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UNITED STATES OF AMERICA

NUCLEAR REGULATORY COMMISSION

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STAKEHOLDER WORKSHOP ON DECOMMISSIONING FUNDING

FOR POWER REACTORS

+ + + + +

BREAKOUT SESSION 1

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WEDNESDAY

MARCH 2, 2011

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ROCKVILLE, MARYLAND

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The Breakout Session convened at the
Nuclear Regulatory Commission, One White Flint North,
Commissioners Hearing Room, 11555 Rockville Pike, at
10:00 a.m., Brian Anderson, Facilitator, presiding.

NRC STAFF PRESENT:

BRIAN ANDERSON, Facilitator

CLAYTON PITTIGLIO

THOMAS FREDRICHS

ALSO PRESENT:

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NICK CAPIK, ABZ Consulting

SARAH HOFMANN, state of Vermont

RALPH ANDERSON, NEI

BILL HORIN, Winston and Strawn

JOHN SIPOS, New York Office of the Attorney General

ADAM LEVIN, Exelon

JAEGER SMITH, Entergy

JIM HEMPSTEAD, Moody's Investor Service

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A G E N D A

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25

COST TRENDS IN DECOMMISSIONING 5

Nick Capik, Consultant

ISSUES RELATED TO DECOMMISSIONING FUNDING 36

John Sipos, Assistant Attorney General

WHAT EVERY REGULATOR SHOULD CONSIDER IN A
POST-YUCCA WORLD 62

Sarah Hoffman, Director of Public
Advocacy

CREDIT IMPLICATIONS ASSOCIATED WITH NUCLEAR
GENERATION FOR U.S. UTILITIES 74

Jim Hempstead, Senior Vice President

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P R O C E E D I N G S

(10:02 a.m.)

1
2
3 FACILITATOR ANDERSON: Welcome back,
4 everyone. If we could go ahead and take our seats,
5 we're ready to start Breakout Session 1. I'm glad to
6 see that some people actually stayed to be here with
7 us for Breakout Session 1.

8 Before we get started with the first
9 presentation, I'd just like to briefly remind
10 everybody of ground rules from earlier. I appreciate
11 all of your patience and support in working with us
12 here, but as a reminder, please continue to speak into
13 a microphone. That not only helps people on the phone
14 to hear what's being said, but that also helps make
15 sure that we have a clear transcript of the
16 discussions and comments that are provided here today.

17 Please also continue to speak just one
18 person at a time. And I continue to appreciate
19 everyone's ability to be concise in making comments,
20 providing presentations, and asking questions. And I
21 also appreciate your continued support in respecting
22 differing viewpoints that you might hear during the
23 course of the discussions.

24 So, with that, we'll start with the first
25 presentation. ABZ Consulting has a presentation.

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1 MR. CAPIK: Good morning. My name is Nick
2 Capik. I work with ABZ. We're one of the firms that
3 do decommissioning cost estimates. We also do a lot
4 of litigation work with the IRS on decommissioning
5 with the Department of Justice on spent fuel, and with
6 the Rate Commissions on fund collections for
7 decommissioning.

8 I'd like to talk a little bit about actual
9 cost. To put it in perspective compared to the
10 formula amounts, if we can go to the next slide,
11 please. One of the first things we need to do, though,
12 is talk about terms.

13 The utilities use the term
14 "decommissioning" to mean all costs incurred after
15 shutdown. From their perspective, that makes sense.
16 They no longer have revenue coming in, they need to
17 pay all the expenses.

18 The NRC uses the term differently, and
19 it's defined in the CFR to be just radiological
20 decommissioning. As we know, second bullet, there are
21 three types of costs the utilities have to be
22 concerned with. One is NRC defined decommissioning.
23 The second is storage of spent fuel until it's
24 transferred to DOE. And the third is site
25 restoration.

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1 Site restoration includes a number of
2 things. It includes hazardous waste removal. It
3 includes demolition of the buildings, if that's what
4 the utilities choose. It can also include other
5 things like cleanup to meet EPA groundwater standards.

6 One of the problems with these three types
7 of costs is there is no regulation which defines for a
8 given cost which of the three categories that cost
9 goes in. And let me give you a couple of examples.
10 If I have a constrained site, and they want to remove
11 some clean buildings to facilitate radiological
12 decommissioning, is it a site restoration cost, or is
13 it a radiological decommissioning cost? The
14 regulations don't say one way or the other.

15 Another example, I'm storing spent fuel on
16 site after shutdown. I have operator requirements for
17 storage of fuel. Yet, those people are working in
18 decommissioning. Are they a decommissioning cost, or
19 are they a spent fuel storage cost? Asking guidance on
20 how to divide these costs, the utilities use its own
21 resources to decide where to put these costs. If we
22 could go to the next slide, please.

23 Okay. I want to go through each of these
24 three categories just quickly, as a reminder for
25 everyone. NRC defined decommissioning, it's removal

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1 of all radiologically contaminated material or
2 activated material only to meet the site termination
3 criteria.

4 Now, as Larry mentioned earlier, there
5 really are two, one is 25 millirem per year to the
6 exposed worker in whatever scenario the utility
7 decides. The second is ALARA, or As Low As Reasonably
8 Achievable. That can be more demanding than the 25
9 millirem per year, if it's reasonable for the utility
10 to do. Again, a very undefined standard, simply
11 ALARA.

12 As well as removal of material, it can
13 also include decommission of structures, and
14 demolition of structures if they're no longer
15 structurally sound following decontamination. An
16 example where that would come in is if I'm removing
17 entire walls from a structure. I can't leave the
18 structure standing, so now I have to demolish it as
19 part of radiological decommissioning.

20 Offsite disposal of radioactive waste. As
21 Larry mentioned, there's a growing issue there not
22 only with waste generated during decommissioning, but
23 also with waste stored on site during operation. And
24 there are categories of waste that most people don't
25 include in that, that they need to.

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1 For example, refueling tools, tools that
2 the operator uses every refueling shutdown are stored
3 on site and need to be stored on site. Yet, during
4 decommissioning, they need to be disposed of. So, the
5 radioactive waste is not only that waste that's
6 generated during decommissioning, but anything that
7 happens to be on site at final shutdown. Go on to the
8 next slide, please.

9 Slide 4, spent fuel storage. Again, the
10 utility is responsible for safe storage of the fuel
11 until it's transferred to DOE. The utility is
12 required, as Larry mentioned, under 10 CFR 50.54(bb)
13 to explain how it's going to pay for that storage five
14 years prior to shutdown.

15 They have two methods currently to store
16 the fuel. One is to leave it in the spent fuel pool,
17 the other is to put in the dry storage. I think every
18 estimate I've seen includes the cost of spent fuel
19 storage, because it is an obligation the utility has
20 to incur after shutdown. If I can go to the next
21 slide.

22 Two pictures here, just so everyone can
23 see them. On the left is a storage pool for spent
24 fuel. The checkerboard at the bottom of that pool is
25 the racks that actually holds the spent fuel, so the

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1 assemblies are 14 or so odd feet long, and they fit in
2 those racks on the bottom of that pool. There's about
3 20 feet of water on top of those racks. And that's a
4 facility that has to be maintained as long as fuel is
5 stored in the pool.

6 On the right-hand side of this picture is
7 one of the examples of a dry storage facility. That
8 particular design is a NUHOMS design, and the fuel is
9 stored in metal canisters that are horizontally placed
10 in those structures.

11 The NRC doesn't have a preference as to
12 which way to store fuel. It has to be one of these
13 two, wet or dry. Although, most utilities have found
14 that dry storage is more economical in the long run.
15 If I can go to the next slide, please.

16 The third piece is site restoration.
17 Again, site restoration is not required by the NRC at
18 all. It may or may not be performed by the owner. It
19 depends on what they intend to do with the site, and
20 whether they want to reuse some of the buildings, or
21 leave them on the site.

22 Most of the facilities that have
23 decommissioned so far have removed all the structures
24 that they did not need to continue to store fuel. Two
25 notable exceptions, the Trojan Reactor is not yet done

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1 dispositioning concrete that's on site. And Rancho
2 Seco has not yet decided to remove the buildings, so
3 they're still standing. Next slide, please.

4 Okay. Just for a little bit of review,
5 Larry talked about this. The NRC has a formula for
6 its portion of the decommissioning costs, just
7 radiological decommissioning. The numbers were
8 expressed in regulation in '86 dollars, \$85 million
9 for a PWR, \$115 million for a BWR. Those numbers were
10 never intended by the NRC to cover all decommissioning
11 costs. They were intended to provide assurance that
12 the bulk of the funds would be available. People often
13 confuse that. It was never intended to be every
14 dollar of decommissioning costs, simply the bulk of
15 the funds. Go ahead and go to the next page.

16 Larry mentioned the three escalation
17 factors, and his Slide 9 provides the equation for
18 applying them. Again, three factors; labor, energy,
19 and burial. They're, as he mentioned, provided in
20 NUREG-1307 for burial, and Department of Labor for
21 labor and energy. Go ahead and go to the next slide.

22 This slide shows what those factors have
23 done over time, starting in 1987 the first year that
24 they were published. And what I've plotted here is
25 the percent change from year to year. Okay? There

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1 are a couple of interesting points on this graph. The
2 first one is '92-93, for anyone who's familiar with
3 the industry, the State of South Carolina in that time
4 period imposed a tax on burial of low-level waste at
5 the Barnwell facility. The initial tax was \$200 a
6 cubic foot. Thus, there's a huge growth in the formula
7 amounts in that year, because of the change in burial
8 costs.

9 The second bump on this graph in 1997 is
10 when, as a result of Barnwell imposing these fees,
11 people looked for avenues to reduce their burial cost.
12 And Barnwell countered those avenues by shifting from
13 a rate structure which was dependent on the volume of
14 waste, to a rate structure that was dependent on the
15 weight of the waste.

16 Most of the ways people attempted to
17 counter the costs were by compacting the waste, and
18 making it take up less space. But by compacting it,
19 we didn't change the weight at all. So, thus, the
20 bump in '97, with the new weight-based rules. Go
21 ahead and go to the next slide, please.

22 This is one example of the calculated rule
23 amounts in 10 CFR 50.75. There are three lines on this
24 graph. The top line is for direct disposal to a full
25 service facility, like Barnwell. As you can see, this

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1 is for a Pressurized Water Reactor. I used the
2 northeast region for labor, starts at \$105 million in
3 1986 dollars, and escalates from there. The last year
4 on this, 2010, the PWR cost is slightly over \$800
5 million.

6 The line below that, again Larry mentioned
7 in 1998, the NRC offered the option for use of a waste
8 vendor. And the green line indicates the option in
9 the current version of the NUREG, and back to '98 for
10 selection of a waste vendor. So, either material is
11 going through Clive, or going through some vendor
12 that's processing the waste prior to disposal.

13 And, as Larry mentioned, I think his
14 slides say about a \$350 million difference in the
15 current formula amounts. And you can see that by
16 looking at 2010, the difference between the green line
17 and the blue line is about \$350 million.

18 I added the red line just because most
19 people in their decommissioning cost estimate funding
20 analysis assume some average rate of inflation. And
21 from our review of those over the years, 2-1/2
22 percent, 3 percent are typical numbers. The red line
23 shows cumulative inflation at a 2-1/2 percent rate.
24 So, you can see in real terms how much the formula
25 amounts have exceeded that 2-1/2 percent compound

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1 inflation from 1986. Go to the next slide, please.

2 This is the same curve, simply for a
3 Boiling Water Reactor. Again, northeast region for
4 labor rates, starts at 135 in 1986, and the escalation
5 similar since then. If you attempted to plot an
6 overall compound escalation rate, and I'll use the
7 blue line for an example on both of these graphs,
8 going back to 1986, it's about 9 percent per year. If
9 you looked simply after Barnwell imposed the huge tax
10 in '94, it's about 5 percent per year. Either way, 9
11 or 5, it's still significantly higher than general
12 rates of inflation that are assumed by people in
13 funding analysis. Turn to the next slide, please.

14 Okay. What are some of the risks with
15 funding? The first one is that your funding analysis
16 is planned on shutdown at a certain point in time. If
17 I don't make it to that time, I may not have collected
18 all the money, and I may not have had sufficient time
19 for it to grow to meet my target. So, if a plant
20 shuts down prematurely, it's generally not fully
21 funded at the time of shutdown. For all of the plants
22 that have shutdown prematurely so far, that has been
23 the case. None of them were fully funded at time of
24 shutdown.

25 Second risk is that the cost estimate

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1 assumes a certain scope of work. When it comes time
2 to actually dismantle the facility, that assumed scope
3 may or may not reflect the work that has to be done.
4 And I've listed a couple of examples here of where the
5 scope changed from that assumed in the estimate. And
6 let's talk about the first one for a moment.

7 Tritium is a radioactive isotope of
8 hydrogen. It's formed by the sun, and the atmosphere.
9 It's also formed in a nuclear reactor. It forms with
10 water, or forms with oxygen to form water, and
11 diffuses readily through concrete. As a result, some
12 of the concrete in a power plant is contaminated with
13 tritium. Now, it's not -- it's a beta emitter. It
14 doesn't have a large radiological consequence, so most
15 analyses assume that the tritium-contaminated concrete
16 stays on site at shutdown.

17 Thus far, any of this concrete that's been
18 disturbed during decommissioning has ended up being
19 removed. So, the assumption in the estimate that this
20 concrete stays on site may or may not be something a
21 utility can realize when it comes time for
22 decommissioning.

23 The second one I listed here, and I
24 believe Larry gave an example, termination criteria.
25 As I said, the NRC has two; 25 millirem per year to

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1 the most exposed worker, also ALARA with no further
2 definition of what ALARA truly means. The EPA has
3 different requirements for things like tritium
4 contamination. So, what the exact requirements an
5 owner is going to have to meet during decommissioning
6 is undefined for most plants.

7 Each of the plants that underwent
8 decommissioning had negotiations with the regulators
9 to decide what criteria they were going to clean up
10 the site to. Again, as was mentioned before, there's
11 costs associated with that differing standard for
12 termination criteria.

13 Next bullet, schedule delays. Let me give
14 you a couple of examples. Two of the plants that
15 decommissioned hired contractors to run the
16 decommissioning, basically, as a turnkey approach.
17 They turn over, let the contractor run the
18 decommissioning. Two of those projects, they had
19 issues with the contractors, one declared bankruptcy,
20 one there were differences of opinion about the
21 performance under the contract. In both cases, the end
22 result was delay, and delay equals cost. So, in both
23 cases, neither estimate accounted for that added time
24 during decommissioning.

25 Last two, just financial assumptions.

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1 Again, there's always risk that the trust fund won't
2 earn what was projected, or that the tax rates will
3 change in the future. Similarly, there's always risk
4 that the escalation that was assumed in the funding
5 analysis for cost will not be adequate to cover the
6 real growth of costs. Go to the next slide, please.

7 One other issue I'd like to mention, and
8 this became much more visible in the last couple of
9 years with some recent NRC action. The NRC since the
10 '90s has required that utilities account for costs for
11 these three categories separately. Now, through the
12 early part of last decade, I think the utilities were
13 somewhat remiss in doing that, or reporting that.
14 Often, they collected money for all three categories,
15 and reported a single amount, which the NRC then
16 compared against the formula amount.

17 The NRC has made the rules clearer several
18 years ago, that if the utility is funding for more
19 than radiological decommissioning, it has to account
20 for those funds separately. They can either do that
21 with separate sub-accounts, or they can do that by
22 keeping an account, but either way they have to
23 account for the three funds separately. And if you
24 want to use something that's not for its intended
25 purpose, you need a waiver of 10 CFR 50.82 to do that.

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1 I'm not aware of any waivers being granted at this
2 point other than one special case where the fund was
3 restructured to make that in accordance with the fund.

4 This could be a significant problem in the
5 future, because this means not only you have to
6 estimate the total cost, but you have to estimate how
7 much will be attributed to each of these three
8 categories. And, as I said earlier, there are no
9 rules right now defining how a cost is divided amongst
10 these three categories. Go to the next slide, please.

11 I'd like to look at some of the actual
12 costs. There's one error in this chart, and you'll
13 see it in the next two, as well. The Rancho Seco
14 estimated cost should be \$618 million in 2010 dollars.
15 These are public costs mostly in the license
16 termination plans. They don't always -- they're not
17 always comparable to each other, and let me give you
18 two examples to explain what I mean.

19 The SONGS unit shutdown in `92, but
20 decommissioning started in earnest later in that
21 decade. So, it's unclear for some of the costs
22 incurred between `92 and the start of decommissioning
23 whether they're included in decommissioning costs, or
24 not. Other plants have similar issues. Some of the
25 prematurely shutdown plants took as long as a year to

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1 decide whether or not to enter decommissioning.
2 Rancho Seco went into SAFSTOR for a decade before it
3 started decommissioning. So, one has to be careful
4 looking at actual costs, because it's often unclear
5 exactly what the scope of those costs are.

6 As I mentioned earlier, the Rancho Seco
7 number, which should be \$618 million, includes no site
8 restoration. The buildings are still standing. There
9 are also different assumptions about fuel storage in
10 every one of these numbers. So, I'm presenting them
11 here in the next few slides to give you some idea of
12 the magnitudes of the numbers, but you have to be
13 careful in using any of this data to make sure you
14 understand exactly what has been included in the data.

15 Now, I've done the apples-to-oranges
16 comparison here. The second column is the rule amount
17 per 10 CFR 50.75. That assumes direct disposal to a
18 full service facility, and that's as of the end of
19 last year. The next column is the licensee's estimated
20 total costs for all of the work they intend to do, so
21 that includes fuel storage, and that includes site
22 restoration, if they intended that, or planned to do
23 it in the future. Again, not apples-to-apples. I've
24 compared a rule amount, which is just radiological
25 decommissioning, to total site costs. But I did it to

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1 show you the magnitude of the total site costs.

2 As you can see, if some funds just to the
3 rule amount, it's likely they won't have enough money
4 for all of the costs they will incur after shutdown.
5 Turn to the next slide.

6 Same graph. If you remember the curves,
7 this is the green curve. This assumes waste
8 processing in Clive, Utah. The vendor rule amounts
9 are substantially lower than the previous slide.
10 Estimated costs are the same. Again, Rancho Seco here
11 should be \$618 million. And now if you look at the
12 last column, if a plant funded just to the rule
13 amount, they wouldn't have anywhere near enough money
14 to pay all the costs incurred after shutdown. One
15 more slide, please.

16 This last slide on costs is an apples-to-
17 apples comparison. It's the vendor rule amount, the
18 lower of the two rule amounts compared to just license
19 termination costs. And, once again, I apologize, one
20 more error on this slide. The Rancho Seco numbers
21 should be 502 for the license termination cost, and
22 the vendor rule amount should be the same number that
23 was on the previous page, which is 584.

24 This is apples-to-apples. If you look at
25 the third column, you'll see if someone funded just to

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1 the vendor rule amount, how they could have compared
2 looking just at license termination costs. And, in
3 this case, several people would have sufficient funds,
4 several people would be substantially underfunded.

5 Again, as I said, these numbers all come
6 from public sources, generally, the license
7 termination plans. As Larry pointed out, the SONGS
8 number here was accurate in 2009. He gave an updated
9 number for 2010, which is \$490.4 million, which puts
10 them much closer to the vendor rule amount. One more
11 slide, please.

12 Just in conclusion, there's significant
13 uncertainty in the scope of decommissioning. Everyone
14 has -- well, most people have site-specific estimates
15 done, and they use the number as if it's a certainty.
16 Yet, it's not. There are many things that cannot and
17 will not be determined about scope until the
18 activities are actually started.

19 Similarly, there is no guidance right now
20 on how to divide costs amongst those three categories.
21 I can see several reasons a utility may want to use
22 one category preferentially compared to another, but
23 what actually happens, or if the NRC provides
24 guidance, it's not there today.

25 A third option, and I think Larry spoke to

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1 this, too. I, personally, don't believe the 100
2 percent vendor option to be a realistic formula
3 amount. I think it's low, because I don't think 100
4 percent of the waste has and can go to vendors.

5 Historically, if you look at license
6 terminations compared to those costs, I think,
7 historically, the data has shown that they are lower
8 than will actually be the case.

9 Last one I'd like to mention again, this
10 was referenced earlier today. Most people think
11 SAFSTOR is the solution to all funding problems. If I
12 allow the trust fund to grow for a longer period of
13 time, I'll make more money, and I'll be able to cover
14 the increased, or the shortfall in funding that I
15 have. There's two problems with that. Number one, we
16 looked at escalation in the rule amounts. And, as I
17 said, the escalation rates range from 5-9 percent. So,
18 if that trend continues in the future, that means your
19 after-tax earnings have to exceed that 5-9 percent for
20 the trust fund ever to gain over the escalation of
21 decommissioning costs.

22 The second thing is, as Larry pointed out,
23 I have storage costs to maintain that facility and
24 storage. So, not only does the trust fund have to
25 grow faster than the escalation, I also have to have

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1 enough money to pay for the storage, or that has to
2 come from some other source. So, a lot of people want
3 to use SAFSTOR as the solution to problems. In
4 reality, that may or may not be a solution. One has to
5 look at the individual assumptions, and see if they
6 make sense. And that's it, I'll open up for
7 questions.

8 FACILITATOR ANDERSON: Larry, let me bring
9 you a microphone.

10 MR. PITTIGLIO: Let me make a couple of
11 comments. First of all, I know you talked about a
12 rule amount, but recognize that -- we all recognize
13 that the formula is the minimum amount of financial
14 assurance. The regulation is clear in the sense that
15 it says under 50.75 that within five years, you have
16 to come in with site-specific cost estimate. And you
17 have to come in with a mechanism for adjusting the
18 amount that you currently have. Recognizing, and it's
19 a concern we have that maybe you don't even have in
20 five years enough time, because the formula may be
21 significantly under, and you may be two or three
22 hundred million dollars lower than the actual
23 decommissioning costs. So, we're looking at the five-
24 year number, we're aware of that. 50.82 also states
25 that "No later than two years prior after shutdown you

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1 have to come in with a site-specific, and look at
2 detail." And that one will supplement the five-year
3 out, and have some very specifics in it, so I agree
4 with you. We're concerned about it, and that's why
5 we're looking at the formula, and looking at the
6 vendor ratio.

7 And let me make another comment, that
8 we've seen happen, that you mentioned, and that's the
9 spent fuel costs and SAFSTOR costs. As we've reviewed
10 several of the site-specifics, depending on if there's
11 a shortfall or not, initially, we'd see maybe a \$5-6
12 million total cost for an annual SAFSTOR cost, and it
13 would be split 50-50. Now, depending on what's in the
14 trust fund, you may see 75 percent associated with the
15 spent fuel cost, and somebody's played the number game
16 and pushed the annual cost of the plan in SAFSTOR to
17 make sure that the trust fund covers enough of it. So,
18 we have a concern about how those numbers are divided
19 out. Right now, the spent fuel costs are covered only
20 under the fact that they have to submit a plan under
21 50.54(bb). So, that's a concern that we're also well
22 aware of.

23 And I will make another observation. With
24 Fort St. Vrain, as you mentioned, the site cleanup, it
25 was interesting. There was a rail sprint that came

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1 into the site. Fort St. Vrain did go back and
2 decommissioned, and then converted the natural gas
3 turbines into -- the HTGR to natural gas turbines. But
4 they had the rail area where it was refueling, and
5 when they went in to put the new diesels and the new
6 generators in, they had 300,000 cubic feet of diesel
7 fuel that had saturated into the soil that they were
8 required to clean up. I mean, it wasn't an NRC cost,
9 but it certainly was a problem, that there are a lot
10 of things that come under the site cleanup cost that
11 is outside of NRC's area.

12 MR. CAPIK: Just one comment, if I can add
13 it. Talking about uncertainty in decommissioning, I
14 recognize the requirement five years prior to shutdown
15 for a site-specific estimate. If I look at a lot of
16 the prematurely shutdown plants, a lot of the
17 surprises that they had in scope happened actually
18 during decommissioning.

19 I know there are other efforts underway at
20 the NRC to deal with things like groundwater, and soil
21 contamination. And I think as time goes on, we'll
22 become better at our estimating techniques. But
23 there's still the potential that even five years prior
24 to shutdown, I still don't have a good handle on the
25 scope of decommissioning, that I'm still surprised.

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1 MR. PITTIGLIO: Well, I agree with you.
2 We are concerned about soil contamination, especially,
3 as a potential issue. And you may or may not even be
4 aware of it until you start taking the plant apart.
5 And you may wind up taking buildings down that are
6 clean just to get to the contaminated soil under them.
7 I think that the recent numbers we saw for Indian
8 Point indicated several million cubic feet of
9 contaminated soil in their site-specific that came in
10 for Indian Point II and III that were within five
11 years.

12 MR. CAPIK: Other comments, questions?

13 MS. HOFMANN: Sara Hofmann, State of
14 Vermont. I just want to make sure on Table 16 that I
15 understand what goes into the columns. So, on the one
16 marked "License Termination," you took out spent fuel
17 management, and site restoration, and then this is
18 just radiological decommissioning?

19 MR. CAPIK: That's correct.

20 MS. HOFMANN: Okay. Thank you.

21 MR. CAPIK: And, again, that was done
22 using public data was the best we could do. One
23 always has to be careful with actual costs absent a
24 full understanding of exactly what's included in the
25 scope.

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1 MR. ANDERSON: Ralph Anderson with NEI.
2 Keeping that same table up there, a couple of
3 questions, and maybe NRC needs to confirm those.

4 Correct me if I'm wrong, but the license
5 is actually terminated for each and every one of those
6 sites, or not SONGS Unit 1 yet?

7 MR. CAPIK: Well, let's back up to all of
8 them. Anyone with a general Part 72 license still has
9 their Part 50 in effect. So, when you say the license
10 is terminated, I believe the areas were shrunk, or the
11 area that the Part 50 applied to was shrunk, but the
12 Part 50 remains in effect.

13 MR. ANDERSON: I'll say it differently.
14 The NRC Part 50 license for operating a nuclear power
15 plant is terminated.

16 MR. CAPIK: With the list that's up there,
17 the only one that I believe -- I'm not sure about
18 Rancho Seco. Rancho Seco and Trojan, I believe the
19 Part 50s are both terminated. The rest of the Part
20 50s are still in effect.

21 FACILITATOR ANDERSON: Larry, hold on just
22 a second. It's important that we get you on the
23 microphone to make this comment. Thanks for bearing
24 with the process.

25 MR. PITTIGLIO: I know for Trojan, they

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1 have a site-specific Part 72 license and terminated a
2 Part 50. But if I'm not mistaken, Yankee Rowe and
3 Maine Yankee may still have the general Part 50
4 license as the mechanism for the dry cask storage
5 facility, so they still have a Part 50 that's isolated
6 into the very small area that's simply the spent fuel
7 dry cask storage facility, but it is under the general
8 Part 50.

9 Rancho, I'm not sure where they are. They
10 may not have terminated a Part 50 yet, and that may be
11 due, again, to the fuel issue as to whether they're
12 going to go to a site-specific Part 72, or keep a
13 general Part 50.

14 I mean, the problem is the fuel. Fort St.
15 Vrain was able to get rid of the fuel because of the
16 agreement with DOE. Shoreham got rid of the fuel
17 because it was almost new, and worked out an agreement
18 with, I believe it was -- they sold the fuel or gave
19 the fuel and \$150 million to one of the plants, and I
20 forgot who it was, because that was how they were able
21 to get rid of the fuel. So, DOE hasn't taken
22 possession of any fuel other than Fort St. Vrain.
23 Okay? So, it's clearly the licensee's elected to
24 either go to a site-specific Part 72, or reduce. And
25 I guess Maine Yankee gave away hundreds of acres, and,

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1 basically, the site is about six acres is all that
2 remains, which is the dry cask storage facility.

3 MR. ANDERSON: Thanks for that
4 information. Probably, the website for NRC
5 oversimplifies things. It has sort of a scorecard,
6 and it actually shows all of those having terminated
7 their licenses, which I assume from that meant that
8 the radiological decommissioning for everything except
9 for the onsite storage of spent fuel and greater than
10 Class C waste had been accomplished. And I think it
11 does mean that, in fact.

12 So, simplistically, I was wondering, I'm
13 not aware that any of these -- I'll say it
14 differently. If, in fact, it's true that they
15 completed the radiological decommissioning at these
16 sites, I'm only aware of one site that had to go back
17 and get more money, that was Haddam Neck. Maybe I'm
18 off base on that, but what I'm trying to reconcile in
19 my head is, in fact, did these sites successfully
20 terminate their licenses with the funds that they had
21 set aside for that purpose, despite the fact that they
22 had all operated substantially less than the predicted
23 40 years that they were going to operate?

24 MR. CAPIK: I think to answer your
25 question, and I'm not familiar with Trojan, I know

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1 none of the plants on this list were fully funded at
2 time of shutdown. I know that SONGS was fully funded
3 when it started active decommissioning in `99. And I
4 know the remainder, and I'm not sure about Trojan,
5 collected funds during decommissioning. In fact, some
6 of them just stopped the last year, or so. So, I
7 don't think -- I know none of them were fully funded
8 when they shut down.

9 MR. PITTIGLIO: Ralph, you are correct,
10 though. None of them had, even though they did not
11 have sufficient funds, had a problem with coming up
12 with the funds necessary to clean the plant up. And,
13 in reality, although it has the Part 50 license in
14 some cases, it's only because of a small area,
15 especially in the northeast that elected to use the
16 general Part 50 license, rather than the Part 72. And
17 that's all that's left of the plant.

18 FACILITATOR ANDERSON: There is at least
19 one other question or comment at NRC headquarters.
20 Let me check in with people on the phone. Does anyone
21 on the telephone have a question or comment?

22 MR. HORIN: Hi, Bill Horin with Winston
23 and Strawn. We've alluded to this fact a couple of
24 times, but I want to make sure we're all fully aware
25 of the way the regulatory process is set up with

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1 respect to the status of the NRC's decommissioning
2 formula amount.

3 The NRC's regulatory process is
4 established to provide reasonable assurance that
5 there'll be adequate funds available to decommission
6 the plant when you need the funds. And the NRC, when
7 the regulation was adopted back in 1988, made
8 abundantly clear that that reasonable assurance is
9 comprised of several different steps. The first is
10 the funding formula amount, the minimum certification
11 amount, and the efforts to -- and then the different
12 mechanisms that are available to fund toward that
13 amount.

14 In addition, we have the updates that take
15 place every two years. We have the five-year before
16 shutdown preliminary cost estimate, and then we have
17 the cost estimate, the site-specific cost estimate
18 that is to be completed within two years of shutdown,
19 along with mechanisms for being able to adjust
20 additional collections, as needed. And, whereas, we
21 may have some uncertainty with respect to any one of
22 those, overall, the regulatory scheme has been very
23 comprehensive, and has worked well. And I think that
24 we need to bear in mind that if we -- when we say that
25 well, this has this factor, and this has this factor,

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1 and it's not -- maybe it's not perfect. The point is
2 that they all work together, so we can't say that, for
3 example, well, this formula amount is off by X
4 percent. It's only part of the overall scheme, so
5 let's make sure we're all fully aware of that, as we
6 talk about this.

7 FACILITATOR ANDERSON: Ralph.

8 MR. ANDERSON: In my role at the Nuclear
9 Energy Institute, this is Ralph Anderson at NEI. I
10 happen to be a health physicist, that's what I do. I
11 think an overlooked part -- the word SAFSTOR, I've
12 observed, seems to be getting more and more of some
13 sort of negative connotation.

14 A major justification that went into the
15 rulemaking for SAFSTOR was not only the issue of the
16 potential for growing funds. A major input to it was
17 the fact that radiation, unlike most other hazardous
18 pollutants, decays naturally to lower levels over
19 time. And those radionuclides that most contribute to
20 worker exposure during decommissioning happen to have
21 relatively short half-lives that decay away over the
22 period of SAFSTOR. In fact, this had a lot to do with
23 defining the period that would be encompassed in
24 SAFSTOR, is it happens to encompass the amount of time
25 that most radionuclides contribute to worker exposure

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1 actually decay away to nearly zero over that period of
2 time.

3 There was a safety component in that
4 consideration, so please keep that in mind,
5 potentially, later through this discussion, when we
6 start throwing rocks at the SAFSTOR concept. It does
7 have a safety component for real people that come in
8 and do that decommissioning. I've been one of them in
9 the past, and I kind of appreciate that possibility.

10 MR. CAPIK: I didn't mean to say that
11 SAFSTOR was not a desirable option. I just want to
12 speak solely to the financial reasons people want to
13 rely on SAFSTOR. And to caution people that those
14 financial reasons may or may not play out the way they
15 think they will.

16 I agree wholeheartedly that from a
17 radiological standpoint, the delay allows decay of
18 radionuclides, and, obviously, has less exposure to
19 people during the process. There are risks associated
20 with that, however, on waste disposal, and what the
21 costs will do. But I agree, one ought to look at all
22 aspects of SAFSTOR.

23 FACILITATOR ANDERSON: Thank you. Are
24 there any more questions or comments here in the NRC
25 headquarters auditorium?

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1 MR. ANDERSON: Sorry to keep making
2 repeated comments like this. One that's missing from
3 the list that I find intriguing, I'm sure it wasn't by
4 intent, is the Big Rock Point plant. That's a plant
5 that worked -- operated almost its full operating
6 term. I've not looked closely at the funding issue,
7 so they might look different on this chart. I'm not
8 sure. Also, they're a very small reactor, which would
9 be another offshoot.

10 But the more important issue I wanted to
11 raise is, there they actually developed a very
12 significant alternative for waste disposal, rather
13 than sending it to a waste disposal site at all. Much
14 of the low activity waste, in fact, was disposed of in
15 a RCRA facility through agreements with local
16 stakeholders and the state, and it goes to the ALARA
17 point that you had raised.

18 It would not have been cost-effective to
19 remove the material in that ALARA consideration, and
20 ship it halfway across the country to a low-level
21 waste disposal site, but by working with local
22 stakeholders, it became very cost-effective to dispose
23 of it much cheaper, and much more efficiently, and
24 actually greatly reduced the amount of residual
25 radioactivity that was less to the site.

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1 I only say that because I think we get
2 caught up in this linear thinking that there's a
3 certain way things will be done, but of all people, in
4 your game, what you know is, as soon as you start
5 changing the cost of service, people start changing
6 the approach to adjust to that. In low-level waste,
7 our approach during operation, for example, has to
8 reduce -- has been to reduce the volumes of waste by
9 more than 90 percent over the last 20 years because of
10 market changes.

11 I would expect and surmise the same thing
12 will happen to decommissioning, if, as you say, the
13 waste costs keep going up. People will figure out
14 ways to change the types of waste to adjust to that.
15 And they can. Those technologies are already there.
16 So, that needs to be taken into account, too. These
17 aren't rigid linear processes. They're very
18 interactive like any marketplace. So, I'd just offer
19 that to the thought process.

20 MR. CAPIK: If I can add two thoughts to
21 that. One, on the risk of low-level waste, you
22 mention that it was less hazardous to dispose of it
23 locally. One of the risks that most people ignore is
24 the transportation risk. Highways deaths are real.
25 The risk of shipping this low activity waste all the

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1 way across the country has larger consequences from
2 the shipping perspective than it does from the waste,
3 itself.

4 The other is, as many of us involved in
5 decommissioning know, disposal of waste is
6 opportunistic. A utility will obtain favorable rate
7 structure from a disposer, wherever that is, and
8 that's what drives the actual activities. It's
9 something we can't predict when we do estimates. You
10 have to predict what published rates are. But if
11 opportunities present themselves, whether it's a local
12 disposal site, or whether it's one of the large
13 disposal sites that is looking for volume that year,
14 that's how decommissioning is really done. You take
15 advantage of those opportunities.

16 MR. PITTIGLIO: Larry Pittiglio. Let me
17 make one last comment. Also not included was probably
18 the least contaminated, but most expensive plant in
19 existence, which was Shoreham that wasn't included on
20 that list. But, also, point out that some of the
21 numbers -- Yankee Rowe and some of those plants
22 started under the old Reg Guide 1.86. At that time,
23 25 millirem ALARA wasn't the regulation. And in their
24 free release of material, that had a significant
25 problem, because some of the states had a zero

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1 detectible, not 5000 dpm. And that had an impact on
2 the waste cost, also.

3 FACILITATOR ANDERSON: Thank you, Larry. I
4 think in the interest of time, we probably need to
5 make that the last comment or question, but I will
6 check in with those on the phone one more time. Does
7 anybody on the telephone have a comment or question on
8 this topic? Great. Thank you for the presentation.

9 MR. CAPIK: Thank you.

10 (Applause.)

11 FACILITATOR ANDERSON: The next
12 presentation is from a member of the New York State
13 Attorney General's Office.

14 MR. SIPOS: Good morning. My name is John
15 Sipos. I'm an Assistant Attorney General from the
16 State of New York. With me here today is a colleague
17 of mine, Assistant Attorney General Adam Dobson, and
18 another colleague of our's, Charlie Donaldson, is at
19 the other breakout session.

20 First, I'd like to thank NRC for inviting
21 the State to come to this presentation. We certainly
22 appreciate being here, and being included in the
23 process. It is a process that, perhaps, previously
24 the states and other local governments have not been
25 included in, as much as they should be, and we

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1 certainly appreciate that here.

2 A little bit of background about the
3 office that I come from, the Attorney General's
4 Office, and the Environmental Protection Bureau,
5 probably for the last 35 years, we've handled a number
6 of large-scale environmental remediation projects
7 involving sites within the state, including Love Canal
8 with Hooker Chemical. Right now we're working with --
9 we're working on the Hudson River issues with General
10 Electric. And we've also -- we've had a whole host of
11 other moderate-size sites with varying degrees of
12 environmental complexity, and with various responsible
13 corporate parties.

14 We've also had a great deal of experience
15 with bankruptcy. Perhaps of all the states, we have
16 some of the most experience in bankruptcy, also
17 including the federal government. Yesterday, there was
18 a hearing General Motors bankruptcy. It will be
19 continued on tomorrow. We've gone through -- we've had
20 issues with Mirant and a number of other companies. So
21 hopefully, our comments that we provide today come
22 with some experience, some real world experience of
23 having dealt with some complex issues. That was just
24 by way of background.

25 Also, before we actually get into the

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1 slides, perhaps an overarching theme today of the
2 presentation that we would like to give is that the
3 State of New York has concerns that there is a -- that
4 there may be a shifting of uncertainty and risk
5 through this whole decommissioning process, and
6 however one wants to define that. Shifting
7 uncertainty and risk onto states, localities, and
8 tribal governments. And it's certainly something that
9 the state is concerned about.

10 We are going to be discussing, or I hope
11 to be discussing a number of lessons learned from the
12 recent financial crisis that we've experienced here.
13 But I want to make clear that although there are
14 lessons to be learned from that, those are not the
15 only lessons that we wish to present here today
16 concerning bankruptcy, excuse me, concerning
17 decommissioning, that there are other systemic,
18 perhaps even larger issues that are motivating the
19 state's concerns. And while there are lessons from
20 what happened in the last two years, there are broader
21 lessons, as well.

22 So, having said all that, if we could go
23 to the first slide. This is just an excerpt from the
24 recent FCIC report, which makes pretty good reading,
25 both the Minority and Majority reports, very good

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1 read. And the state is concerned that there is
2 potential for a looming crisis here with
3 decommissioning of the facilities. And that a number
4 of the observations made throughout that report could
5 well be applicable here, and we urge the NRC to review
6 that report. We brought a copy of it with us today,
7 and to apply some of the lessons learned from that in
8 going forward in decommissioning. If we could go to
9 the next slide.

10 New York has experience, or has eight
11 power reactors. We've listed them here. They have
12 various -- they had various operating license terms.
13 A number have been renewed. Indian Point is going
14 through the process now, and then the one at the
15 bottom has been alluded to several times today,
16 Shoreham. And just to note that -- I mentioned General
17 Motors, I mentioned GE. We've also gone through the
18 Shoreham experience. If we could go to the next slide.

19 Another experience that we also want to
20 bring to the table and underscore is the experience
21 that we've had with the West Valley site. I'm sure
22 folks here are well aware of that. It is, obviously,
23 not a power reactor, not pretending otherwise, but the
24 costs for the remediation of that site are
25 substantial. I think that's an understatement to say

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1 how expensive that is. And right here, we're
2 referring to federal government reports. We have the
3 DOE Environmental Impact Statement, we have the GAO
4 report. That is going to be a substantial financial
5 commitment to clean that up. And, again, it informs
6 the state's concern in this area. If we could go to
7 the next slide.

8 Again, we think there are lessons to be
9 learned from the financial crisis. We understand that
10 there were some shortfalls in various accounts over
11 the last -- various decommissioning accounts over the
12 last two years. But, again, the state's concern is
13 that folks not say oh, it's just the financial crisis
14 in 2008, and everything can go back -- everything has
15 restored itself, everything is honky dory, and we
16 don't have to worry about it. But we do think there
17 are some lessons there, and we've outlined them, and
18 we hope that they can inform the NRC process here.

19 Again, listen to those who identify the
20 risks, identify the unintended consequences. I think
21 we've heard today from a number of the presentations
22 already, including Ed Abbott's just recently
23 concluded, that there are a number of uncertainties, a
24 number of risks, a number of unknowns.

25 Insure transparency, the State of New York

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1 is always concerned about insuring transparency in
2 dealing with decommissioning, and in dealing with
3 these matters, in general. And avoid unnecessary
4 complexity. If we could go to the next slide.

5 Taking some of these themes forward in
6 some more detail, when the NRC posted the notice of
7 today's meeting, it identified a number of topics that
8 it thought might be -- folks might want to consider
9 discussing, and we're going to get to them in a little
10 bit more detail; parent companies, SAFSTOR, and the
11 funding formula, itself. If we could go to the next
12 slide, please.

13 State has concerns about the parent
14 guarantee mechanism, in general. And, as we know, if
15 a guarantor falls out of compliance, it is
16 questionable, it is unlikely, perhaps, that the
17 guarantor will have the financial capacity to fund the
18 shortfall. And there are also within the parent
19 guarantee paradigm, there are other risks that the
20 state is also concerned about. Corporation
21 reorganization, we've just been through a process
22 along with the State of Vermont for a proposed
23 corporate reorganization for one of our licensees in
24 which several Merchant plants were proposed to be spun
25 off from a larger corporation into a new corporation

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1 that was just going to be the Merchant plants in the
2 northeast. And that is the Enexus proposal.

3 Although NRC approved that proposed
4 corporate restructuring, the States of Vermont and New
5 York, separately, raised concerns before their Public
6 Service Commissions, or their respective Public
7 Service Commissions. And, ultimately, those
8 regulatory bodies decided it was not in the public
9 interest for that to go forward. But therein lies
10 another issue here of Merchant plant -- of concern for
11 the states, which is the Merchant plants.

12 When Connecticut Yankee, Haddam Neck
13 needed money, my understanding is that it was able to
14 go to its rate payers to make up the shortfall. It is
15 not clear what a Merchant plant that has ceased
16 operation, and has only the assets of its structures,
17 what it can do. And that does pose additional risks.
18 And regarding the comment, I think, from Winston and
19 Strawn earlier about the 1988 rulemaking, I do think
20 that that rulemaking preceded a large trend in the
21 energy sector towards to deregulation. At least in New
22 York State it did, before we had these Merchant
23 facilities, so that is a concern.

24 Bankruptcy is another concern. I'll touch
25 on it just briefly. As I said in the introduction, we

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1 are well versed in the drill in bankruptcy, and what
2 can and what is, and is not possible in bankruptcy.
3 And it is a substantial concern on the state's part.
4 And we, respectfully, suggest that it should also be a
5 concern for the federal government, and for the NRC.

6 Ultimately -- also, not on this list, but
7 we'll touch on it a little bit later, as well,
8 SAFSTOR. It's another way, it's another uncertainty,
9 it's another question mark. It's, essentially,
10 another potential risk which ties into are these
11 corporations, are these Merchant plants, are these new
12 co, or old co, or bankrupt estates, where are they
13 going to be in 60 years? How is the obligation to
14 fund one's decommissioning, how is that going to get
15 transferred three generations out, six decades out?
16 It would seem prudent to insure that the monies are
17 set aside, and are set aside in a manner that protects
18 them from bankruptcy, and protects them from corporate
19 reorganization, so that the tribal governments, the
20 localities, and the states are not left with a very
21 difficult choice down the road, facing a company that
22 maybe cease to exist, or a company that no longer has
23 sufficient assets, and leaving a site as an
24 unremediated site that can't be developed, can't be
25 returned to society, or having to pay for it. That is

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1 a choice, that is a situation that the local
2 government should not have to be placed into.

3 If we could go to the next slide about net
4 present value. I know NRC asked for some thoughts. I
5 know this has been an issue at the staff level, and at
6 the Commissioner level. I know NEI has weighed in on
7 this.

8 The State of New York's position is, we
9 have concerns about the parental guarantee, and we
10 question why one would go forward with the net present
11 value. There are a number of variables here, and from
12 the state's perspective, all of them are unknown. And
13 while it may be appropriate in financial markets for
14 investment purposes, the state submits, respectfully
15 so, that this device, this mechanism should not be
16 used for something as important as insuring that these
17 sites are cleaned up.

18 Just to run through the variables here.
19 And, again, they're on the PowerPoint. There are a
20 number of uncertainties. The date the parent
21 guarantee may be called, the amount, and the discount
22 rate. All of these are uncertain, and they build on
23 other factors, which are also unknown, including on
24 this slide and the next slide, which we could go to.
25 The labor costs, the waste disposal costs, the

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1 transportation costs, and the growth of the fund, and
2 I think Mr. Abbott's presentation of a few moments ago
3 touched on those. And I don't want to belabor it, but
4 why a regulatory regime would bring on additional risk
5 for something this important? It seems that there's
6 no basis for it. And we, in the State of New York,
7 would urge the Commission staff, and the
8 Commissioners, not to go down the net present value
9 route in this situation for decommissioning. If we
10 could go to the next slide.

11 Reporting. Again, providing some comments
12 on RIS-2010-XXX. The state suggests that instead of
13 looking at snapshots, and running into the problems
14 that were identified in the recent financial crisis,
15 that there be an average that will avoid the
16 possibility of people moving monies around, so having
17 accounts seem appropriate one day, and then
18 restructuring them, or moving them on for another.

19 There's been some discussion today about
20 funding or obligations that are outside the NRC
21 decommissioning realm. And the state would again
22 respectfully suggest that the NRC and the industry not
23 use the word "may." May means it's not going to
24 happen. We think it must happen, that the items which
25 go beyond the NRC decommissioning issues, but could

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1 touch on state site restoration issues, or other
2 issues, we think they have to be disclosed.
3 Otherwise, the states and the localities are at a
4 great disadvantage, and it really does not foster any
5 type of collaborative relationship, or cooperative
6 federalism, if you will, for there not to be
7 disclosure about that. If we could go to the next
8 slide.

9 Again, I know these issues have been
10 discussed both at the staff level, and the
11 Commissioner level. The state still has a concern
12 that the current structure will allow for there to be
13 lack of compliance for up to three years. And moving
14 on to transparency, and, again, that is something the
15 State of New York is very committed to.

16 The decommissioning fund estimates must be
17 served on the states and the localities, and they must
18 be immediately posted on ADAMS. Having it come to the
19 NRC, and not being publicly available is not assisting
20 the states at all. It's, frankly, frustrating the
21 states.

22 And tying on -- if we could go to the
23 next slide, tying into the next slide, and coming back
24 to the issue about site restoration, and state
25 regulation, there have been a number of NRC staff

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1 circulars out to the industry discussing issues, such
2 as commingling, or moving funds from state restoration
3 accounts into the NRC-regulated decommissioning
4 account. The State of New York has a substantial
5 concern about this, and has had some experience with
6 that, as well. In a corporate sale of assets for the
7 Indian Point facility, it appears that certain funds
8 that were set aside for state-regulated site
9 restoration were moved, or no longer exist, and were
10 moved into federal-regulated decommissioning funds.
11 We have tried to raise this issue a number of times
12 over the last two years, and have not yet received an
13 explanation as to what happened. And, in fact, in
14 some instances when the question has been raised, I
15 believe by someone at the New York State Public
16 Service Commission, they were told that that was not a
17 matter of their concern, and there was no response
18 provided.

19 That's just unacceptable to the State of
20 New York. The state has a right to know what happened
21 to that state-regulated site restoration account, and
22 it's also entitled to have that money back. And it
23 would also be appropriate, we submit respectfully to
24 the NRC, to understand whether the NRC decommissioning
25 account was somehow inflated as a result of that

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1 transfer.

2 The next bullet point on this slide is
3 about the use of decommissioning trust funds. And I
4 know the State of Vermont will speak to that, perhaps
5 in more detail. I don't want to belabor the point,
6 but the State of New York is very concerned about that
7 use. I think as we heard in the colloquy here this
8 morning between both sides of the meeting room here,
9 my understanding from that colloquy is that the NRC
10 does not view spent fuel management as being
11 encompassed within the decommissioning funding. And
12 if I'm wrong that, I'd love to be corrected on that,
13 but I'm getting a few nods around the room.

14 From the state's perspective, we wonder
15 why one would take from Peter to pay Paul. There
16 appear to be a number of risks and uncertainties, and
17 unknowns about decommissioning even as the NRC
18 describes it, so why folks would take money for spent
19 fuel management away from decommissioning, and leaving
20 those funds further underfunded raises substantial
21 questions to the state.

22 And if there are any thoughts or requests
23 to do that, or initiatives, the state would certainly
24 wish to be included in any preliminary discussions, in
25 any requests, and have advance notice of that. If we

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1 could go to the next slide, please.

2 Moving towards an issue about Monte Carlo,
3 the state does have some concerns about the use of
4 models, and how they work out, and how they don't work
5 out when subject to various stress tests, or shocks.
6 I was thinking in preparing my remarks today, what
7 have I encountered in my life in terms of financial
8 uncertainty, and I was going back to Black Friday in
9 October 1987, long-term credit management, dot.com,
10 World Com, Enron, the real estate bubble, and
11 everything else that has happened in the last few
12 years, and the models didn't always work.

13 There's a book out now, I think it
14 actually makes a nice bookend to the FCIC report, it's
15 by Scott Patterson, who's a Wall Street Journal
16 reporter, it's called "The Quants," always a good
17 Scrabble word. And he details the problems with the
18 mathematical models that were used by a number of
19 private equity folks, and how they did not always work
20 out in extreme market situations.

21 And there is also discussion in there
22 about how the SEC, essentially, let the banks off the
23 hook from a regulatory perspective. And we would --
24 we, in the state, would hope that that -- again, that
25 those lessons could be learned. But this is really a

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1 way to segue into the next slide, and if we could have
2 that up on the screen.

3 Monte Carlo, I know there's been another
4 presentation this morning that we weren't able to
5 attend. I'm looking forward to hearing what happened
6 there. But the state has concerns about that, and
7 suggests that the NRC and an outside auditor perform
8 the evaluation. Perhaps it could be GAO, perhaps it
9 could be another independent body, but to insure that
10 the assumptions that go into these models are
11 understood, and understood to everyone, not only the
12 licensees, but to the rating agencies, the host
13 communities, the states, so that everyone has a good
14 idea of what's going on. If we could go to the next
15 slide. Again, this goes back to will the models always
16 work? And there are -- the state does have concerns.
17 If we could go to the next slide, please.

18 There's also a discussion -- we've heard a
19 lot of discussion about SAFSTOR today. I heard NEI
20 saying they don't -- they're not too pleased. They
21 think about -- they do not wish to hear SAFSTOR be
22 criticized. And the state does, however, have
23 concerns about SAFSTOR.

24 The state understands that SAFSTOR came
25 about for radiological exposure purposes, and that was

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1 it. And it was not meant, or was not initially
2 intended as a device to grow decommissioning accounts.
3 And, again, we would respectfully suggest that using
4 SAFSTOR to grow an account that's underfunded, taking
5 it out 60 years, is not within the spirit, and is not
6 within the intent of SAFSTOR. And we would encourage
7 the NRC to make that clear, that as we move out on
8 time, as we move out on the time line that is going to
9 increase the risk. And, again, we're going to get
10 into situations where we're talking six decades, three
11 generations down the road. And there could be great
12 uncertainty, and great risk involved in that. Next
13 slide, please.

14 Again, one reason we think the NRC and an
15 outside neutral evaluator should be discussing, or
16 analyzing these models is so that everyone, including
17 the licensee, including the financial markets,
18 including the rating agencies understand what is going
19 on. Next slide, please.

20 As the state has tried to make clear in a
21 number of comments in a recent rulemaking, which I
22 believe is available on ADAMS, the state does have
23 concerns about the funding formula, and that the
24 funding formula does not, necessarily, take into
25 account subsurface contamination.

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1 Subsurface contamination is, most
2 assuredly, an issue that the State of New York is
3 concerned about. The Indian Point facilities have
4 experienced long-term subsurface releases. I don't
5 think that's a surprise to anyone in this room. And
6 in a recent 2009 request for additional information,
7 the NRC staff noted that there could be a million or
8 more cubic feet of contaminated soil that would be
9 swept into the decommissioning, or the site
10 restoration of the facility, and how is that going to
11 be paid for? I totaled up the paragraphs just before I
12 -- I think it was something like 1.7 million cubic
13 yards, just in that RAI alone. So, we respectfully
14 submit that this formula, which was promulgated some
15 time ago, does not, necessarily, take into account the
16 situations where we have subsurface contamination,
17 especially long-term subsurface contamination. Next
18 slide, please. And we have seen that subsurface
19 contamination can materially effect decommissioning
20 costs.

21 In the most recent TLG report prepared for
22 Indian Point, there is even an acknowledgment of that.
23 And we've also seen that, we understand, at Yankee
24 Rowe, and Connecticut Yankee. And there are other
25 plants in New York in which that also has taken place.

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1 So, I know we want to stay on schedule,
2 and if I could sum up, we have a conclusion, if we
3 could go forward. The State of New York is very
4 concerned about being faced with a choice 10 years
5 from now, or 60 years from now, where it must choose
6 between two unpalatable alternatives, between leaving
7 a contaminated site where there was insufficient funds
8 unremediated, and, essentially, unused for a very long
9 time, or paying out scarce state resources to clean up
10 a site, when, in fact, here and now there is a
11 responsible party that could pay for it.

12 In concluding, just if I could sum up,
13 we're very concerned about the conversion diversion of
14 state-regulated monies. And we, frankly, think there
15 should be a disgorgement order returning those monies
16 back to the state. We're concerned about the net
17 present value. We're concerned about SAFSTOR. We're
18 concerned about the straight-line formula that we see
19 back in 50.75. And it should not be -- while there
20 are many opportunities for industry, we, at the state,
21 have not seen in any clear or transparent manner what
22 is motivating the net present value. We don't
23 understand it. We see multiple uncertainties in that
24 formula, and we don't think a case has been made for
25 it. In fact, we think recent events over the last 10

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1 years in terms of site restoration, and subsurface
2 contamination would argue strongly against it. So,
3 lastly, the state submits that it should not -- the
4 risk of uncertainty should not be transferred on to
5 the state, or to the localities, to the host counties,
6 or to tribal nations where applicable. I'd be happy to
7 take any questions.

8 FACILITATOR ANDERSON: John, thank you for
9 that presentation, your comments, and concerns. I see
10 one hand up in the NRC auditorium. Are there any
11 other immediate comments or questions?

12 MR. HORIN: Thank you. John. Bill Horin
13 with Winston and Strawn. Thank you for the
14 presentation. That very clearly laid out several
15 concerns that the State of New York has. And, also,
16 thank you for pointing out that my comment with
17 respect to the 1988 rule was, in fact, before the
18 changes in the industry when we went to a more
19 deregulated environment. So, let me supplement my
20 earlier comment.

21 There were, subsequent to the 1988 rule,
22 at least three major rulemakings, including an NRC
23 policy statement issued to address the issue of
24 deregulation and Merchant plants. And there were
25 several changes that were made to the regulations for

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1 that specific purpose, including the eliminating the
2 sinking-funds funding approach, establishing more
3 specific criteria for the merchant plants with respect
4 to investment criteria, notification of the NRC with
5 respect to the use of funds. And, in addition, the
6 NRC guidance was amended to assure that in the event
7 of a shortfall, merchant plants were to make that up
8 more quickly than a regulated utility. So, there were
9 a number of changes in the overall intent, and I think
10 it has served well, was to assure that we continued to
11 have a regulatory scheme that provided reasonable
12 assurance with merchant plants, as well as the
13 regulated plants.

14 MR. SIPOS: I guess I would just say in
15 brief response, we still think at the end of the day,
16 if you have a merchant facility that's, essentially,
17 on its own, no lifeline, and for whatever reason, for
18 a business reason it decides to cease operations, and
19 its decommissioning funds, and its site restoration
20 funds are not up to par, so to speak, or doesn't take
21 into account subsurface contamination ,we wonder if
22 the state is going to be given a fait accompli.
23 Here's the 500, 800 million, and it's going to cost
24 1.5 billion. Good luck, and we don't want to be in
25 that position.

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1 MR. ANDERSON: Ralph Anderson, NEI. Could
2 we, possibly, return to Slide 19? I, actually, just
3 had two questions about it. I thought I was
4 reasonably familiar with the decommissioning of
5 Connecticut Yankee, so I just wanted to make sure I'm
6 reading the slide right. The slide is saying that the
7 radiological decommissioning at Vermont Yankee cost
8 \$1.2 billion?

9 MR. SIPOS: Connecticut Yankee. I have
10 seen documentation where the total cost, and I cannot
11 -- as I stand here right now, I can't break it down,
12 but that the total costs have exceeded \$1 billion.

13 MR. ANDERSON: Yes. I'll just offer that
14 probably both of us ought to go back and look at the
15 data. I just tell you on the outset that that --
16 knowing what the site was funded at, I can assure you
17 the State of Connecticut did not go to the rate payers
18 for \$800 million. That did not happen.

19 MR. SIPOS: I, actually --

20 MR. ANDERSON: And the licensee has
21 terminated, so I have to assume that somehow the
22 monies have all been spent. So, we should both go look
23 at the information. That was my second question, is I
24 just wondered what -- oh, were you also inferring that
25 that was because of subsurface contamination?

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1 MR. SIPOS: Yes. And I know from a public
2 meeting, and forgive me, I can't recall which one, but
3 I know recently that NEI has said that if there was
4 subsurface contamination, that its component -- it was
5 a small pie wedge.

6 MR. ANDERSON: Right.

7 MR. SIPOS: I have seen that.

8 MR. ANDERSON: Again, the State of
9 Connecticut has that information. It was about \$24
10 million.

11 MR. SIPOS: I'm sure --

12 MR. ANDERSON: If you contact your
13 counterpart, he can probably get that information.

14 MR. SIPOS: Right. We could both go to
15 the State of Connecticut, or its Attorney General, or,
16 I guess, Senator and ask.

17 MR. ANDERSON: That's where I went. \$24
18 million was the number they gave me.

19 MR. SIPOS: I know there was a pipe that
20 was leaking, that hadn't been detected for, I think,
21 many years. I'm going out on a limb there, but I
22 think it was not quickly found. And that there was a
23 plume under that facility. My understanding is that
24 they discovered it during decommissioning.

25 MR. ANDERSON: Yes.

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1 MR. SIPOS: And I know there were
2 differences of opinion between Bechtel and the owner
3 of the plant. I saw a Hartford Current article where
4 FERC did have to arrange for a large rate increase for
5 the Haddam -- for Connecticut Yankee. So, I know that
6 their decommissioning costs greatly exceeded what they
7 had in the bank, so to speak, for that facility.

8 MR. ANDERSON: Yes. Again, I don't have a
9 slide, and I wasn't invited to make a presentation, so
10 I'll just offer up that my understanding from talking
11 to the State of Connecticut was that the additional
12 monies that had to be recovered were on the order of
13 \$40 million, and that \$24 million of that was to
14 address the contamination situation that you
15 described, which, in fact, was leakage from the spent
16 fuel pool, actually, directly underneath the reactor
17 building, which they neither knew about it, nor when
18 they got to it, could they continue further until they
19 tore the whole building up. And it does represent, in
20 a sense, kind of a worst case of undetected
21 contamination; at least, as a lesson learned operating
22 experience was the way we've been looking at it.

23 We had to resolve that, because,
24 obviously, if your numbers are right, then we've got a
25 totally wrong view of the impact of subsurface

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1 contamination. And although I'm skeptical, I'm
2 willing to go back with an open mind and look at the
3 data.

4 FACILITATOR ANDERSON: Are there any other
5 questions or comments in NRC headquarters for John?

6 MR. FREDRICHS: This is Tom Fredrichs from
7 NRC. And I can comment on Connecticut Yankee to a
8 certain extent. In fact, that was my first job when I
9 came to the NRC for the three years, was the initial
10 decommissioning at Connecticut Yankee. And the \$1.2
11 billion would include spent fuel costs, and some other
12 remediation costs outside of the NRC costs, but the
13 same time, if you go back and look at some of the
14 reports that Connecticut Yankee sent to us, as I
15 recall, it came out to around seven hundred some
16 million dollars, which they are talking about as the
17 radiological decommissioning, which was far above the
18 formula amount.

19 The amount of contamination in the soil,
20 they don't have to give us very detailed information.
21 And looking through our records, and looking through
22 FERC records, I tried to piece it together, and my
23 best guess was that there was somewhere in the 30 or
24 40 million dollar range for that particular point.
25 And if you read through the full record, it's rich in

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1 anecdotes about what happened, and trying to
2 coordinate several independent parties to get that
3 cleaned up. But I can say with confidence that the
4 radiological portion all together was much above what
5 our cost estimate was.

6 The other thing I wanted to ask, John, is
7 you mentioned about bankruptcy. And one of the
8 concerns that I'll talk about later with the parent
9 company guarantee is, when you try -- in a bankruptcy
10 situation, exactly what could a party expect to
11 recover given that they did have a guarantee. And
12 then when you think about the net present value of it,
13 it has a lower face amount. I mean, if you could
14 comment on what might be recoverable given a parent
15 company guarantee.

16 MR. SIPOS: Right. Our understanding --
17 actually, let me retract that. I'll give my personal
18 view for this one question. My understanding is that
19 in a bankruptcy context, that the parent guarantee
20 scenario is -- from a regulatory creditor perspective,
21 is not as strong as you might like as a regulatory
22 creditor. Again, depending on how it's structured, we
23 could toss out a lot of hypotheticals. But that a
24 regulator may be in a weaker position, if that regime
25 is being used in bankruptcy, and how it is structured.

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1 I don't know if that's -- well, why don't I just say,
2 I think it's a position that is not a position of --
3 there are stronger positions for bankruptcy to make
4 it more -- to make it ironclad so that one is not
5 seeing claims diluted to dimes, or quarters on the
6 dollar. And I'd be happy -- we could talk about that,
7 also.

8 FACILITATOR ANDERSON: All right. We're
9 running a little bit short on time. Let me check in
10 briefly with those on the telephone. Are there any
11 comments or questions on the phone? Okay. We'll go
12 to Larry Pittiglio, you have one last quick comment or
13 question.

14 MR. PITTIGLIO: Yes, one last comment.
15 With regard to the costs that you see up there, PNNL
16 and I have been looking at all of the reactors that
17 have gone through decommissioning, including those.
18 And I will tell you that the numbers are confusing.
19 We have looked at several different descriptions of
20 the same plant, and the numbers are very
21 significantly, and it's very difficult to find out
22 what the number consists of.

23 Tom mentioned the numbers have been higher
24 than the formula, but many of them include green-field
25 spent fuel costs, and, historically, a lot of those

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1 have occurred more than 10 years ago. And we've had
2 significant problem in really trying to breakout what
3 it really reflects.

4 MR. SIPOS: If I could just follow up on
5 the last three comments. I know there's been a whole
6 discussion about groundwater contamination, an
7 Executive Task Force on that. And I've seen comments
8 in the colloquies there where folks say okay, well, if
9 one is not going to do prompt remediation of a leak,
10 it's going to come later. It's going to come in
11 decommissioning. So, it can't be both ways. It can't
12 be not clean it up immediately, and then under fund it
13 for decommissioning.

14 FACILITATOR ANDERSON: Thank you, John.

15 MR. SIPOS: Thank you very much.

16 (Applause.)

17 FACILITATOR ANDERSON: The next
18 presentation is from the Vermont Public Service
19 Commission.

20 MS. HOFMANN: Hi. The first thing I'll
21 say is, I'm Sarah Hofmann. I'm from the Public
22 Service Department, and there is a difference. We're
23 the advocacy arm of the Administration, and the Public
24 Service Board is what you would think of as the
25 Commission, just so there's no confusion about who I

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1 represent.

2 I first want to say thank you to the NRC
3 for inviting me today. It was really nice. Tom
4 reached out to the states, and wanted to get some
5 input. And, frankly, sometimes Vermont is critical of
6 the NRC, so I really wanted to say it was really
7 wonderful that you would still reach out and say we
8 want you to be heard. And we want to thank the NRC.

9 I also hope there are some -- you know,
10 states don't get to travel any more. You know, we
11 never get to travel, so NRC was very kind to actually
12 help us with our travel. But I do hope there are some
13 states on the phone, because I see really that the
14 room is full of industry. And I just hope there are
15 some more states listening, because they really need
16 to hear this, and understand what's going on, because
17 it affects their states directly.

18 And the final thing is, before I head into
19 my presentation, is that I'm actually -- for those who
20 are concerned that I'm advocating that spent nuclear
21 fuel be included in the decommissioning funding
22 assurance, that's not what I'm saying today. I'm
23 actually saying it's a concern, it needs to be put
24 somewhere, but not, necessarily, in the
25 decommissioning fund. So, first slide.

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1 So, everybody here is familiar with the
2 new Waste Confidence Rule. And, basically, if we're
3 talking about the new plants, or the re-licensed
4 plants, we're talking about, basically, 80 years, 20
5 years plus another 60 years. And then the next slide,
6 I know you're all really familiar with this material,
7 is that it also says that the Commission believes
8 there is a reasonable assurance of a geological
9 repository, basically, when necessary. So, that takes
10 me to my third slide, which you don't get much humor
11 here at NRC.

12 This is, if you don't recognize it, it's
13 Yucca Mountain, and there is the geological repository
14 fairy, and she's going to make it possible when the
15 time comes. But it really does bring up a serious
16 point, which is, we don't have a geological
17 repository. We don't really even have a plan. I know
18 the Blue Ribbon Commission is working very hard to
19 come up with a plan, but it's not going to also be a
20 siting body, either. So, we really don't have anything
21 for spent nuclear fuel. So, for me, this has brought
22 this issue to the forefront, that what are we going to
23 do about spent nuclear fuel, when there really isn't a
24 geological repository fairy, or a Yucca Mountain on
25 the horizon.

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1 We really, at this point -- next slide,
2 please. There really isn't any repository on the
3 horizon, and the states may have spent nuclear fuel on
4 site for an indefinite period of time. And what I am
5 advocating is that you, as licensees, and the states
6 as the regulators, and NRC need to make a plan for the
7 spent nuclear fuel management by your licensee
8 indefinitely.

9 And I know you're going to say oh, it
10 doesn't have to be indefinitely, and we actually hope
11 that's true. We hope that there is something on the
12 horizon soon, so we all know that there is nothing
13 indefinite about it. But, right now, we don't have a
14 plan. And because we don't have a plan, I am actually
15 calling on the states, and the NRC, and the licensees
16 to make sure that there is adequate planning for what
17 we're going to do about spent nuclear fuel management
18 in the next 20 to 100 years. Next slide, please.

19 I don't want to at all make you think that
20 the states are taking on this responsibility. It is
21 the operator's responsibility to take care of spent
22 nuclear fuel until the day that the Department of
23 Energy actually comes and takes it. But what I am
24 suggesting is that the states are responsible, and the
25 NRC is responsible for making sure that you, the

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1 licensees -- I want you to be responsible for
2 yourselves, and I think that's where you're at, as
3 well. That you want to have a plan for what you're
4 going to do about spent nuclear fuel now that the
5 federal government has, basically, let us all down.
6 Next slide.

7 You're all very familiar with this, I am
8 sure, which requires that the licensee within two
9 years following permanent cessation of operation, or
10 five years before expiration of the reactor operating
11 license comes to a close, is supposed to be actually
12 providing the NRC with written notification, and some
13 funding assurances. But my point really is that, if
14 you turn to the next slide, is that I'm concerned that
15 we're waiting so late in the process to actually ask
16 the operators to put funding aside. And I don't know,
17 maybe some of you have set aside money for this. And
18 I know a lot of people are depending on the Department
19 of Energy, and the damages you're going to get. And
20 we're going to talk about that a little bit later. But
21 the idea that we shouldn't wait until the five years
22 before the end of life to start a fund to take care of
23 spent nuclear fuel.

24 The decommissioning trust fund, we've
25 talked about by a number of people today, is for

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1 radiological decommissioning of the plant. It's not
2 really meant for spent nuclear fuel management, and if
3 you're going to use it for that, I think you do have
4 to get a waiver. I think there have been a couple of
5 waivers filed, but I think they were withdrawn. I'm
6 not sure anybody's been actually granted a waiver, but
7 I'm unsure of that. Next slide, please.

8 Our estimates from looking at some of the
9 documents we can get a hold of publicly, is that
10 monitoring, and maintaining, and securing the spent
11 nuclear fuel at an ISFSI will cost between \$4-8
12 million per year. I think that some of the operators
13 are toward the low end of that, and some are maybe up
14 more toward the high end. But, at this point in time,
15 I think it would be fair to say that you should be
16 considering having licensee building a fund over the
17 remaining operating life of the reactor that would
18 throw off \$6 million into perpetuity until we have
19 something more definite.

20 For those who are starting on a new
21 license period, that gives you time to build this fund
22 up. For those of us, who like Vermont Yankee, we're
23 almost at the end, and there is no fund, it really is
24 a problem. And I, actually, agree with the State of
25 New York, that that leaves us in a very bad situation

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1 in terms of what's going to happen to a site like
2 that. Slide 10, please.

3 This is an example using Vermont Yankee.
4 There are all kinds of funding estimates that have
5 been done by TLG. There have been funding estimates
6 done by our own -- the state hired a company called
7 GDS, so this is just one scenario. I just picked it,
8 because it had had some realistic representations, as
9 far as I was concerned. And it shows that one of the
10 estimates for radiological decommissioning, we're
11 talking about the three buckets that other people have
12 talked about today, radiological decommissioning, \$656
13 million, \$219 million for spent nuclear fuel, and that
14 is if DOE removes the fuel by 2042, which I have put
15 an editorial comment in. I think that's unrealistic.
16 And then \$40 million for site restoration, also
17 bandied about in our state is called green-fielding.
18 And the value of the decommissioning fund on January
19 31st, 2011 for Vermont Yankee was \$479 million, plus a
20 \$40 million parental guarantee. And that did satisfy
21 the NRC in terms of when they did do the
22 decommissioning funding assurance, so that total --
23 and they were using an earlier decommissioning
24 number. I actually included on this slide the latest
25 number that we have from Vermont Yankee on the value

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1 of the trust. But, as you can see, if you include all
2 three buckets, there's not enough money. I'm not
3 probably saying anything that's really rocket science
4 here, but we need to plan for those other two buckets.
5 Next slide, please.

6 I think this is just considerations. The
7 first one is, do you have a merchant plant, or a rate-
8 regulated plant? Obviously, if you have a rate-
9 regulated plant, you can probably count on the rate
10 payers going forward to actually help you build that
11 fund, because you are a rate-regulated plant. And that
12 could be taken into consideration, that you do have
13 this captive rate payer base to help build that fund.

14 For the people who have merchant plants,
15 there's no mechanism like that, and there shouldn't
16 be. The merchant plants came in, they bought the
17 plant, they wanted to run the plant, and at the time,
18 they also took on all the responsibilities for
19 decommissioning, spent nuclear fuel management, and
20 green-fielding. So, I think there's a little more
21 alarm, or a little more concern for those with
22 merchant plants versus the rate-regulated. But,
23 still, building those funds up is really what I'm here
24 to advocate for.

25 Another consideration is, obviously, there

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1 are going to be damages for the breach of contract by
2 Department of Energy. Some operators would say well,
3 that money is going to continually come in. That's
4 how we'll fund spent nuclear fuel management, which is
5 great. And I hope everybody does recover, because the
6 Department of Energy did breach their contract. The
7 problem is, it's always coming in after-the-fact, and
8 most of you want to reimburse yourself for costs you
9 had, which is a legitimate thing to do. You had to
10 purchase those spent fuel canisters, because the DOE
11 breached. But that doesn't help us build up the spent
12 nuclear fuel fund. And it also is, if you want us to
13 depend on the money coming from the federal government
14 over the next 100 years, it's also shifting the risk
15 back to the states, and it should really remain with
16 the operator who bought that plant, and wanted to run
17 that plant, and took on that responsibility at the
18 time of the sale of that plant to them.

19 Obviously, large decommissioning fund
20 balances, maybe some of those plants can ask for a
21 waiver and use some of that money for spent nuclear
22 fuel management, or for green-fielding. I mean, that
23 should be a very strict process at the NRC to look at
24 those waivers, to make sure that there is enough money
25 first for that radiological decommissioning, because

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1 that's what that trust fund was set up for. And, of
2 course, there are probably states that have agreements
3 with your licensees that would also have to be taken
4 into consideration when looking at building a fund,
5 such as this.

6 So, that's my -- it's a little different
7 than what the NRC and Tom was interested in when he
8 asked us to come speak, but he was kind enough to let
9 me talk, anyway. But we also will be sending some
10 comments in about the net present value, and the other
11 things, as well. So, with that, I, actually, will
12 leave it open for questions.

13 FACILITATOR ANDERSON: Thank you, Sarah.

14 MS. HOFMANN: There's one behind you.

15 FACILITATOR ANDERSON: Are there any
16 comments or questions -- one right behind me.

17 MR. LEVIN: Thanks, Sarah.

18 MS. HOFMANN: That was my idea. We just
19 turned it off.

20 MR. LEVIN: I appreciate that. Thank you,
21 Sarah. I appreciate your presentation.

22 Two items I'd like to talk about. The
23 first is Slide 8, decommissioning trust fund is for
24 radiological decommissioning of the plant. I am not
25 familiar with the State of Vermont's requirements.

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1 However, I can tell you that the State of Pennsylvania
2 allows Exelon to collect for decommissioning costs,
3 which include spent fuel management, and site
4 restoration. So, while it may not be in Vermont, it's
5 not, necessarily, that case in every venue.

6 MS. HOFMANN: And that's great. If
7 Pennsylvania has planned for that, that's great. When
8 I've gone around and spoken at NARUC and things, and
9 talked with my colleagues, they don't have plans for
10 this, so Pennsylvania is ahead of the curve.

11 MR. LEVIN: Yes, they are ahead of the
12 curve in that respect. The second item I'd like to
13 address is the DOE damages for breach of contract.
14 Having a settlement with the Department of Energy, and
15 understanding what the requirements surrounding that
16 settlement are, the costs that are being reimbursed
17 for us are costs due to DOE's failure to perform. And
18 that exists only in the space in time during which the
19 plant has operated. So, once the plant retires, there
20 is no cost incurred due to DOE's failure to perform.
21 So, we won't see settlements, damage money being used
22 to pay for decommissioning costs.

23 MS. HOFMANN: That's great. Thank you for
24 adding that.

25 FACILITATOR ANDERSON: There's at least

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1 one more question here at headquarters. Are there any
2 comments or questions with those on the phone at this
3 point? Hear nothing from the phone.

4 MR. SMITH: Jaeger Smith with Entergy. I
5 think it's probably wise to point out with respect to
6 my understanding of the Exelon settlement with DOE, is
7 that it was predicated on very low acceptance rate.
8 And I believe it was 900 MTU rate per year, which is
9 rate that a lot of other licensees have resisted, and
10 have successfully resisted in the courts. And we
11 don't have the same expectation as Adam just shared
12 with respect to recoveries during the decommissioning
13 period.

14 MS. HOFMANN: I'll let the two of you
15 fight that out. Nice to see you again, Jaeger.

16 FACILITATOR ANDERSON: Any other comments
17 or questions here at NRC headquarters? Thank you,
18 Sarah.

19 MS. HOFMANN: Thank you very much.

20 (Applause.)

21 FACILITATOR ANDERSON: We are just a few
22 minutes over the agenda scheduled time. We do have
23 one more presentation that will take place before we
24 break for lunch. I do plan to allocate the entire
25 scheduled time to this last presentation, so we'll

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1 break for lunch at the end of this presentation, and
2 any comments or questions associated with it. Thank
3 you.

4 MR. HEMPSTEAD: Okay, thank you. My name
5 is Jim Hempstead. I'm an analyst at Moody's Investor
6 Service. I work in the Utility and Project Finance
7 Group, and I'm the lead analyst on a number of large
8 electric utility holding company systems, and non-
9 regulated merchant companies. I cover companies like
10 Dominion Resources, Duke Energy, American Electric
11 Power. I work on Energy Futures Holdings Corp, I do
12 cover Genon Energy, which is part of the old Merit,
13 and I am the backup analyst on a number of other large
14 new companies, as well, including Nextera, Exelon. I
15 participate on Exelon, Southern Company, and Progress
16 Energy. Thank you, Tom, for considering having
17 Moody's here.

18 On the table, we have a special comment
19 that I brought down here. This is a report that we
20 published at the end of last year on credit
21 substitution and guarantees. Generally speaking,
22 that's a very broad topic for us. It's, primarily,
23 used in the public finance, and structured finance
24 markets, very rarely will a corporate-level parent
25 guarantee to a sub, or a sub to a parent ever meet the

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1 nine primary conditions that we have, the ideal
2 conditions that we look for for credit substitution.
3 And that's okay. It comes down to a rating committee
4 decision, and I'll elaborate that more in a moment, if
5 you could please go to the next slide.

6 So, I'm going to go around in a circle,
7 and come back to all that. In general, when we cover
8 various sectors, we have rating methodologies for
9 those sectors. And these are classified by industry
10 sector. There are several hundred of them existing.
11 There is a regulated electric and utility rating
12 methodology for the regulated sector. There is a non-
13 regulated sector rating methodology, as well, for
14 unregulated power companies. These are global in
15 nature.

16 Generally speaking, if you read through
17 the rating methodology, you will see a series of
18 qualitative and quantitative measures and
19 considerations that a rating process will look at when
20 we assign ratings. And, generally speaking, you ought
21 to be able to get to within two notches of what the
22 actual rating is by reading the rating methodology.
23 Please go to the next slide.

24 These methodologies are global in nature.
25 In the regulated utility methodology, and I'm going to

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1 spend the majority of my time speaking about that
2 particular sector, because that's where most of the
3 operating plants, I think, are located. In general,
4 in the regulated utility sector, only about 40 percent
5 of what is incorporated in our rating methodology is
6 driven by actual quantitative measures, the financial
7 quantitative measures, or other quantitative measures,
8 for example, with respect to the amount of carbon-
9 related emissions that are generated on an annual
10 basis. That is unusual compared to all of our other
11 corporate rating methodologies.

12 If you look at the oil and gas
13 methodology, about 98 percent of an oil and gas
14 methodology is going to be derived by quantitatively-
15 based measures. And we think that makes sense,
16 because in the regulatory environment, there's so much
17 of an interpretation as to what's actually happening
18 from a regulated perspective. Can you go to the next
19 page, please.

20 So, in our regulated methodology; and,
21 again, this is global in nature, we look at the
22 regulatory framework that a particular company has
23 within its jurisdictions. We look at the suite of
24 regulatory mechanisms that they have to recover their
25 costs and investments, and the timeliness of those

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1 recoveries, and the assurance that we have on those
2 recoveries. We look at the diversification of the
3 company, is it a single state utility, or a multi-
4 state utility? We look at the diversification of the
5 generation mix that they have, and how much of that
6 generation mix is focused on carbon-related emissions
7 versus non-carbon-related emissions. And the higher
8 the carbon-related exposure, the lower our assessment
9 will be.

10 And last but not least, we have the
11 quantitative metrics on financials. Liquidity is
12 included in the quantitative metrics with respect to
13 the financials. And although liquidity doesn't get
14 that big of a consideration in this methodology,
15 liquidity is actually one of the biggest
16 considerations that can drive ratings often by
17 multiple notches. So, when it comes to the electric
18 utility sector, the regulated electric utility sector,
19 often the regulated utility sector does not have very
20 good liquidity the way we define it in terms of
21 sources and uses. That's because the regulated
22 utility sector depends on access to capital. And when
23 they need to go get capital, they just go get it from
24 the marketplace. And although we exclude an
25 assumption that the capital markets will be available

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1 when we do our liquidity analysis, when we sit in the
2 rating committee and talk about a company, we take
3 into consideration that utility companies have
4 extremely good access to capital. And throughout that
5 2007, 2008, and 2009 financial crisis that some of the
6 other speakers referenced today, many utility
7 companies never missed a beat in terms of accessing
8 the capital with their commercial paper programs. And
9 that's a very important item. If you can go to the
10 next page, please.

11 With respect to the regulatory framework,
12 the vast majority of the regulated utility companies
13 have a Baa rating assigned to Factor One, their
14 regulatory framework. We incorporate a view that
15 regulated utilities will recover their costs and
16 expenses in a reasonably timely manner with a fair
17 rate of return. We also incorporate a view that most
18 regulatory bodies prefer to regulate a financially
19 healthy sector. And it's only rare when there is a
20 significant disagreement over some aspect of a
21 recovery mechanism that would make us lower our
22 assessment with respect to this.

23 Florida was recently lowered, not because
24 the suite of regulatory mechanisms were being
25 attacked, but because of the political intervention

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1 that was witnessed in that particular state in 2009,
2 or 2010. Go to the next page, please.

3 When it comes to the financial metrics,
4 these are very critical considerations. Now, we spent
5 a lot of time this morning talking about parent
6 company guarantees, and some of these numbers with
7 respect to decommissioning trust funds. Those
8 unfunded liabilities are definitely going to get
9 discussed in a rating committee. The larger they are,
10 we see a difference between regulated fleets, and non-
11 regulated fleets. And we echo some of the other
12 comments and concerns that we harbor from a credit
13 perspective on non-regulated merchant generation
14 fleets.

15 We see a difference between fleets and
16 single operator, single unit operators. And we see a
17 big difference between the regulated utilities that
18 have nuclear generation, and those that do not. In
19 general, the utilities that have exposure to nukes
20 tend to be a little stronger from a financial
21 perspective than those do not.

22 One of the very important items that we
23 focus on is the second line down, the cash flow from
24 operations. Adjusted for working capital changes, as
25 a percentage of debt, or to be considered investment

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1 grade it should be a little bit above -- it should be
2 about the lows teens, 13-22 percent is the range. But
3 if you're in that low teens range, you're going to be
4 considered investment grade, if you're a regulated
5 utility company. If you compare that against
6 corporate industrials, that metric would be non-
7 investment grade, low teens cash flow to debt. That's
8 a non-investment grade metric. But because of the
9 safety net, and the stability and predictability that
10 we see in revenues and cash flows as a result of the
11 regulated regime, utility companies, regulated utility
12 companies get that benefit.

13 If you're a non-regulated company, if
14 you're a merchant generator, you would be under a
15 different rating methodology, and the hurdle for you
16 to achieve on those financial metrics would be much
17 higher, slightly lower than what the corporate
18 industrial levels are, but much higher than the
19 regulated utilities. Can you go to the next slide,
20 please.

21 When a company produces over a long-term
22 period of time a certain ratio, notwithstanding the
23 strong regulatory environment, or the very good suite
24 of regulatory mechanisms that they have to recover
25 their costs, eventually, the ratings are going to show

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1 some pressure. And it was very recently when Moody's
2 downgraded Georgia Power Company, a very strong A-
3 rated utility company located in Georgia, but you
4 could see here on this chart, their cash flow to debt
5 metrics were having a hard time keeping up with the
6 ranges that are necessary to be considered an A
7 rating. That's the primary reason why this company
8 was downgraded. It was not downgraded, primarily,
9 because it was going to build a new nuclear power
10 plant, although that was a contributing factor. Can
11 you go to the next page, please.

12 With respect to South Carolina Electric
13 and Gas, this company has also experienced some
14 ratings downgrades. They're currently rated Baa1 on a
15 senior unsecured basis. You could see the long trend
16 down on their cash flow metrics, as well. That is
17 inappropriate for an A rated utility company, in our
18 opinion. It's almost a little inappropriate for a
19 Baa1 rating. But we see some significant improvement
20 in the most recent time period, and I don't have the
21 2010 numbers in here yet.

22 Some of that improvement might be related
23 to bonus depreciation, and other tax-related
24 efficiency, tax efficiency strategies, and other one-
25 time events. And one of the things that we'll be

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1 paying a lot of attention to going forward for the
2 sector is how much of your cash flows are being
3 benefitted by tax policies, or tax strategies, or some
4 other form of benefit, cash flow benefit that might
5 not be sustainable over the long-term period of time.
6 Can you go to the next page, please.

7 Now, this is a very simple example and
8 illustration of how various different sectors look
9 over a three-year average. The three-year average is
10 2007-2009, so there were some pretty difficult
11 economic times incorporated in this average.

12 The vertically integrated electric
13 utilities, generally speaking, are rated in about the
14 A3 Baal range. And those with large nuke exposures
15 tend to be towards the higher end of the range. And
16 their metrics tend to be a little stronger than what's
17 exhibited on this page.

18 We see strong ratings, and low metrics
19 from the municipal utility world, and those include
20 joint power agencies, and the various forms of the
21 municipal utility sector. Notwithstanding the fact
22 that their metrics, their financial metrics are low,
23 they have self-rate setting flexibility. And we've
24 seen them exhibit that self-rate setting flexibility
25 over and over again. And they are very strongly rated

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1 as a result of that.

2 The generation and transmission
3 cooperative sector is in a similar category, where
4 they have a lot of self-rate setting flexibility to
5 achieve the financial metrics that they need to have,
6 or to set the rates that they need to have to recover
7 their costs and expenses.

8 We see a significant amount of nuclear
9 exposure from the municipal side, and a smaller amount
10 from the G&T side. The merchant companies are non-
11 investment grade. Most of them are rated in the
12 single B level, which is starting to move down the
13 non-investment grade rating category. Some of them
14 are in deep non-investment grade category. For
15 example, the owner of Comanche Peak is rated in the
16 CCC, Caa2 level from our perspective.

17 There was a lot of questions about the
18 Enexus spinoff, and how that would be rated. And,
19 generally speaking, the view was that it would be
20 rated non-investment grade. And that's because of the
21 way it was being structured with the amount of debt
22 that was being put on it. But that tends to be the
23 rare case. Most of the time, we see the companies,
24 like Exelon Generation, that are rated A, very strong
25 investment grade ratings, very strong metrics. Exelon

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1 Generation has, roughly, 60 percent cash flow to debt,
2 I think, down from 80 percent when the power markets
3 were much stronger. Can you go to the next page,
4 please.

5 One of the things that we often do is
6 spend a lot of time calculating the projections. And
7 I was making some notes that there are deficiencies
8 with straight line projections over a long-term period
9 of time, and those deficiencies are illustrated in
10 this page right here. But this is an actual composite
11 of a bunch of different utility companies that include
12 both nuclear operators, as well as non-nuclear
13 operators, and you can see some variability in the
14 cash flow to debt metrics. This is not adjusted for
15 working capital, so you'll see a little bit more
16 variability in these numbers.

17 And then depending on how we project out
18 in terms of revenue growth, or cost growth, or
19 expenditures, and how they're going to finance their
20 free cash flows, you can get some different
21 perspectives as to which way the ratings might be
22 going on these particular companies.

23 We incorporate a view that those utility
24 companies that have large nuclear fleets are going to
25 maintain stronger than necessary numbers. And we

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1 incorporate a view that they will maintain adequate to
2 good levels of liquidity at all times. Can you go to
3 the next page, please.

4 And one of the reasons why we do that, is
5 because we are very concerned going forward with
6 respect to the risk of regulatory intervention, or
7 political intervention on the regulated sector. And
8 what we see from the prior slide on projections is a
9 significant need for rate increases over a long-term
10 period of time. There's a significant need for
11 capital investment. There's a number of uncertainties
12 with respect to environmental costs, and that's
13 translating into rate pressure for consumers.

14 To the extent that the economic recovery
15 continues to lag or struggle, and we have a scenario
16 where there's very high unemployment, and very low
17 wage inflation, we're worried that we can reach a
18 point where consumers can no longer tolerate these
19 rate increases, and they will start to object to those
20 rate increases, and complain to their elected
21 officials. And those elected officials will very
22 quickly intervene into the situation.

23 If you have a large nuclear fleet,
24 depending on where your cost structure is, you may be
25 benefitted or harmed in that particular environment.

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1 Generally speaking, once the fleet is up and running,
2 it's a really good thing in the sense that the
3 marginal cost is so low, but to get it built, as we're
4 seeing right now with the two folks that are trying to
5 build the plants today, Georgia Power and South
6 Carolina Electric and Gas, they're very expensive to
7 build, and there's a lot of uncertainty to get those
8 built. So, that's my primary commentary on how we
9 approach the ratings for the sector, and how we
10 approach the ratings for companies that have these
11 operating licenses.

12 Now, with respect to the guarantee, can
13 you go one more page, please. With respect to the
14 guarantee, the topics associated with the guarantee,
15 and is it the net present value, or the future value,
16 or how should we calculate these numbers? This is
17 extremely narrow, and focused, and granular in the big
18 picture view of how we are going to assign a rating
19 for an Exelon, or Dominion, or Duke, or Southern
20 Company, or one of the other operating companies that
21 are here, Detroit Ed.

22 This topic does not get a lot of play in
23 ratings committees with respect to the guarantees.
24 It's really not that big of an issue from a credit
25 perspective. Where it shows up is when a company has

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1 a large amount of guarantees, or where a company has
2 some liquidity issue where the sources that they have
3 are being outpaced by the uses, and there's a need to
4 access capital, or where there's a lot of guarantees
5 amongst various different parts of the organization,
6 not only with respect to decommissioning, but more
7 often than not where most of our attention is with
8 respect to the trading and marketing program. And
9 there's a big difference between the regulated guys
10 and the non-regulated guys.

11 If you're a regulated company, you
12 probably have very good access to capital. It's my
13 understanding that one of the companies is going to
14 raise \$800 million today, and they should have it done
15 in another minute. And they're going to get eight
16 times over subscribed by investors who are clamoring
17 for this investment grade paper.

18 If you're a non-investment grade company,
19 if you're a merchant company, and you have non-
20 investment grade ratings, you will have access to
21 capital when that window is open. And right now in
22 today's environment, high-yield capital markets are
23 wide open, and people are taking advantage of that.
24 So, you can finance B-rated companies right now. And
25 I think Calpine just recently raised some debt at a B

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1 level. But those windows in the high-yield market open
2 and close. And if it's closed, there is no access.
3 So, what we see is that the non-regulated merchant
4 guys actually have better liquidity profiles than the
5 big regulated companies. They have much larger cash
6 balances, they have much larger availabilities under
7 the credit facilities. But many of them also have big
8 trading and marketing programs. And some of the non-
9 regulated divisions of large parent holding companies
10 that also have regulated utility subsidiaries have
11 trading and marketing programs. And those trading and
12 marketing programs have a lot of volatility associated
13 with collateral posting needs. That's our primary
14 issue.

15 We don't see a lot of concern at a rating
16 committee discussion with respect to these
17 decommissioning liabilities that are very far out in
18 the future. Perhaps that's a weakness in our credit
19 rating committee process that we have to reevaluate,
20 but we assume that these companies are going to do the
21 right thing.

22 We incorporate significant credit
23 positives to the fact that you're regulated by the
24 NRC, and that the NRC is involved as much as they're
25 involved in this process. And that's why companies

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1 like First Energy can have a nuclear plant go down for
2 a 22-month period of time, but they have a fleet.
3 It's a very large organization. They're able to
4 withstand that from a credit perspective. They were
5 able to withstand that, and get through that process
6 reasonably cleanly. If that was a single nuclear
7 operator, we think it might have been a very different
8 answer.

9 So, I know, Tom, I didn't get exactly into
10 the ins and outs of how we look at the guarantees, and
11 part of that is because when it comes to these
12 guarantees that we're talking about today, we're more
13 of an observer. So, as you work through the process
14 and figure out what you're going to do, if a company
15 has to post more money into the nuclear
16 decommissioning trust fund, or if they have to post
17 more of a parent guarantee, or less of a parent
18 guarantee, or they have to collect more from their
19 customers, that all has positive credit ramifications
20 associated with it from a credit perspective, not,
21 necessarily, from a shareholder perspective, or from
22 the Treasury's Department at corporate headquarters
23 that I have to go get more credit availability, and
24 that's going to cost me. That's a different issue
25 that we're ignoring from a credit perspective at

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1 Moody's.

2 The bigger the nuclear decommissioning
3 trust fund is, the more well positioned the company
4 is, the better their liquidity profile is, the
5 stronger the company's ratings are likely to be. So,
6 with that, I'll try to get closer back on time, and
7 open it up for questions, Brian.

8 FACILITATOR ANDERSON: Thank you, Jim.
9 Does anybody have any comments or questions here at
10 NRC headquarters for Jim?

11 MR. FREDRICHS: Okay. Thank you, Jim. It
12 was a very interesting presentation. And on the more
13 narrow question that we're trying to answer, or will
14 be trying to answer this afternoon, what I'm
15 understanding is that the guarantees don't have a
16 large effect on the credit rating, at least the
17 guarantees used for nuclear decommissioning that could
18 be given to the NRC to satisfy the regulations. Am I
19 understanding that part right?

20 MR. HEMPSTEAD: Can you repeat the
21 question, Tom?

22 MR. FREDRICHS: Well, the parent
23 guarantees that we're talking about for nuclear
24 decommissioning, what I got out of your presentation
25 was that they don't have a large effect on the credit

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1 rating. You mentioned that this -- how we do it is
2 kind of a granular thing. You're more interested in
3 larger questions of access to capital. Do they have a
4 large fund which gives them greater strength, and that
5 sort of thing. The reason I ask is some of the
6 comments we've had is that giving a parent company
7 guarantee for decommissioning costs could adversely
8 effect the credit rating, and might lead to
9 downgrading. And I was wondering if you could give us
10 a better feel for how likely that would be, or what
11 circumstances might arise that might cause an actual
12 credit downgrading?

13 MR. HEMPSTEAD: I think that when it comes
14 to the parent guarantee issue, it is not a primary or
15 secondary credit ratings driver for the rating of the
16 company. It has to do with liquidity. And although
17 liquidity can effect the companies ratings
18 significantly by multiple notches, often unexpectedly,
19 we are incorporating a view that the big nuclear
20 operating companies have sufficient liquidity to
21 withstand unexpected calls on liquidity.

22 Now, having a parent company guarantee for
23 the shortfall in the trust fund, I don't think is a
24 big ratings issue at this time for anyone in our
25 sector. To the extent that that becomes a big

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1 guarantee, becomes a big obligation, then we'll have
2 to have some discussions with the utility company, or
3 the management team if it's a non-utility company on
4 how they plan on managing this. We would not just go
5 downgrade them unexpectedly, or very quickly. There
6 would be a series of discussions with the management
7 team, so that we understand are we looking at this
8 correctly? Is this exposure as big as it really
9 appears to be, and what are you going to do about it?
10 Because if your ratings are in jeopardy, I have a hard
11 time coming up with the name of a company who would
12 have this type of exposure jeopardizing their ratings
13 when they might have a large fleet, or a large
14 regulated utility system. It would be hard for that
15 issue to cause negative ratings pressure on a
16 particular company.

17 If you have a couple of hundred million
18 dollars of a parent company guarantee, either you have
19 an extremely underfunded trust fund, or you have a lot
20 of -- a fleet of operating licenses, and it's adding
21 up. But the bigger the fleet is, the more valuable
22 the company ought to be in today's environment, as
23 long as they're running, and they're running well.
24 And I think we incorporate a view that most of these
25 plants are running very well. So, it would be hard to

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1 make this a ratings issue with respect to guarantees
2 on the underfunded decommissioning amount.

3 FACILITATOR ANDERSON: Are there any
4 questions or comments from those joining by phone?
5 Okay. I'll look around the room one more time. Any
6 further questions or comments for Jim? Thank you,
7 Jim.

8 MR. HEMPSTEAD: All right. Thank you very
9 much.

10 (Applause.)

11 FACILITATOR ANDERSON: We are now at the
12 point in the agenda that's usually everybody's
13 favorite, that's the lunch break. We are going to
14 reconvene in this room at 1:30, so anybody that would
15 have been in Breakout Session 2 will join us back
16 here. As a reminder for those that are visitors in
17 the building, you do have access to a small cafeteria
18 that's pretty much just outside the door here, as well
19 as a larger cafeteria, if you follow the corridor, the
20 hallway to the left as you come out of this
21 auditorium. You have access to both of those venues
22 for food and beverage.

23 If you choose to leave the building, keep
24 in mind that you will have to process back in through
25 building security in order to be back in this room at

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1 1:30. And with that, we'll break for lunch. I'll see
2 everybody back here at 1:30.

3 (Whereupon, the proceedings went off the
4 record at 12:09:25 p.m.)
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