Official Transcript of Proceedings

NUCLEAR REGULATORY COMMISSION

Title: Decommissioning Funding Workshop
Breakout Session 1

Docket Number: (n/a)

Location: Rockville, Maryland

Date: Wednesday, March 2, 2011

Work Order No.: NRC-742 Pages 1-94

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NUCLEAR REGULATORY COMMISSION

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STAKEHOLDER WORKSHOP ON DECOMMISSIONING FUNDING

FOR POWER REACTORS

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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:

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

A G E N D A

P R O C E E D I N G S

(10:02 a.m.)

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

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

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

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

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

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

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

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

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

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

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

Okay. I want to go through each of these three categories just quickly, as a reminder for everyone. NRC defined decommissioning, it's removal of all radiologically contaminated material or activated material only to meet the site termination criteria.

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

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

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

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

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

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

Two pictures here, just so everyone can see them. On the left is a storage pool for spent fuel. The checkerboard at the bottom of that pool is the racks that actually holds the spent fuel, so the assemblies are 14 or so odd feet long, and they fit in those racks on the bottom of that pool. There's about 20 feet of water on top of those racks. And that's a facility that has to be maintained as long as fuel is stored in the pool.

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

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

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

Most of the facilities that have decommissioned so far have removed all the structures that they did not need to continue to store fuel. Two notable exceptions, the Trojan Reactor is not yet done dispositioning concrete that's on site. And Rancho Seco has not yet decided to remove the buildings, so they're still standing. Next slide, please.

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

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

This slide shows what those factors have done over time, starting in 1987 the first year that they were published. And what I've plotted here is the percent change from year to year. Okay? There are a couple of interesting points on this graph. The first one is `92-93, for anyone who's familiar with the industry, the State of South Carolina in that time period imposed a tax on burial of low-level waste at the Barnwell facility. The initial tax was $200 a cubic foot. Thus, there's a huge growth in the formula amounts in that year, because of the change in burial costs.

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

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

This is one example of the calculated rule amounts in 10 CFR 50.75. There are three lines on this graph. The top line is for direct disposal to a full service facility, like Barnwell. As you can see, this is for a Pressurized Water Reactor. I used the northeast region for labor, starts at $105 million in 1986 dollars, and escalates from there. The last year on this, 2010, the PWR cost is slightly over $800 million.

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

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

I added the red line just because most people in their decommissioning cost estimate funding analysis assume some average rate of inflation. And from our review of those over the years, 2-1/2 percent, 3 percent are typical numbers. The red line shows cumulative inflation at a 2-1/2 percent rate. So, you can see in real terms how much the formula amounts have exceeded that 2-1/2 percent compound inflation from 1986. Go to the next slide, please.

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

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

Second risk is that the cost estimate

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

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

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

The second one I listed here, and I believe Larry gave an example, termination criteria. As I said, the NRC has two; 25 millirem per year to the most exposed worker, also ALARA with no further definition of what ALARA truly means. The EPA has different requirements for things like tritium contamination. So, what the exact requirements an owner is going to have to meet during decommissioning is undefined for most plants.

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

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

Last two, just financial assumptions.

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

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

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

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

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

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

The SONGS unit shutdown in `92, but decommissioning started in earnest later in that decade. So, it's unclear for some of the costs incurred between `92 and the start of decommissioning whether they're included in decommissioning costs, or not. Other plants have similar issues. Some of the prematurely shutdown plants took as long as a year to decide whether or not to enter decommissioning. Rancho Seco went into SAFSTOR for a decade before it started decommissioning. So, one has to be careful looking at actual costs, because it's often unclear exactly what the scope of those costs are.

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

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

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

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

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

This is apples-to-apples. If you look at the third column, you'll see if someone funded just to the vendor rule amount, how they could have compared looking just at license termination costs. And, in this case, several people would have sufficient funds, several people would be substantially underfunded.

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

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

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

A third option, and I think Larry spoke

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

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

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

The second thing is, as Larry pointed out, I have storage costs to maintain that facility and storage. So, not only does the trust fund have to grow faster than the escalation, I also have to have enough money to pay for the storage, or that has to come from some other source. So, a lot of people want to use SAFSTOR as the solution to problems. In reality, that may or may not be a solution. One has to look at the individual assumptions, and see if they make sense. And that's it, I'll open up for questions.

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

MR. PITTIGLIO: Let me make a couple of comments. First of all, I know you talked about a rule amount, but recognize that -- we all recognize that the formula is the minimum amount of financial assurance. The regulation is clear in the sense that it says under 50.75 that within five years, you have to come in with site-specific cost estimate. And you have to come in with a mechanism for adjusting the amount that you currently have. Recognizing, and it's a concern we have that maybe you don't even have in five years enough time, because the formula may be significantly under, and you may be two or three hundred million dollars lower than the actual decommissioning costs. So, we're looking at the five-year number, we're aware of that. 50.82 also states that "No later than two years prior after shutdown you have to come in with a site-specific, and look at detail." And that one will supplement the five-year out, and have some very specifics in it, so I agree with you. We're concerned about it, and that's why we're looking at the formula, and looking at the vendor ratio.

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

And I will make another observation. With Fort St. Vrain, as you mentioned, the site cleanup, it was interesting. There was a rail sprint that came into the site. Fort St. Vrain did go back and decommissioned, and then converted the natural gas turbines into -- the HTGR to natural gas turbines. But they had the rail area where it was refueling, and when they went in to put the new diesels and the new generators in, they had 300,000 cubic feet of diesel fuel that had saturated into the soil that they were required to clean up. I mean, it wasn't an NRC cost, but it certainly was a problem, that there are a lot of things that come under the site cleanup cost that is outside of NRC's area.

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

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

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

MR. CAPIK: Other comments, questions?

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

MR. CAPIK: That's correct.

MS. HOFMANN: Okay. Thank you.

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

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

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

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

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

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

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

MR. PITTIGLIO: I know for Trojan, they

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

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

I mean, the problem is the fuel. Fort St. Vrain was able to get rid of the fuel because of the agreement with DOE. Shoreham got rid of the fuel because it was almost new, and worked out an agreement with, I believe it was -- they sold the fuel or gave the fuel and $150 million to one of the plants, and I forgot who it was, because that was how they were able to get rid of the fuel. So, DOE hasn't taken possession of any fuel other than Fort St. Vrain. Okay? So, it's clearly the licensee's elected to either go to a site-specific Part 72, or reduce. And I guess Maine Yankee gave away hundreds of acres, and, basically, the site is about six acres is all that remains, which is the dry cask storage facility.

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

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

MR. CAPIK: I think to answer your question, and I'm not familiar with Trojan, I know none of the plants on this list were fully funded at time of shutdown. I know that SONGS was fully funded when it started active decommissioning in `99. And I know the remainder, and I'm not sure about Trojan, collected funds during decommissioning. In fact, some of them just stopped the last year, or so. So, I don't think -- I know none of them were fully funded when they shut down.

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

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

MR. HORIN: Hi, Bill Horin with Winston and Strawn. We've alluded to this fact a couple of times, but I want to make sure we're all fully aware of the way the regulatory process is set up with respect to the status of the NRC's decommissioning formula amount.

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

In addition, we have the updates that take place every two years. We have the five-year before shutdown preliminary cost estimate, and then we have the cost estimate, the site-specific cost estimate that is to be completed within two years of shutdown, along with mechanisms for being able to adjust additional collections, as needed. And, whereas, we may have some uncertainty with respect to any one of those, overall, the regulatory scheme has been very comprehensive, and has worked well. And I think that we need to bear in mind that if we -- when we say that well, this has this factor, and this has this factor, and it's not -- maybe it's not perfect. The point is that they all work together, so we can't say that, for example, well, this formula amount is off by X percent. It's only part of the overall scheme, so let's make sure we're all fully aware of that, as we talk about this.

FACILITATOR ANDERSON: Ralph.

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

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

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

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

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

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

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

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

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

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

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

MR. CAPIK: If I can add two thoughts to that. One, on the risk of low-level waste, you mention that it was less hazardous to dispose of it locally. One of the risks that most people ignore is the transportation risk. Highways deaths are real. The risk of shipping this low activity waste all the way across the country has larger consequences from the shipping perspective than it does from the waste, itself.

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

MR. PITTIGLIO: Larry Pittiglio. Let me make one last comment. Also not included was probably the least contaminated, but most expensive plant in existence, which was Shoreham that wasn't included on that list. But, also, point out that some of the numbers -- Yankee Rowe and some of those plants started under the old Reg Guide 1.86. At that time, 25 millirem ALARA wasn't the regulation. And in their free release of material, that had a significant problem, because some of the states had a zero detectible, not 5000 dpm. And that had an impact on the waste cost, also.

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

MR. CAPIK: Thank you.

(Applause.)

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

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

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

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

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

Also, before we actually get into the

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

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

So, having said all that, if we could go to the first slide. This is just an excerpt from the recent FCIC report, which makes pretty good reading, both the Minority and Majority reports, very good read. And the state is concerned that there is potential for a looming crisis here with decommissioning of the facilities. And that a number of the observations made throughout that report could well be applicable here, and we urge the NRC to review that report. We brought a copy of it with us today, and to apply some of the lessons learned from that in going forward in decommissioning. If we could go to the next slide.

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

Another experience that we also want to bring to the table and underscore is the experience that we've had with the West Valley site. I'm sure folks here are well aware of that. It is, obviously, not a power reactor, not pretending otherwise, but the costs for the remediation of that site are substantial. I think that's an understatement to say how expensive that is. And right here, we're referring to federal government reports. We have the DOE Environmental Impact Statement, we have the GAO report. That is going to be a substantial financial commitment to clean that up. And, again, it informs the state's concern in this area. If we could go to the next slide.

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

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

Insure transparency, the State of New

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

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

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

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

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

Bankruptcy is another concern. I'll touch on it just briefly. As I said in the introduction, we are well versed in the drill in bankruptcy, and what can and what is, and is not possible in bankruptcy. And it is a substantial concern on the state's part. And we, respectfully, suggest that it should also be a concern for the federal government, and for the NRC.

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

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

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

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

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

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

There's been some discussion today about funding or obligations that are outside the NRC decommissioning realm. And the state would again respectfully suggest that the NRC and the industry not use the word "may." May means it's not going to happen. We think it must happen, that the items which go beyond the NRC decommissioning issues, but could touch on state site restoration issues, or other issues, we think they have to be disclosed. Otherwise, the states and the localities are at a great disadvantage, and it really does not foster any type of collaborative relationship, or cooperative federalism, if you will, for there not to be disclosure about that. If we could go to the next slide.

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

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

And tying on -- if we could go to the next slide, tying into the next slide, and coming back to the issue about site restoration, and state regulation, there have been a number of NRC staff circulars out to the industry discussing issues, such as commingling, or moving funds from state restoration accounts into the NRC-regulated decommissioning account. The State of New York has a substantial concern about this, and has had some experience with that, as well. In a corporate sale of assets for the Indian Point facility, it appears that certain funds that were set aside for state-regulated site restoration were moved, or no longer exist, and were moved into federal-regulated decommissioning funds. We have tried to raise this issue a number of times over the last two years, and have not yet received an explanation as to what happened. And, in fact, in some instances when the question has been raised, I believe by someone at the New York State Public Service Commission, they were told that that was not a matter of their concern, and there was no response provided.

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

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

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

And if there are any thoughts or requests to do that, or initiatives, the state would certainly wish to be included in any preliminary discussions, in any requests, and have advance notice of that. If we could go to the next slide, please.

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

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

And there is also discussion in there about how the SEC, essentially, let the banks off the hook from a regulatory perspective. And we would -- we, in the state, would hope that that -- again, that those lessons could be learned. But this is really a way to segue into the next slide, and if we could have that up on the screen.

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

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

The state understands that SAFSTOR came

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

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

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

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

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

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

In concluding, just if I could sum up, we're very concerned about the conversion diversion of state-regulated monies. And we, frankly, think there should be a disgorgement order returning those monies back to the state. We're concerned about the net present value. We're concerned about SAFSTOR. We're concerned about the straight-line formula that we see back in 50.75. And it should not be -- while there are many opportunities for industry, we, at the state, have not seen in any clear or transparent manner what is motivating the net present value. We don't understand it. We see multiple uncertainties in that formula, and we don't think a case has been made for it. In fact, we think recent events over the last 10 years in terms of site restoration, and subsurface contamination would argue strongly against it. So, lastly, the state submits that it should not -- the risk of uncertainty should not be transferred on to the state, or to the localities, to the host counties, or to tribal nations where applicable. I'd be happy to take any questions.

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

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

There were, subsequent to the 1988 rule, at least three major rulemakings, including an NRC policy statement issued to address the issue of deregulation and Merchant plants. And there were several changes that were made to the regulations for that specific purpose, including the eliminating the sinking-funds funding approach, establishing more specific criteria for the merchant plants with respect to investment criteria, notification of the NRC with respect to the use of funds. And, in addition, the NRC guidance was amended to assure that in the event of a shortfall, merchant plants were to make that up more quickly than a regulated utility. So, there were a number of changes in the overall intent, and I think it has served well, was to assure that we continued to have a regulatory scheme that provided reasonable assurance with merchant plants, as well as the regulated plants.

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

1.5 billion. Good luck, and we don't want to be in that position.

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

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

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

MR. SIPOS: I, actually --

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

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

MR. ANDERSON: Right.

MR. SIPOS: I have seen that.

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

MR. SIPOS: I'm sure --

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

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

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

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

MR. ANDERSON: Yes.

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

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

We had to resolve that, because,

obviously, if your numbers are right, then we've got a totally wrong view of the impact of subsurface contamination. And although I'm skeptical, I'm willing to go back with an open mind and look at the data.

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

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

The amount of contamination in the soil, they don't have to give us very detailed information. And looking through our records, and looking through FERC records, I tried to piece it together, and my best guess was that there was somewhere in the 30 or 40 million dollar range for that particular point. And if you read through the full record, it's rich in anecdotes about what happened, and trying to coordinate several independent parties to get that cleaned up. But I can say with confidence that the radiological portion all together was much above what our cost estimate was.

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

MR. SIPOS: Right. Our understanding -- actually, let me retract that. I'll give my personal view for this one question. My understanding is that in a bankruptcy context, that the parent guarantee scenario is -- from a regulatory creditor perspective, is not as strong as you might like as a regulatory creditor. Again, depending on how it's structured, we could toss out a lot of hypotheticals. But that a regulator may be in a weaker position, if that regime is being used in bankruptcy, and how it is structured. I don't know if that's -- well, why don't I just say, I think it's a position that is not a position of -- there are stronger positions for bankruptcy to make it more -- to make it ironclad so that one is not seeing claims diluted to dimes, or quarters on the dollar. And I'd be happy -- we could talk about that, also.

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

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

Tom mentioned the numbers have been higher than the formula, but many of them include green-field spent fuel costs, and, historically, a lot of those have occurred more than 10 years ago. And we've had significant problem in really trying to breakout what it really reflects.

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

FACILITATOR ANDERSON: Thank you, John.

MR. SIPOS: Thank you very much.

(Applause.)

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

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

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

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

And the final thing is, before I head into my presentation, is that I'm actually -- for those who are concerned that I'm advocating that spent nuclear fuel be included in the decommissioning funding assurance, that's not what I'm saying today.

I'm actually saying it's a concern, it needs to be put somewhere, but not, necessarily, in the decommissioning fund. So, first slide.

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

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

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

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

I don't want to at all make you think that the states are taking on this responsibility. It is the operator's responsibility to take care of spent nuclear fuel until the day that the Department of

Energy actually comes and takes it. But what I am suggesting is that the states are responsible, and the NRC is responsible for making sure that you, the licensees -- I want you to be responsible for yourselves, and I think that's where you're at, as well. That you want to have a plan for what you're going to do about spent nuclear fuel now that the federal government has, basically, let us all down. Next slide.

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

The decommissioning trust fund, we've talked about by a number of people today, is for radiological decommissioning of the plant. It's not really meant for spent nuclear fuel management, and if you're going to use it for that, I think you do have to get a waiver. I think there have been a couple of waivers filed, but I think they were withdrawn. I'm not sure anybody's been actually granted a waiver, but I'm unsure of that. Next slide, please.

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

For those who are starting on a new license period, that gives you time to build this fund up. For those of us, who like Vermont Yankee, we're almost at the end, and there is no fund, it really is a problem. And I, actually, agree with the State of New York, that that leaves us in a very bad situation in terms of what's going to happen to a site like that. Slide 10, please.

This is an example using Vermont Yankee. There are all kinds of funding estimates that have been done by TLG. There have been funding estimates done by our own -- the state hired a company called GDS, so this is just one scenario. I just picked it, because it had had some realistic representations, as far as I was concerned. And it shows that one of the estimates for radiological decommissioning, we're talking about the three buckets that other people have talked about today, radiological decommissioning, $656 million, $219 million for spent nuclear fuel, and that is if DOE removes the fuel by 2042, which I have put an editorial comment in. I think that's unrealistic. And then $40 million for site restoration, also bandied about in our state is called green-fielding. And the value of the decommissioning fund on January 31st, 2011 for Vermont Yankee was $479 million, plus a $40 million parental guarantee. And that did satisfy the NRC in terms of when they did do the decommissioning funding assurance, so that total --

and they were using an earlier decommissioning number. I actually included on this slide the latest number that we have from Vermont Yankee on the value of the trust. But, as you can see, if you include all three buckets, there's not enough money. I'm not probably saying anything that's really rocket science here, but we need to plan for those other two buckets. Next slide, please.

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

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

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

Obviously, large decommissioning fund balances, maybe some of those plants can ask for a waiver and use some of that money for spent nuclear fuel management, or for green-fielding. I mean, that should be a very strict process at the NRC to look at those waivers, to make sure that there is enough money first for that radiological decommissioning, because that's what that trust fund was set up for. And, of course, there are probably states that have agreements with your licensees that would also have to be taken into consideration when looking at building a fund, such as this.

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

FACILITATOR ANDERSON: Thank you, Sarah.

MS. HOFMANN: There's one behind you.

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

MR. LEVIN: Thanks, Sarah.

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

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

Two items I'd like to talk about. The first is Slide 8, decommissioning trust fund is for radiological decommissioning of the plant. I am not familiar with the State of Vermont's requirements. However, I can tell you that the State of Pennsylvania allows Exelon to collect for decommissioning costs, which include spent fuel management, and site restoration. So, while it may not be in Vermont, it's not, necessarily, that case in every venue.

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

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

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

FACILITATOR ANDERSON: There's at least one more question here at headquarters. Are there any comments or questions with those on the phone at this point? Hear nothing from the phone.

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

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

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

MS. HOFMANN: Thank you very much.

(Applause.)

FACILITATOR ANDERSON: We are just a few

minutes over the agenda scheduled time. We do have one more presentation that will take place before we break for lunch. I do plan to allocate the entire scheduled time to this last presentation, so we'll break for lunch at the end of this presentation, and any comments or questions associated with it. Thank you.

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

On the table, we have a special comment that I brought down here. This is a report that we published at the end of last year on credit substitution and guarantees. Generally speaking, that's a very broad topic for us. It's, primarily, used in the public finance, and structured finance markets, very rarely will a corporate-level parent guarantee to a sub, or a sub to a parent ever meet the nine primary conditions that we have, the ideal conditions that we look for for credit substitution. And that's okay. It comes down to a rating committee decision, and I'll elaborate that more in a moment, if you could please go to the next slide.

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

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

These methodologies are global in nature. In the regulated utility methodology, and I'm going to spend the majority of my time speaking about that particular sector, because that's where most of the operating plants, I think, are located. In general, in the regulated utility sector, only about 40 percent of what is incorporated in our rating methodology is driven by actual quantitative measures, the financial quantitative measures, or other quantitative measures, for example, with respect to the amount of carbon-related emissions that are generated on an annual basis. That is unusual compared to all of our other corporate rating methodologies.

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

So, in our regulated methodology; and, again, this is global in nature, we look at the regulatory framework that a particular company has within its jurisdictions. We look at the suite of regulatory mechanisms that they have to recover their costs and investments, and the timeliness of those recoveries, and the assurance that we have on those recoveries. We look at the diversification of the company, is it a single state utility, or a multi-state utility? We look at the diversification of the generation mix that they have, and how much of that generation mix is focused on carbon-related emissions versus non-carbon-related emissions. And the higher the carbon-related exposure, the lower our assessment will be.

And last but not least, we have the quantitative metrics on financials. Liquidity is included in the quantitative metrics with respect to the financials. And although liquidity doesn't get that big of a consideration in this methodology, liquidity is actually one of the biggest considerations that can drive ratings often by multiple notches. So, when it comes to the electric utility sector, the regulated electric utility sector, often the regulated utility sector does not have very good liquidity the way we define it in terms of sources and uses. That's because the regulated utility sector depends on access to capital. And when they need to go get capital, they just go get it from the marketplace. And although we exclude an assumption that the capital markets will be available when we do our liquidity analysis, when we sit in the rating committee and talk about a company, we take into consideration that utility companies have extremely good access to capital. And throughout that 2007, 2008, and 2009 financial crisis that some of the other speakers referenced today, many utility companies never missed a beat in terms of accessing the capital with their commercial paper programs. And that's a very important item. If you can go to the next page, please.

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

Florida was recently lowered, not because the suite of regulatory mechanisms were being attacked, but because of the political intervention that was witnessed in that particular state in 2009, or 2010. Go to the next page, please.

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

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

One of the very important items that we focus on is the second line down, the cash flow from operations. Adjusted for working capital changes, as a percentage of debt, or to be considered investment grade it should be a little bit above -- it should be about the lows teens, 13-22 percent is the range. But if you're in that low teens range, you're going to be considered investment grade, if you're a regulated utility company. If you compare that against corporate industrials, that metric would be non-investment grade, low teens cash flow to debt. That's a non-investment grade metric. But because of the safety net, and the stability and predictability that we see in revenues and cash flows as a result of the regulated regime, utility companies, regulated utility companies get that benefit.

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

When a company produces over a long-term period of time a certain ratio, notwithstanding the strong regulatory environment, or the very good suite of regulatory mechanisms that they have to recover their costs, eventually, the ratings are going to show some pressure. And it was very recently when Moody's downgraded Georgia Power Company, a very strong A-rated utility company located in Georgia, but you could see here on this chart, their cash flow to debt metrics were having a hard time keeping up with the ranges that are necessary to be considered an A rating. That's the primary reason why this company was downgraded. It was not downgraded, primarily, because it was going to build a new nuclear power plant, although that was a contributing factor. Can you go to the next page, please.

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

Some of that improvement might be related to bonus depreciation, and other tax-related efficiency, tax efficiency strategies, and other one-time events. And one of the things that we'll be paying a lot of attention to going forward for the sector is how much of your cash flows are being benefitted by tax policies, or tax strategies, or some other form of benefit, cash flow benefit that might not be sustainable over the long-term period of time. Can you go to the next page, please.

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

The vertically integrated electric utilities, generally speaking, are rated in about the A3 Baa1 range. And those with large nuke exposures tend to be towards the higher end of the range. And their metrics tend to be a little stronger than what's exhibited on this page.

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

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

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

There was a lot of questions about the Enexus spinoff, and how that would be rated. And, generally speaking, the view was that it would be rated non-investment grade. And that's because of the way it was being structured with the amount of debt that was being put on it. But that tends to be the rare case. Most of the time, we see the companies, like Exelon Generation, that are rated A, very strong investment grade ratings, very strong metrics. Exelon Generation has, roughly, 60 percent cash flow to debt, I think, down from 80 percent when the power markets were much stronger. Can you go to the next page, please.

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

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

We incorporate a view that those utility companies that have large nuclear fleets are going to maintain stronger than necessary numbers. And we incorporate a view that they will maintain adequate to good levels of liquidity at all times. Can you go to the next page, please.

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

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

If you have a large nuclear fleet, depending on where your cost structure is, you may be benefitted or harmed in that particular environment. Generally speaking, once the fleet is up and running, it's a really good thing in the sense that the marginal cost is so low, but to get it built, as we're seeing right now with the two folks that are trying to build the plants today, Georgia Power and South Carolina Electric and Gas, they're very expensive to build, and there's a lot of uncertainty to get those built. So, that's my primary commentary on how we approach the ratings for the sector, and how we approach the ratings for companies that have these operating licenses.

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

This topic does not get a lot of play in ratings committees with respect to the guarantees. It's really not that big of an issue from a credit perspective. Where it shows up is when a company has a large amount of guarantees, or where a company has some liquidity issue where the sources that they have are being outpaced by the uses, and there's a need to access capital, or where there's a lot of guarantees amongst various different parts of the organization, not only with respect to decommissioning, but more often than not where most of our attention is with respect to the trading and marketing program. And there's a big difference between the regulated guys and the non-regulated guys.

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

If you're a non-investment grade company, if you're a merchant company, and you have non-investment grade ratings, you will have access to capital when that window is open. And right now in today's environment, high-yield capital markets are wide open, and people are taking advantage of that. So, you can finance B-rated companies right now. And I think Calpine just recently raised some debt at a B level. But those windows in the high-yield market open and close. And if it's closed, there is no access. So, what we see is that the non-regulated merchant guys actually have better liquidity profiles than the big regulated companies. They have much larger cash balances, they have much larger availabilities under the credit facilities. But many of them also have big trading and marketing programs. And some of the non-regulated divisions of large parent holding companies that also have regulated utility subsidiaries have trading and marketing programs. And those trading and marketing programs have a lot of volatility associated with collateral posting needs. That's our primary issue.

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

We incorporate significant credit positives to the fact that you're regulated by the NRC, and that the NRC is involved as much as they're involved in this process. And that's why companies like First Energy can have a nuclear plant go down for a 22-month period of time, but they have a fleet. It's a very large organization. They're able to withstand that from a credit perspective. They were able to withstand that, and get through that process reasonably cleanly. If that was a single nuclear operator, we think it might have been a very different answer.

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

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

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

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

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

MR. FREDRICHS: Well, the parent guarantees that we're talking about for nuclear decommissioning, what I got out of your presentation was that they don't have a large effect on the credit rating. You mentioned that this -- how we do it is kind of a granular thing. You're more interested in larger questions of access to capital. Do they have a large fund which gives them greater strength, and that sort of thing. The reason I ask is some of the comments we've had is that giving a parent company guarantee for decommissioning costs could adversely effect the credit rating, and might lead to downgrading. And I was wondering if you could give us a better feel for how likely that would be, or what circumstances might arise that might cause an actual credit downgrading?

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

Now, having a parent company guarantee for the shortfall in the trust fund, I don't think is a big ratings issue at this time for anyone in our sector. To the extent that that becomes a big guarantee, becomes a big obligation, then we'll have to have some discussions with the utility company, or the management team if it's a non-utility company on how they plan on managing this. We would not just go downgrade them unexpectedly, or very quickly. There would be a series of discussions with the management team, so that we understand are we looking at this correctly? Is this exposure as big as it really appears to be, and what are you going to do about it? Because if your ratings are in jeopardy, I have a hard time coming up with the name of a company who would have this type of exposure jeopardizing their ratings when they might have a large fleet, or a large regulated utility system. It would be hard for that issue to cause negative ratings pressure on a particular company.

If you have a couple of hundred million dollars of a parent company guarantee, either you have an extremely underfunded trust fund, or you have a lot of -- a fleet of operating licenses, and it's adding up. But the bigger the fleet is, the more valuable the company ought to be in today's environment, as long as they're running, and they're running well. And I think we incorporate a view that most of these plants are running very well. So, it would be hard to make this a ratings issue with respect to guarantees on the underfunded decommissioning amount.

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

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

(Applause.)

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

If you choose to leave the building, keep in mind that you will have to process back in through building security in order to be back in this room at 1:30. And with that, we'll break for lunch. I'll see everybody back here at 1:30.

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