9 refer to them. We have work orders that are written. All
10 of those go to ensuring equipment is reliable in the
11 future. So maintaining any kind of a matrix that would
12 try to capture that I believe would be unduly burdensome

13 and not in our best interest.

14 Q. Would it be in the Board's best interest to

15 have something like that in front of them so they

16 understand what exactly needs to be done to the plant for

17 extended operation?

18 A. I don't believe you need that in front of you.

19 I think the NSA comprehensive assessment gives a good

20 snapshot, if you will, subset and again addresses programs

21 that go across all plant systems. So it's, you know, it's

22 -- I don't believe it would be in your best interest, and

23 I certainly know it wouldn't be in our best interest to

24 have that level of administration on our programs at the

25 site.

0136

1 Q. But only around 10 percent of the systems were

2 actually covered by the NSA report; is that correct?

3 A. If there are 60, 6 is 10 percent. Yes.

4 Q. I want to move on and ask you about a couple

5 of events that have occurred at Vermont Yankee, and if you

6 have the knowledge, will you please explain the cause of

7 the event, and when I say cause obviously if you can

8 elaborate that's fine, but I would just like to know if

9 you think it was a human error problem, a maintenance

10 failure, a failure to supervise, something like along
11 those lines so we don't take too long here.
12 The first one would be the transformer fire
13 and the resulting scram in 2004.
14 A. That particular problem was caused -- first of
15 all, the mechanical cause was an internal part in our
16 generator system that delaminated and caused it to fault
17 which caused, as described, a fire. The mechanical cause
18 was that the root cause was not an adequate inspection
19 program that went in and looked at this part occasionally
20 to ensure that it was in the condition it needed to be to
21 ensure reliability.
22 Q. If you could, I really want -- we're going to
23 take way too long here if we get such long answers. So
24 maintenance failure, inspection failure, is that what you
25 would call that?

0137

1 A. I would call that an inspection failure.
2 Q. What about when a radioactive package was
3 shipped off to a site I believe it was in Pennsylvania.
4 Do you know about that?
5 A. I'm not familiar with that particular
6 incident. I can't speak to that.

7 Q. It was a sheer that was removed from the pool
8 I believe and shipped out without being tested. You're
9 not familiar with that incident?
10 A. I'm not familiar with that particular --
11 Q. What about the cooling tower collapse that's
12 been discussed in August 2007? Maintenance failure?
13 Inspection failure? Supervision failure? What kind of
14 failure was that?
15 A. We did a root cause analysis on that and found
16 that that was an inadequate I guess I would call that an
17 inspection, preventative maintenance program where we
18 relied too heavily on a superficial inspection as I
19 described earlier. We changed that now to intrusive
20 physical checks into the wood structures and preventative
21 maintenance to go in and replace -- inspect, replace as
22 required a cooling tower. So we've implemented all those
23 changes in our current program.
24 Q. And the subsequent 2008 failure where the
25 headers I believe were not clipped correctly with the
0138
1 replacement parts, the FRG, was that a human error or
2 failure to supervise error? What kind of error was that?
3 A. That one I think we addressed that earlier.

4 That was a different cause; different event, different
5 cause. That had to do with the installed configuration
6 identified as a problem before we put the tower back in
7 service and then we didn't do a good job of analyzing that
8 was an acceptable configuration. So I would call that an
9 engineering evaluation, vendor oversight issue.
10 Q. What about turbine -- the turbine stop valve
11 incident wherein one of the turbine stop valves was stuck
12 and then I believe it was struck with a mallet tripping
13 all of the valves and causing a scram event? Are you
14 familiar with that incident?
15 A. I'm generally familiar with that and I would
16 attribute that to the plan we put together for doing that
17 troubleshooting was not detailed enough and did not assess
18 properly the risk of that troubleshooting activity.
19 Q. And lastly here, the insulator failure and the
20 yard transformer, which I believe was termed a
21 catastrophic failure by Entergy itself and caused a scram.
22 Do you know about that event?
23 A. I'm not familiar with that event. I can't
24 speak to that.
25 Q. And one quick question about scrams. What

1 exactly is a scram?

2 A. I'm sorry. Say it again?

3 Q. What is a scram?

4 A. A scram is a rapid shutdown of the reactor

5 caused by insertion of all of the control rods stopping

6 the fission process.

7 Q. When a scram happens does that do any damage

8 to the plant? Does it hurt the plant in anyway?

9 A. No. A scram is actually a conservative

10 action. Takes the plant from whatever power condition to

11 essentially, again, stops the fission process and then the

12 only thing left is the heat in the core.

13 Q. Doesn't cause any stress to any of the

14 equipment?

15 A. As I guess -- the plant is designed to scram,

16 I mean, so it is -- there's stress on equipment from the

17 scram? No, not significant stress to equipment from a

18 scram.

19 CHAIRMAN VOLZ: Well, if you scrammed

20 all the time, you had 10 or 15 scrams a year

21 and you needed to bring the plant up, would a

22 plant that's doing that wear out faster than a

23 plant that didn't have that -- didn't do that?

24 MR. COLOMB: If you had many scrams, and

25 usually the more stress is the cool down/heat