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6	BREAKOUT SESSION 2
7	+ + + +
8	WEDNESDAY
9	MARCH 2, 2011
10	+ + + +
11	The breakout session convened in the ASLB
12	Hearing Room at Two White Flint North, 11545 Rockville
13	Pike, Rockville, Maryland, Bret Leslie, Facilitator,
14	presiding.
15	PARTICIPANTS:
16	BRET LESLIE, Facilitator
17	JON BRUSVEN, NDT Fund Study Group
18	MING CHEN, Government Accountability Office
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1	P-R-O-C-E-E-D-I-N-G-S
2	(10:00 a.m.)
3	MR. LESLIE: Hello again. My name is Bret
4	Leslie and I am going to be facilitating this breakout
5	session for the Decommissioning Funding Workshop.
6	This is Breakout Session 2 and this is colloquially
7	known as the Chapel. And one of my challenges as a
8	facilitator today will be passing the mike. So as a
9	good minister would say, could you all kind of scoot
10	in closer? Because if I need to go to the end of the
11	aisle and I need to pass a microphone, you at least
12	need to be arm's length away. So again I ask for your
13	patience for you and the audience as you may have
14	questions for the speaker, I will be passing a mike
15	and I can't really get down through the pews so to
16	speak.
17	We have four speakers and again Brian
18	earlier this morning told people how this would
19	operate. We have people in the audience here. We
20	have people on the bridge line, we believe. We know

18 earlier this morning told people how this would 19 operate. We have people in the audience here. We 20 have people on the bridge line, we believe. We know 21 we have people on the webinar. Each of the speakers 22 will be making a presentation with slides. The 23 slides, the handouts are in the back they will also be 24 available online after this public meeting on our 25 website.

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The idea is to have the speakers go through their slides, have an opportunity for people to ask questions here. I will go first to the people here in front of me and then I will see if there are questions either on the webinar or on the bridge line.

And the first speaker will be Ming Chen 6 7 from the Government Accountability Office. And Ming and the other speakers, you will just come up here and 8 speak into the mike. Your slides, could you go ahead 9 10 and put up the first set of slides? Your slides, if you need to look will be -- You will be able to look 11 on either side from here. You will be able to see it. 12 Okay? Ming, if you want to begin. 13

So if anyone needs to leave, just for the record, if anyone needs to leave after their talk to go to the other room or needs to leave, you will need to be escorted and Anneliese will serve as your escort.

MS. CHEN: Well good morning, everyone. Can you hear me okay? Well Tom, thank you for inviting me to do this presentation and I am happy to be here.

I work for GAO. I am a senior economist with the International Affairs and Trade Team. The full disclosure, I don't know much about nuclear,

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Some of you here probably have heard or have used Monte Carlo simulation. Can I see a show of hands? Okay.

7 So as kind of introduction, I guess to 8 Monte Carlo simulation and I will also go through 9 examples GAO has used in our report, looking at a 10 trust fund for Palau, looking, assessing the adequacy 11 of the trust fund.

Monte Carlo got its name from the famous 12 casino area in the principality of Monaco, and it's a 13 14technique that has become more popular as computers have become more powerful. And a lot of programs can 15 view the Monte Carlo simulation. Now in Excel, it is 16 widely available. There is an add-on called Crystal 17 Ball that you can use to implement Monte Carlo 18 simulation pretty easily. 19

It is a technique that performs random draws from a pre-defined distribution, like drawing numbers from a hat, in a way, that you are interested in the outcome by generating these, you know, massive number of draws, basically a thousand, ten thousand draws, and see how your outcome, the variables you are

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interested in, how that looks, either being how much balance is in your trust fund or how much withdraw you will be able to withdraw every year.

So there is a lot of variables that have uncertainties. You know something about it, like you know, March the temperature in Washington, D.C., you can't really tell how exactly the temperature will be but looking at the past history, you will have a good 8 idea what the distribution looks like, you know, their rain fall in a particular month or here we are interested in --

You know, there are a lot of variables 12 like in the stock market returns, interest rate, a lot 13 14of these variables have some pretty good idea what the distribution would be like. But you know, you don't 15 have the exact value so you generate. 16 You do the simulation by doing random draws. For people who have 17 used, you know this already. 18

We at GAO have used Monte Carlo simulation 19 in quite a few reports. If you go on GAO's website, 20 21 gao.gov, you know, search for Monte Carlo, you get more than a hundred search results. 22

GAO has used Monte Carlo simulation in a 23 24 lot of different ways. One area is looking at capital These are projects that are long-term 25 program costs.

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and there are a lot of uncertainties. The first one I there, it is GAO Cost Estimating listed а and Assessment Guide: Best Practices for Developing and Managing Capital Program Costs. This is an attempt to establish a consistent methodology that is based on be used best practices. Ιt can across federal government for developing, managing and evaluating capital program costs.

And in that report, we listed Monte Carlo 9 10 simulation as one tool for looking at these long-term 11 projects, a lot of uncertainties involved. You know, 12 the cost can go up or down as you get closer to the end of the project, the distribution will narrow. You 13 14will know more. But at the beginning, there is just a lot of uncertainties which will affect the planning of 15 the project, the investment. 16

We have also used Monte Carlo simulation 17 looking at trust fund sufficiency. I listed two 18 These are two projects at work. 19 examples here. These are tiny little countries in the Pacific and the U.S. 20 21 has set up trust funds for these countries. And these 22 trust funds are intended to provide long-term assistance to these countries. So we evaluated their 23 trust fund sufficiency, whether it is going to be 24 25 adequate in 30, 35 years.

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Other U.S. Agencies have also used Monte Carlo simulation. CBO has used in its Social Security projection. As you can see, there is just a lot of uncertainties in their economic development, economic growth, population, demographic information. All these things can be simulated to look at the future, how Social Security is going to be doing. There are a lot of numbers that are uncertain. So this is a good methodology used in that situation.

And the Treasury has also used the simulation and where they did the bank stress test, you know, similar to the Social Security projection, there are a lot of economic and financial variables that are uncertain.

So, the questions Monte Carlo simulation can help us answer. These are just what is the likelihood of a particular fund that is going to be sufficient in the future which is relevant to the nuclear decommissioning fund.

What if you put in additional funding? How that is going to affect the likelihood of the fund being sufficient. And what if the accumulation schedule changes? How is that going to affect the likelihood?

These are questions that Monte Carlo

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simulation can help you try to get some insight on these questions.

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3 Like many tools, it has its own -- It is a 4 wonderful tool but it also has its own limitations. 5 They key to Monte Carlo simulation is really you have a predefined distribution. You think that these 6 7 uncertainties of these variables will be coming from this distribution. You think it is either you have 8 this is the mean, this is the standard deviation 9 around these mean but these assumptions a lot of times 10 11 come from the past performances. How realistic this 12 is going to be for the future, if you have big changes, these past performances may not be the most 13 14accurate in representing the future.

15 If you have, you know, for example let's 16 talk about the March temperature in D.C. If you do 17 think there is underlying change happening with the 18 climate, then the past performances may not be 19 accurate indicator of the future.

The results can be sensitive to how you specify your equations and the interdependence among the different variables.

The last one listed on this slide, it is, Monte Carlo simulation, is a tool. It generates a lot of wonderful information for decision makers to look

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at but it does not make the decision for you. You can say well the likelihood of this fund falling short is X percentage. But is that percentage too high? Is that too low? What is acceptable level of risk? These are things that decision makers have to make a decision on. The model, the tool is not going to be able to tell you that.

So there are several types of Monte Carlo 8 I listed here ranging from the simplest 9 simulation. 10 to the more sophisticated ones. The most simple one 11 is to say well I am going to use the historical data 12 and just simply drawing from that historical data. Ι am putting the historical data in a hat and I will 13 14draw randomly a thousand times, ten thousand times and This is very easy to implement and it 15 see what I get. But you know, it is limited in terms 16 is very simple. of the information it is using. It is only using the 17 numbers that happened in the past. It is called the 18 19 non-parametric way.

20 The second one in the middle is the 21 parametric which looking type, at the past 22 performances, you can say well this is a distribution that fits these data pretty well. 23

It could be, actually, first of all, it has a function for you to put in a historical data.

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It will try to fit whatever it thinks is the best distribution around the data. It could be a normal distribution. You know, it could be something looking very different, you know, truncated so you don't have the extreme values.

6 So this is, it will give you a richer set 7 of data of results, but sometimes you may not find a 8 distribution that truly represents the historical 9 data, any predefined distribution that fits that 10 historical data very well.

And the last one, economic modeling, that gets more sophisticated. You use the yield curve over time and then you add on risk premium of whatever; the stock market returns, the risk premium of different asset classes. You model it that way. This is the most realistic but it is also the most complicated one to implement.

There a steps to implement a Monte Carlo simulation. The first step is really to generate the numbers in the hat. Here is, you know, either through a predefined distribution or you use historical data directly from there. This is to generate those numbers.

And the second step is the computer will do it for you, generate random drawings from these

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assumptions. This is actually drawing the numbers from the hat.

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The third step is to calculate and to look at how these random draws from each one, you know, from either one input or several inputs, you generate the possible outcomes and looking at the distribution of the possible outcomes and generate probability and all that good information from there.

9 I thought I would go through an example 10 here on the project we did looking at Palau's trust 11 fund. A little bit of background. The U.S. has this 12 compact with a Pacific island nation, the Republic of 13 Palau. In 1995, the U.S. contributed \$66 million into 14 this trust fund. And then later, two years later, an 15 additional \$4 million.

The goal of the trust fund is to produce 16 an annual disbursement of \$15 million a year, starting 17 from the fiscal year 2010. Prior to fiscal year 2010, 18 Palau receives direct assistance from the U.S. and 19 after 2010, the direct assistance stops and the goal 20 21 is for the trust fund to kick in and to be able to 22 generate this \$15 million a year to support the government functions there. 23

24 So our question is, what is the 25 likelihood? This is a really long time frame. It is

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35 years out in the future and what is the likelihood of the trust fund will be able to provide that desired level of income?

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Where is Palau? Here is a quiz. Who 4 5 knows how many people? What is the population of Palau? 6 Any guess? Close. A little more. It is 7 20,000. It is about 80,000 something miles from the It is pretty far out there, about 500 miles 8 U.S. southeast of the Philippines. 9 There are historical reasons why we have a compact with Palau but I won't 10 11 get into that.

12 So, the methodology. We looked at -- You know the first step is looking at the balance. 13 How 14 much money is in the trust fund at the beginning of our projection? And we look at the disbursement 15 schedule and the inflation adjustment. Then we also 16 have this equation, basically looking at the trust 17 fund balance. What is the investment fees? What is 18 What is the -- If there is any 19 the disbursement? 20 deposit into the trust fund. So, this helps us 21 starting from the balance to get to the point of what 22 we are interested in, is how much they are going to have in that trust fund in 35 years. 23

And then Monte Carlo simulation comes in when we look at the distribution. They have three,

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they are investing in maybe three asset classes, large company stock, small company stock and Treasury bills. And so these are the three returns that have the uncertainties around which we used Monte Carlo simulation to analyze.

There is three main asset classes they are investing in, small/large company stocks and U.S. Treasury bills. And we also built in there, there are some cross-correlation and serial correlation.

If you look at the historical returns, these numbers, these returns are not independent of each other. What years that you have usually a good performance in the stock market, in large company stocks, usually you will have a good year. Also in the small company stocks. So these are, we built in these correlations to be more realistic.

The next few slides it is very difficult 17 to see but I wanted to put some, these are the screen 18 shots of when I did the analysis. 19 This is what it 20 looks like. As you can see, this is in Excel and the 21 ones, the green highlighted columns, these are I think 22 is small company stock, one is large company one These are the ones that what Excel or Crystal 23 stock. 24 Ball will call it the assumptions. We put what we assumed the distribution is going to be built around 25

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5 The next one, the next screen shot is our assumption on the returns of this is, I think it is 6 7 small company stocks. As you can see, it really ranges. If you look at the historical data, you know, 8 from negative 30 something percent a year to positive, 9 the highest number is 60 percent, really wide range. 10 11 I mean, that just shows there is just a lot of uncertainties when you are putting the money in the 12 stock market. 13

14 So this is kind of our assumption on the distribution. I used a custom distribution rather 15 than a predefined distribution. 16 Actually, Crystal Ball allows you to do that. What I did was I took the 17 30 something years of returns in the past and built a 18 custom distribution around there. 19 And once I start the simulation, it will draw from the distribution. 20 You know, this is a small. And then for each one, you 21 22 for the small company stock, large company know, stock, and Treasury bills. Treasury Bills, you know, 23 24 their distribution will be just a lot tighter because it doesn't have this wide range of negative 30 to 25

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positive 60 percent.

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The next screen shot, this is a cross-2 3 correlation we built in. Large company stock, I think 4 it is large and small company stock, they are 5 correlated into one year. I think the correlation 6 coefficient is 0.66. So it is pretty highly 7 correlated. They were also building the serial year's performance 8 correlation, one how that is 9 related to the next year's performance.

10 So these are just some screen shots to get 11 some idea how this is carried out in Excel.

What we found for Palau's trust fund is that if you just look at no uncertainty, every year you are going to earn the same return. What they need to be able to earn is 8.1 percent every year in order for them to be able to withdraw \$15 million from their trust fund.

Ι don't know whether 18 any investment advisor will tell you I can quarantee you 8.1 percent 19 20 every year. If there is someone like that, maybe I 21 will put my money with them. Forecasting the future 22 really has a lot of uncertainty. Looking, you know, 35 years down the future, Monte Carlo simulation was 23 24 able to give us some insight of the likelihood of the trust fund being depleted. We found that the trust 25

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fund will have no probability of disbursing that \$15 million a year until 2016. And after that, there starts to you run into some risk of depleting the trust fund.

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5 So the next slide, the blue line is the 6 projection we did based on March 2008 balance. As you 7 can see, you know, there was no probability of 8 depleting the trust fund at the beginning and then the 9 probability increases. For 2044, that is the end of 10 the 35 years, the probability was around 48 percent. 11 It is less than 50 percent.

So, we then updated the projection. 12 In 2009, we used the balance they had in June 2009. Ιf 13 14you remember between March 2008 and June 2009, the stock market took a big dive, yes, and Palau's trust 15 fund lost a lot of money, probably like a lot of 16 people's investment. So we updated the projection. 17 As you can see, the prospect was a lot worse. The 18 probability of depleting the trust fund was a 19 lot 20 higher.

So this is -- I guess there are really two points here. One is the projection seems to be fairly sensitive. Where you start your projection, it is going to affect, you know, it is kind of like where you stand affects what you see. It is not to say one

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18 is wrong or one is right but, you know, updating that 1 information information becomes available is 2 as 3 important. And we also did some simulation trying to 4 5 figure out how to deal with this potential shortfall. There are several proposals out there. One is you 6 7 know, you can pay as you qo. Ιf there is а probability of having a shortfall, that does not mean 8 you are going to have a shortfall. 9 So, you can say well I am not going to do 10 11 anything about it until it actually happens, we can So we did a simulation kind of 12 put more money in. looking at the expected contribution to the trust 13 14 fund. If you do have a shortfall in one year, you know, you put in the \$50 million to cover that year. 15 The way the model is set up, they will 16 deplete the -- Once there is a shortfall, every year 17 after that, you just run out of money. So if it 18 happens, let's say 2024, then you have to put in money 19 every year after that. 20 21 So, another option is to generate, to put 22 in money now so it can reduce this probability of a 23 shortfall in the future. So and then you can take a 24 look. You know, which way might make more sense in 25 terms of the funding that is going to be needed to **NEAL R. GROSS** COURT REPORTERS AND TRANSCRIBERS 1323 RHODE ISLAND AVE., N.W.

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1	deal with the potential shortfall in the future.
2	Okay. That is it.
3	MR. LESLIE: Ming, thank you very much for
4	your presentation. Are there any questions in the
5	audience here? Okay, I will come over to you. I am
6	going to start on my right. Can you just pass this
7	mike to her and then pass it right back?
8	MS. KASS: Thank you. This is Leslie Kass
9	with NEI. I appreciate the information. I have used
10	Monte Carlo myself and it is kind of fun.
11	Just a couple of comments. In terms of
12	the historical data that we have for nuclear plants,
13	we always find when we try to apply some simulations
14	we have a very small universe of data. And as we
15	talked about this morning earlier, the number of
16	decommissioning projects that we have had to date,
17	every one has been unique going forward, they will
18	tend to have some unique qualities and our licensees
19	will respond to the market conditions of the time and
20	make adjustments.
21	In terms of probability of making sure we
22	have money, I think that actually through that 2008-
23	2009 period we showed that our investment strategy was
24	very sound. A very high percentage of the plants do
25	that, not a very high percentage of all of our
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retirement plans were well funded to the minimum levels, and we were very well protected, I think by a relatively conservative not an 8.1 percent per year investment strategy. And we also have the benefit that we don't take the money out until end of life. So we are not depleting our funds any earlier.

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7 So I guess that, you know, some of the examples, if we were looking to apply this one, why, I 8 think we are financially covered. If you are trying 9 10 to figure out the cost, it is extremely challenging. 11 How would you come up with the data set and the 12 assumptions, qiven the unique nature of these projects? I am concerned that it could be an academic 13 14nightmare given the cost.

LESLIE: I would like to kind of 15 MR. remind both the speakers and the people 16 in the audience that we do have a schedule and we are running 17 a little bit behind. I know you all will be taking 18 questions so I will remind you of Brian's ground 19 rules, which are concise as much as we can. 20

21 Steve, first could you introduce yourself, 22 please? 23 MR. SHORT: Yes, Steve Short. Just a

23 MR. SHORT: Yes, Steve Short. Just a 24 quick question. Do you have some kind of policy on a 25 confidence level that they strive to achieve or they

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expect to achieve, like your graph here shows 90 percent for 48 percent in 2044. Is there a standard, is there a policy regarding what the level of confidence is that you should be obtaining, so that you are below some point? You know, if you are only at 60 percent, do you have to get up to 80 percent?

7 MS. CHEN: I am not aware of such a policy. I mean this is really not a decision for GAO. 8 This is a decision for when the State Department 9 10 negotiates with the Palau government, they actually 11 just reached a new agreement at the end of last year, we provided the information to Congress and this is a 12 decision they --You know, they look the 13 at 14information what is the likelihood this will have a shortfall and they decide do we want to give Palau 15 more money. So yes, I guess we don't have a policy on 16 that. 17

18 MR. LESLIE: Other questions? Okay, we19 will take Tom and then I will move to the front.

TOM: Thank you for that presentation, Ming. I thought it was very interesting. Do you know what the outcome was from Congress when they, after looking at this information, what did they decide to do?

There is actually, initially the compact

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22 direct assistance was going to expire at the end of 1 last year. But the trust fund did take a dive and I 2 3 think in the initial negotiation, they were very 4 optimistic in terms of the returns. I think the new 5 agreement that actually they reached at the end of last year, the U.S. is going to continue to provide 6 7 some direct assistance and contribute more to the That hasn't passed as a law yet but it 8 trust fund. still goes through Congress. 9 MR. LESLIE: Question? 10 11 MR. WILLIAMS: I am Dan Williams. Ι retired from GAO about four years ago. 12 MS. CHEN: I read your paper. 13 14 MR. WILLIAMS: Thank you. At GAO, I built look at scenario simulations at 15 models to two different times, the late 90s and then in the early 16 as a non-GAO product, it was 17 2000s now my own publications. Ι actually applied Monte 18 Carlo simulation to all of the funds for 2004, although I 19 extrapolated a bit they were basically 2000 or 2001 20 21 data. 22 the main and I published in a Anyway, number of locations but the two main ones were in 23 24 Energy Economics and they came out in paper in 2007. 25 The main thing I got out of this stuff is that and I **NEAL R. GROSS** COURT REPORTERS AND TRANSCRIBERS 1323 RHODE ISLAND AVE., N.W. WASHINGTON, D.C. 20005-3701

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23 remember when I gave a seminar at GAO, don't focus on 1 do you want a 90 percent confidence interval, 2 95. 3 There is so much uncertainty that you really have got to focus on which of your variables contribute the 4 5 most toward the uncertainty. You have to break down, it is an analogue to the analysis variance, а 6 7 breakdown of your variation of however you modeled it minus how your fund levels, the level and also looking 8 forward how the recent funding has compared to where 9 it should be if it would match some benchmark that I 10 11 have established. I won't get into that. But the two most important variables were 12 the rate of return on the funds, the after tax rate of 13 14return, and the cost escalation rate. A lot of the other things that can vary and don't. 15 You know, I remember Pete and I gave the 16 They asked questions about why did you use 90 17 talks. percent versus instead of 95 or what have you. 18 It is 19 a misplaced emphasis. Focus on what affects your 20 variability the most and then focus your resources on 21 getting greater knowledge a Bayesian sort of input 22 into these other variables so that you can reduce the range of results. 23 24 I mean, it isn't much use if you are going to say well there is a 95 percent change, a 90 percent 25 **NEAL R. GROSS** COURT REPORTERS AND TRANSCRIBERS

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chance you are going to be 50 percent below where you 1 ought to be or up to 60 percent above what you ought 2 to be and policy makers are going to say, well that is 3 4 no use. You have to refine your analysis because there is so much variability. That is the main thing. 5 MR. LESLIE: Thank you. 6 7 MS. CHEN: That is an excellent --8 MR. LESLIE: I need to go to the next speaker or the next question because we still need to 9 10 get all the speakers in and you still all deserve 11 lunch. So again, remind yourself to try to be as concise as possible. 12 MR. ANDERSON: Thank you. Rick Anderson, 13 14Dominion. Two quick comments and that is, number one I think that based on the recent economic downturn, 15 is in fact talking to Leslie had commented 16 that earlier, is a testament to the industry and to the NRC 17 minimum formula that so many of the plants did survive 18 through that recent economic downturn and still had 19 20 sufficient funding. I think we saw a minority of 21 plants did not but again, the majority did. 22 The second point as Leslie had also commented, we are not allowed to take funds out of the 23 24 decommissioning fund. And just to be clear about that, if we were, I suspect that it might be to lessen 25 **NEAL R. GROSS**

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25 the liability of the eventual decommissioning cost, 1 if dispose 2 such as we were able to of steam 3 generators. That is just something that would be done 4 now instead of later. 5 So, those two quick points. Thank you. MR. LESLIE: Thanks. Are there any 6 7 questions on the webinar? And are there anyone on the 8 phone that have questions? Well, I don't hear any. So with that, I would like to thank Ming. 9 10 Thank you very much. 11 (Applause.) MR. LESLIE: I would like to invite up the 12 next speaker David Emerson from LCG Associates. 13 Oh, 14and Kathy Taylor from LCG. this meeting is trying to 15 Aqain, be transcribed. So if you are going to speak, try to 16 speak right into the microphone. And I think your 17 slides are up and ready to qo. Again, try to make it 18 19 20 minutes so we have time to have some questions afterwards. Thank you. 20 21 MR. EMERSON: We will jump right in. 22 Good morning. I am David Emerson with LCG and to my left is Kathy Taylor with LCG. 23 We are а 24 consulting firm that works with a number of utilities 25 on the asset side. But part of the process that we **NEAL R. GROSS** COURT REPORTERS AND TRANSCRIBERS 1323 RHODE ISLAND AVE., N.W. (202) 234-4433 WASHINGTON, D.C. 20005-3701 www.nealrgross.com

put in place is modeling the assets versus the liabilities and that is what we are going to focus on and to continue on from the prior speaker's dialogue on Monte Carlo, we will focus on our Monte Carlo simulation with a hypothetical nuclear decommissioning trust.

7 Anything that you see that may resemble 8 another one is purely coincidental. It is completely 9 hypothetical.

10 So if we look at page two, our thoughts on 11 modeling the assets versus the liabilities, this is a 12 difficult process. For the most part, decommissioning is not going to start for over 20 years when most of 13 14the plants are out there, and within that, may take another 10 to 20 years to complete that process. 15 And so there is a lot of variables that we look at and 16 have to consider in modeling this to get an idea of 17 what the funded status is going to be in that plant. 18

So number one, how are the equity and bond markets going to perform? How will the cost escalation rates change? And what costs do we not know about that may appear down the road?

23 So we use the stochastic analysis that can 24 incorporate many of the variables that we are looking 25 at. But again, keeping in mind that because of all

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these variables, and these variables can and will change, there is a wide range of potential outcomes when we look at this.

We go to page three. Number one, our 4 model and many Monte Carlo models rely on the asset 5 class assumptions, which can include the return, the 6 7 risk, the income, turnover, taxes for those that are includes funding 8 taxable. Ιt assumptions, any 9 contributions that may or may not be made; as well as 10 liability assumptions, the cost schedule, the the 11 escalation rate sensitivity.

And a change in any of these can affect 12 what we call the success ratio. So that is the 13 14percent of observations in the model that meet or 15 exceed expected the of the costs at end decommissioning. 16

Look at page four. So this is our sample 17 NDT. It is LCG1, for lack of a better name. 18 It has current assets of \$345 million. 19 It has an expected future liability in present value of \$600 million. 20 21 Current assets as you can see about 57 and a half 22 percent of the liability. Decommissioning is expected to begin in 2033 and end in 2042. We made up these 23 24 costs. So we will call it from the XYZ Utility cost study in current dollars, a current escalation rate of 25

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three percent. We will be looking at present value data here. So we discounted it back to the five percent rate.

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We did not assume any contributions. You certainly could. And based on what we will be showing you, this is a utility, the price should and does have contributions coming in. And then we will talk about our capital market assumptions that we used to form this analysis.

10 five, please. Page So the target 11 allocation and current allocation of this NDT is 45 domestic equity, five 12 percent in percent in international equity, 50 percent in fixed income. 13 And 14if you look back at recent analysis put forth, this is a rough approximation of what a number of nuclear 15 decommissioning trusts look like. This investment 16 advisor puts this analysis together and they come out 17 with their survey every two years. We would expect 18 19 that you will some changes to this.

In this particular case, we had a special transfer. So all the assets are now qualified trust assets. It is taxable at the qualified rate of 20 percent. Because our model does factor in the taxable side of things, we said there is a \$103 million in built-in unrealized gains that must be accounted for.

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And we are going to begin to de-risk this portfolio at 2028, which is five years prior to the start of decommissioning and it will occur all the way up until 2038, at which point there will be a 15 percent fixed income and 50 percent in cash.

Page six, please. Just a brief definition
on the asset class definitions. So All-Cap U.S.
Equity was the domestic equity. This incorporates
broadly diversified U.S.-based equities across market
capitalization sector and industry. There may be some
multinational exposure within this.

12 International Equity which is broadly 13 diversified by market cap, country developed and 14 emerging markets, sector and industry. But these are 15 companies that will be based outside of the U.S.

Fixed Income broadly, again diversified 16 across the sectors, typically tracks the duration of 17 the Barclays Aggregate Bond Index, which is a fairly 18 19 common standard. And then we briefly mention alternative investments. And when I mention you will 20 21 see potentially a change in the target allocation or 22 the common allocation across the number of nuclear decommissioning trusts, there is a potential that you 23 will see an inclusion of alternative investments. 24

We did not, again, include that in our

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current allocation but it could be considered going forward. And these include things like hedge funds, real assets, which is physical assets, real estate, commodities, natural resources, and private capital, which is private investments as opposed to the public equity market.

And with that, I am going to turn it over to Kathy to talk about the history of investments.

MS. TAYLOR: Before we look at the results 9 10 of the modeling, what I would like to do is just walk 11 through a couple of points on where we have come. And 12 many of you, as I look around the room, probably also set up the first NDTs back in the mid-80s. I was at 13 14Wisconsin Power and Light at that time and they in fact said you have got to set these things up. Nobody 15 really knew what to do with them. They were taxable 16 and we figured it out. 17

And as you remember, initially it was only Black Lung Trust restricted type investments, government funds, very, very plain vanilla. Nothing for real growth of capital.

And then the Energy Policy Act came out and with the Prudent Investor Standard we were able to start diversifying more, getting some growth in the portfolio in terms of equities, which has helped, I

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31 think, quite immensely. Next slide, please. 1 In the 90s, we saw a diversification from 2 3 just the large-cap U.S. stocks into small-cap 4 international. Non-qualified trusts were still 5 primarily muni bonds because of the higher tax rate. And then we had the meltdown in 2008 and 2009. 6 Next 7 slide. And now we are looking at diversifying 8 9 even further and I want to show you why. Dave mentioned some of these alternative investments. 10 They 11 are really not alternative anymore. Next slide, please. 12 Here is what happened in 2008. The green 13 14 bars on the right-hand side are the only positive asset classes in 2008. And the red bars, you can see 15 left, it is pretty bad. 16 MR. LESLIE: Well everybody else saw their 17 assets fall that much. 18 Exactly. And you can see 19 MS. TAYLOR: that what the NBTs were invested in for the most part, 20 21 U.S. small-cap, U.S. large-cap, international 22 developed markets. They did pretty poorly down to 35 to 45 percent. 23 24 Now bonds held up, Treasury bonds did pretty well. Anything though with a credit rating 25 **NEAL R. GROSS** COURT REPORTERS AND TRANSCRIBERS 1323 RHODE ISLAND AVE., N.W. WASHINGTON, D.C. 20005-3701

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Let's look at the next year. Big change. What was on the bottom is now on the top and emerging markets were leading the way. As we heard from Ming, there is wide range in some of these asset classes. Plus 78 percent in one year is pretty good but it can happen. It has happened before.

But you were probably not invested in those assets classes that did the best in 2009, so you may not have come back as much as people that were.

Now in 2010, the next slide, everything is green on this. Now, this makes you think, good, we are back to normal. Well, this gets me nervous because when you see everything doing well, it is time for something to start underperforming.

So we are at an inflection point now that we think could be, and if we look at -- Actually why don't we skip two slides. We have got to be looking at our asset mix and how we are diversifying. This is the ten-year annual average of these different asset classes. Emerging market is still great.

The first yellow bar there, that is a typical required breakeven rate of return that we have found, obviously they vary between utilities, but on average, this seems to be about where they need to be.

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So to earn that in the last ten years, look what you would have had to have had a significant portion in. Emerging market stocks, RETTs, emerging market debt. I don't know any NDTs that have concentrated in those kinds of things.

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Very interesting. Look at the bottom. 6 7 Large-cap stocks. This was the "lost decade" and it wasn't lost for everything but just for U.S. large-8 And obviously making predictions is very, very 9 cap. 10 difficult but this is a survey we do annually, Wall 11 Street strategists on what they expect for the coming And this was done in December, so it is for 12 decade. 2011 through the end of the decade. 13

14Not surprising private equity is right up there at the top. A few utilities are considering 15 private equity. It has a long-term lockup but these 16 are long-term funds. You don't want to be committing 17 to it when you are getting near decommissioning but 18 19 you sure could now. And when you look at that breakeven rate, you see a lot of these things that 20 21 need to be invested in, but you also want to protect 22 for a 2008. And that is where, if you think about it, hedge strategies, where they don't go down as much in 23 24 a down market but keep up pretty well in the other 25 markets, they tend to work. So it is not that you

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have to jump into these things but we need to be studying them and see which make sense and which don't.

I am going to turn it back to Dave to answer the rest.

MR. EMERSON: Okay, great. On page 16, we 6 7 go through the capital market assumptions. I am going to gloss through this. The key points here are long-8 9 returns and expected long-term volatility, term expected portfolio turnover, taxes as we mentioned, 20 10 11 percent in yield, and trading costs. And this is what 12 goes into our model to feed the asset side of the equation. 13

If we look at page 17, we look at the liability side, we are relying on the cost studies that the utilities provide. In this case, it was a made up cost study. And we are looking at a couple of different things here. Number one, escalation rate sensitivity.

We used a three percent rate and we looked at three different scenarios with that. Number one, a three percent constant rate. Number two, a three percent stochastic rate where we tie the escalation rate to the returns of the equity in the bond market and then we also look at a six percent shock rate that

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5 And with that, we also looked at two cost Number one was what we had created to be 6 scenarios. 7 the primary cost study; and number two, not that we are going to go in and define how we can extend some 8 9 the cost but in some cases there may be of а 10 possibility to extend some of the costs out a year or 11 two. And this was a process that we determined to be a 12-year cost study to see if that might help a 12 little bit with the funding. 13

So if we look at the results on page 18, and we are looking at in the blue here is a Cost Schedule 1, the ten-year and Cost Schedule 2 in yellow, we look at the three liability rates, the three percent constant stochastic and six percent. And what you can see here are success ratios.

So 56 percent, for instance, and the three percent constant rate on Cost Schedule 1, 56 percent of the time we saw where we met or exceeded the cost of decommissioning, that increased to 63 percent. But what is really striking here is the six percent shock number where only one percent of the time did we meet

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or exceed and that is something we think about.

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If we look on the next page, page 19, these are the present values based on the median case, and we ran 2000 loops in this Monte Carlo simulation, as well as two and a half percent number. And that is really what we consider to be our downside or worstcase scenario.

So again, looking on Cost Scenario 1 on 8 the left-hand side, we see \$17 million was the median 9 10 case and the three percent constant a little bit 11 better, and the stochastic at \$31 million. But 12 compare those to the worst-case scenarios in those situations of negative \$118 and negative \$107. 13 And 14then moving forward to the six percent shock, which is a significantly higher downfall that we would have to 15 16 consider.

17 Cost Scenario 2, where we extended the 18 decommissioning process out a little bit, you get 19 slightly better results as we saw on the prior page as 20 well.

If we look at page 20, we also said well what would happen if we extended the amount of risks that we are taking in this portfolio and increased it to a 60 percent equity, in this case 50 percent domestic, 10 percent international and 40 percent

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bonds? And this would give us a little bit more volatility potential and little more upside in the portfolio. And we can see on page 21 that did increase the results a little bit, up to 63 percent and 68 percent for Cost Schedule 1 and 64 to 69 for the extended version, but only to three percent on the six percent shock escalation rate.

8 And you can see the actual present value 9 dollars on that on page 22. Again, an increase as we 10 would expect but not much of an increase on the 11 downside for the six percent shock.

12 And when you see the change the on following pages here, page 23, you can see 13 that 14basically we saw a seven percent increase in Cost Schedule 1 for the three percent cost and five percent 15 for the three percent stochastic. 16 So there were measurable increases by increasing the 17 amount of equity exposure that we had in the portfolio. 18

And also page 24, just what the increase in the present value by increasing the amount of equity exposure.

So in conclusion on page 25, we do believe that Monte Carlo simulations are a good estimate but it is a wide range of outcomes that we can see. So it gives us that range of potential outcomes but knowing

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that this is a long process, that we are a long way away in many cases from the decommissioning process.

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We do believe that stochastic modeling of the escalation rate is a little bit more robust than the constant rate. We saw that in the results. We think that the escalation just moving rate in conjunction with the equity and bond markets, we think that that makes a little bit more sense but we do have concerns about that escalation rate shock. If that were to happen, that would obviously significantly change the funding status. And so it is something to consider. 12

13 That being said, Carlo а new Monte 14simulation should be rerun every time that you have a change, a significant change in your assumptions, 15 whether that be a new cost study or a change in any of 16 the other assumptions, we believe that should be rerun 17 and have a new baseline to consider. 18

saw, a change in the 19 liability As we 20 schedule did make marqinal improvements, not 21 significant improvements but it did improve a little 22 bit.

23 And then finally, the asset allocation 24 targets and the asset class assumptions, they are 25 critical as well, critical inputs. And increasing

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1	risk in the portfolio may be necessary and there may
2	be other situations where it is a lot better funded
3	where taking risk off the table makes more sense.
4	So with that, we are open to questions.
5	MR. LESLIE: David and Kathy, thank you
6	very much. And Kathy, could you just sit at the table
7	because there is a mike there.
8	MS. TAYLOR: Oh, okay, sure.
9	MR. LESLIE: If someone asks you can speak
10	in there.
11	I will open it to the floor here in the
12	audience. Are there questions? Okay, I am coming
13	over.
14	MR. ANDERSON: Thank you. Rick Anderson
15	with Dominion again.
16	Regarding the six percent shock, as so
17	often goes the escalation rates, so goes perhaps the
18	fixed income and expectations. It appears here that
19	why you did model a percent shock rate but you didn't
20	give any bump, shall we say, to fixed income.
21	Therefore, you increased one but yet frozen the other.
22	I would I assume that there should be some
23	correlation between the two of them in that both of
24	them should increase somewhat.
25	MR. EMERSON: Yes, that is a good
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observation. Obviously, that could have an impact and probably should have an impact on the fixed income percentages. We did not factor it into this particular model.

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And again, this isn't meant to be, you know, if six percent happens, therefore it is a bad situation, it is just more of an example. But you are absolutely right, it would impact the fixed income returns.

10 MS. TAYLOR: Well and that is where we 11 could do more of the stochastic escalation rate model. 12 MR. LESLIE: Another question here.

Hi. MS. BALLENGER: Josey Ballenger from 13 14the Government Accountability Office. Ι am just wondering if LCG or anyone else has done an analysis 15 what the licensee's types of 16 of investments are. Because I don't think that is something that they 17 their DFA reports 18 submit in to NRC SO the NRC 19 evaluates. So Ι am just wondering if you any observations on the asset mix. 20

21 MR. EMERSON: NISA Investment Advisors 22 actually does a survey every two years where they, and 23 their next survey will be coming out from what we 24 understand, in May, where they do do a survey based on 25 a number of responses from the utilities on the

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41 average allocation. And again, the allocation that we 1 use here was very similar to what the 2008 survey came 2 3 out a little bit more broad-based that what they had 4 done. But yes, that survey is done and this is fairly 5 representative of that. MS. TAYLOR: If anybody is interested in 6 7 qetting the previous survey, just give me your business card and I will make sure you get it. 8 MR. LESLIE: Other questions here in the 9 audience? All right, over to the other side. 10 11 MR. BAILEY: Paul Bailey, ICF. I got lost with the blue and the red in your modeling for some 12 reason; blue says 50 percent, the red two and a half 13 14 percent. What do those represent? MR. EMERSON: So of the 2000 loops that we 15 ran in a Monte Carlo simulation, that represents the 16 50th percentile or the median and the two and a half 17 is the tail. We cut off the remaining two and a half 18 and we will call that two and a half our worst-case 19 scenario. 20 21 MR. BAILEY: Thank you. 22 MR. EMERSON: Yes. MR. LESLIE: Other questions? 23 Anyone on 24 the phone have questions? And there is no one on the webinar that has questions? Last chance for David and 25 **NEAL R. GROSS** COURT REPORTERS AND TRANSCRIBERS 1323 RHODE ISLAND AVE., N.W. WASHINGTON, D.C. 20005-3701

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1	Kathy.
2	Well, thank you very much.
3	MS. TAYLOR: Thank you.
4	MR. EMERSON: Thank you.
5	(Applause.)
6	MR. LESLIE: And could I get David Krause
7	to come on up?
8	I just want to thank David and Kathy again
9	for getting us back on track. So David, you have got
10	your full allotted time.
11	MR. KRAUSE: Very good.
12	MR. LESLIE: And if people are leaving, I
13	have got to remind folks that if you are a visitor,
14	you will need to be escorted out. And I think
15	Michael, if you will raise your hand, you will need to
16	go with him. So hold on a second.
17	MR. KRAUSE: Well good morning, everyone.
18	Good morning a lot this morning. My assignment here
19	is to try to share to share with you some numbers into
20	the mix here so that everybody is sort of on the same
21	page in terms of where the status of these
22	decommissioning funds in terms of both absolute
23	numbers and relatively how they changed over time.
24	A little background on Duff and Phelps.
25	Duff and Phelps has been a very active participant in
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the nuclear decommissioning arena for more than 20 1 Their decommissioning funds make up a fairly 2 years. 3 significant percentage of the assets in the management 4 of our firm. And through a combination of either 5 working directly with utilities and managing funds or the investment portfolios that we manage, more than 80 6 7 percent of the assets are directly tied to utilities. So it something that we have had been a long history 8 at Duff and Phelps in terms of working with utilities 9 and the clients that we work with, both as an investor 10 11 and also as an investment manager. I am going to cover a couple of things 12 relative to these funds. I am going to look at the 13

study that we update every year. And because the data is not yet currently available as of 2010, the study will focus on data through 2009. I will try and make some observations relative to some estimates that we think the funds stood as of the end of 2010.

I am not going to directly comment on the 19 20 specific company data that is also in the 21 presentation. It is for your reference but it is the 22 basis of the underlying findings that we have had in 23 our study.

24 So if we look at the basis of our 25 analysis, what we do is we look at any reports that

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companies file with the SEC, their 10-Ks or their 1 overall company reports. We also look at the filings 2 3 that the companies submit to the NRC every other year. 4 Where that really comes in handy is in the public 5 power side. Because public power companies, as you may be aware, do not have the same requirements in 6 7 filing their financial information. And so literally the only source we have for the public power companies 8 is what they file with the NRC. That numbers are the 9 basis of how we do the analysis. 10

11 Our analysis that you are going to see in 12 the report is for the five year period 2005 through We do break it down into two separate groups. 2009. 13 14One is the investor-owned utilities and the other is the public power utilities. And the specific reason 15 we do that is because investor-owned utilities are 16 17 subject to tax so there are tax implications associated with those funds. Public power companies 18 are not subject to tax and so that is not a factor. 19

There is another element which really 20 21 doesn't come into our analysis but it is something 22 that you should be aware of and something that will show up in the data. Investor-owned companies have, 23 24 in general, much more leeway in the type of investments they can invest in. Most -- Many of, not 25

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most, but many of the public power companies are restricted by state law in what they can invest in in their funds. And in many, many cases, those state law restrictions are fixed income only. So there is a lot of public power companies that have not been able to, well, there is the two, one of which they haven't seen the volatility over the last couple of years but they also haven't had the same returns as their investorowned brother.

10 study right now The consists of 104 11 operating nuclear plants. We also include data for 12 five companies who, five plants, I should say, that are non-operative, but which decommissioning has not 13 14yet commenced. Now remember this is 2009 data. There is going to be an exception to that starting -- We 15 haven't quite concluded how to deal with this in the 16 Zion plant. 17

Zion is now under decommissioning. 18 The Solutions Firm in Salt Lake City started 19 Enerqy decommissioning that plant last fall and have already 20 21 started to spend money and the practice has been that 22 we would exclude companies that the decommissioning process has been underway. And that is consistent in 23 24 the data that you will see.

The most significant impact of that in

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terms of the data you will see here is SONGS 1, which is a jointly owned plant by Southern California Edison and San Diego Gas and Electric, is not included in this data. And its fund at the end of 2009 was about \$375 million. So it is not an inconsequential amount. It is about one percent of the total assets of NDT assets but just to make sure you understand the basis of the numbers we looked at.

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The table that is in the study and also 9 the graphs, probably the biggest single issue that you 10 11 are going to see some significant inconsistencies among companies is the decommissioning cost estimate. 12 We take the number, like in the case of investor-13 14owned utilities, we take it out of the 10-K and it is what the company says it is. And the fact is about 15 that is that there is a huge range of the basis that 16 goes into that number that is published. 17 In some cases they will say publicly that okay, this is 2009 18 annual report but they will say something like, this 19 is based on the 2006 site-specific cost estimate not 20 21 updated for 2009. So it is 2006 data.

In other cases, it will be a site-specific estimate but that site-specific estimate may include total green fielding of the facility. And that specifically applies like in the California situations

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where green fielding has a huge impact on the decommissioning cost estimates.

3 So the data you will see in the tables has 4 a huge range of what the decommissioning cost estimate 5 might be. We go through a procedure, it is not going to be in the graphs but I want to just point this out 6 to you, of normalizing that particular cost estimate 7 we bump it up to an average number per 8 and that An average number, if I recall, in 2009 was 9 kilowatt. \$618 per kilowatt. So it is a way of sort of looking 10 11 at normalizing everybody and trying to, if you are not 12 at least up to that standard, we will bump you up a Again, the number is not going to show up little bit. 13 14on the graph but you will see that in the table that is in the back. 15

Another number to point out that is in the 16 tables of the individual company data is the average 17 years to life of the nuclear plants in a company's 18 19 portfolio. То us that has very significant implications because it tells you basically the period 20 21 of time in which they theoretically make can 22 contributions to this fund so that they are adequately funded when the decommissioning process starts. 23

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Let's take a look at the data and what we

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see.

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5 As Ι mentioned earlier, public power companies, a vast majority of them use only fixed 6 7 income, which explains why that line is pretty They didn't see the big volatility that 8 straight. occurred in 2008 and 2007 --2008. 9 Excuse me. Whereas, the investor-owned companies did. 10

11 But there is another very important element in this in terms of what the investor-owned 12 utilities experienced. These are nominal dollars, but 13 14 if you would convert this table into what I will call percent change data, that percent change would, almost 15 exactly, emulate a portfolio that is approximately 16 six percent large-cap stocks, 40 percent investment 17 rate fixed income securities, which reflects the very 18 conservative way that these portfolios 19 have been managed over this period of time. 20

And just I will read this in numbers; 2008 the change was about 20 percent, 2009 about 18 percent increase. And those particular percentages are almost exactly what a balanced portfolio of 60 percent equities and 40 percent fixed income experienced.

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The next graph gives you the indication of 1 the annual contributions that went into these funds 2 Again the public power 3 over the last five years. companies have been fairly constant, where there has 4 5 been a fairly significant decrease among the investorowned utilities. There is a specific reason for that 6 7 and that is, for the most part, when investor-owned utilities had these transactions that have gone over 8 9 the last several years, transactions being companies actually sell their nuclear plants to some other 10 11 investor or a company would acquire another company 12 that had interest in nuclear plant. а That consolidated the interest of nuclear utilities in the 13 14investor-owned space.

To give you a number of that, there are currently 28 companies that have an interest in -- 28 investor-owned companies that have an interest in a nuclear plant. There used to be about 60. So, we have had a huge shrinkage in that number over the last couple of years.

Almost in all of those cases, those companies that have taken over those nuclear plants are so-called non-regulated utilities. And under the NRC standards, if you are a non-regulated entity, you have to pre-fund the liability. That doesn't mean

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that you can't make contributions. It is just that under the regs theoretically you are funded so you shouldn't need to make contributions.

Well companies have interpreted not need 4 5 meaning that they don't. And as a result, these contributions have come down and they have come down 6 7 on price substantially. If you look back, we have been doing this study since the early 90s. And if you 8 look in the mid-90s, these contributions were running 9 at an annual rate of about a billion and a half 10 11 dollars. So they have come down from a billion and a half to the last few in 2009, there was only \$450 12 million in round numbers. So the client has been 13 14very, very substantial.

The next graph is the decommissioning cost 15 And again, this number is the numbers that 16 estimates. are published by the companies. It is not adjusted. 17 This graph doesn't reflect that adjustment that I 18 mentioned earlier. So this just comes out of what the 19 company says is that they are thinking of what it 20 21 costs decommissioning these plants collectively. And 22 that number, you know, at the end of 2009, was a little over \$61 billion and there has been come 23 24 variance in that, largely because there was a slight and again a significant number of these are done on 25

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1	the NRC minimum. And for reasons maybe somebody at
2	the NRC can explain, but the burial cost number
3	actually declined in 2008, so the cost estimate went
4	down. And then it bumped back again in 2009.
5	But these are the published numbers. What
6	we think is helpful is getting an idea of what that
7	number relates to in terms of the assets prior graph.
8	So this next graph gives the funding
9	status and this is what some might call the shortfall
10	in current dollars and it gives you an idea of what
11	that amount is and what that trend line has been over
12	the last five years.
13	Again, the public power companies have
14	been pretty consistent, right around \$5 billion. It
15	has had a variance for the investor-owned utility
16	because the investor-owned utilities have experienced
17	the market volatility over the last five years. And
18	so it has been in the range of about \$15 billion to
19	\$20 billion over time and it is reflected in the total
20	amount for all funds.
21	The next graph explains this in the
22	context of on a percentage basis. And a couple things
23	that stand out here, which we will point out in our
24	comments is that basically there has been a higher
25	funding ratio for the investor-owned utilities than
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their public power counterparts. So despite the fact, and I think that relates directly to the investment strategy that public power companies have been using. Less use of equities I think has had a significant impact on their funding status versus their investor-

owned brother.

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7 So what are our conclusions or observations on these funds over time? We did have a 8 pretty significant decrease in 2008, followed by a 9 10 increase in 2009. pretty significant And those 11 returns did pretty much emulate the returns in a very conservatively managed portfolio. 12 So we didn't see the big swings that came about because they weren't 13 14using high yield, they weren't using emerging market equities for the most part. So they didn't experience 15 biq hiqh volatility that 16 the could have been experienced. 17

As I mentioned earlier, contributions have 18 continued to decline over the last several years. 19 And we have had a situation where the assets of cost 20 21 estimates have increased by the same amount between 22 2005 and 2009, which means basically over that time, five-year time frame, there has been no change in the 23 24 funding status. There has been some intermittent volatility but actual funding 25 the level status

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remained the same over that five-year period.

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To carry that out in real numbers, the funding status ranged from about \$15 billion, these are negative numbers by the way, to \$20 billion and stood at about \$20 billion at the end of 2009, which was pretty much unchanged from 2005.

The funding ratio for the investor-owned utilities has been consistently higher than their public power counterparts and is basically somewhere between two-thirds and three-quarters funded. Again, these are assuming that the fund is going -- that our cost estimate related to the current dollars in the funds.

14Now let's turn to what we think may have happened last year on the presumption that, and we 15 think that this is a very highly probably assumption, 16 that the funds that were managed the same way as they 17 have been, basically about 60 percent in stocks, 40 18 percent in investment-grade fixed income. 19 The market experience provided a 12 percent return last year. 20 So 21 it is our assumption that the assets increased by 22 about 12 percent. And therefore, they went up by about \$5 billion to approximately \$46 billion. 23

And also in the broader public, the full presentation is our cost estimates based on the NRC

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minimum. And just eyeballing that table between 2009 1 and 2010 we think the decommissioning cost estimate 2 3 went up by about seven percent last year. And that 4 means that yes, you had a higher increase in assets 5 than you did in the liability. That is a good thing. The funding status improved by about \$1 billion we 6 7 think from negative \$20 billion to a negative \$18 or \$19 billion in round numbers. That is a good thing. 8 But we still have a shortfall in current dollars. 9 10 But the one thing that everybody is going 11 to get out of this conference is a huge amount of uncertainty, not only about the growth of the assets, 12 but what exactly is the cost of decommissioning these 13 14funds, these plants. This question of the availability of the 15 burial site I think is an ongoing one that is still 16 yet to be resolved. When the funds will actually be 17 needed, when the decommissioning actually occurs I 18 think is actually a greater uncertainty. 19 We have had a whole wrath round of license extensions. 20 There is no reason to think that those extensions won't happen 21 22 again 20 years from now. 23 You know, we have got a lot of hydro facilities that were built back in 1880 that still 24 So that is 130 years of operating of those 25 operate. **NEAL R. GROSS** COURT REPORTERS AND TRANSCRIBERS

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and they seem to do pretty well. One can think that license extensions should be granted for nuclear plants and keep operating. So when do you actually start spending money? Highly uncertain.

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And then the last one is a favorite topic of ours, many have heard my question earlier, that there is an apparent disconnect between what the IRS believes and what the NRC believes in terms of the spent fuel costs. And I think that is a significant element that needs to be resolved because it will have a significant impact on the status of these funds.

12 Thank you very much. I would be delighted13 to entertain any questions you might have, Bret.

14 MR. LESLIE: Well I see at least one15 question. So let me walk it over.

MS. KASS: Thank you. Leslie Kass withNEI. Two points on your slides.

Slide number eight, annual contributions 18 to NDT funds, I think that actually, you know, 19 it looks like it is a lower contribution. But as you 20 21 said, the merchant plants are required to fund up-22 front. So if you did a historical review, they are required to put in kind of larger chunks of money 23 24 during some of the conversions that are not reflected 25 So it looks like they are somehow not meeting there.

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their obligation when in fact they have done it prior and so they shouldn't have as big a need to add funds in response to changes because they should be able to rely on their growth. So that can be a little misleading.

second, And when you talk about the 6 7 negative funding status, are you saying today's fund versus what we would need and not implying new growth? 8 MR. KRAUSE: No, I just -- It is a current 9 You know, much like the whole process 10 dollar number. 11 of Monte Carlo simulation, it makes some assumptions. You have to make some assumptions on what assets grow 12 at and what the liability grows at. 13

14 The bad news is that if you look at the escalation of decommissioning liability since 15 the start of this process back in 1986, the liability has 16 grown at greater rate than the assets have in that 17 period of time. Is that going to continue? I don't 18 19 know the answer to that question but the NRC has an assumption of a real rate of return of two percent, 20 21 which effectively means that they think that the 22 assets will grow at a two percent greater rate than the liability will. That may happen. 23 It may not. Ιt 24 is not built into our analysis but it is what the NRC is basically assuming. 25

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All I am saying is that if you make a worst, not even maybe the worst case scenario, but if you assume that the asset and the liability grow at the same rate out in the future, which actually has been the reverse of that in the last couple of years, it will have negative implications for the status of these funds.

MR. LESLIE: And we have one more question here.

10 Just in response to that, I MS. KASS: 11 think what you are failing to discount for is the fact 12 that we do every two years look at this. We update The process itself, you NUREG 1307. 13 know, the 14framework that was developed originally is very robust because of the flexibility, because of all the checks, 15 because we update when we update, we to provide more 16 funding. 17

18 Ι think you are creating So a very negative projection without also stating that we are 19 doing things, we are taking measures to keep up with 20 21 that and that we will be forced to all the way along 22 because we, as utilities, also want to make sure we do the right thing. 23

24 MR. KRAUSE: All right. I am not trying 25 to give a negative indication. That is not my intent.

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This is a point time analysis, which at that point in time is what it is. I am just --

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But obviously all those assumptions will change and will be different in the future. It is just that at this point in time, this is where we stand and that is what I am just trying to convey. At this point in time, this is what the status of these funds are.

And you are 100 percent right. 9 There were 10 significant amounts of what they call top off amounts, top off contributions back when several of these 11 transactions did occur. 12 Some of the later ones, however, did not have top off contributions. 13 It was 14some of the earlier ones that there were some top off contributions and some of them were quite substantial, 15 \$100 million in a couple different cases. So you are 16 right, the contributions that we are showing, first of 17 all, they probably predated 2005 but they did impact 18 the status of those funds. So the assets do reflect 19 20 those top off amounts. You are right.

22 MS. SIMMONS: Anneliese Simmons from the NRC and this is one of my favorite reports. 23 And I 24 want to talk about the same chart that Leslie spoke about, the annual contributions, just to clarify a 25

MR. LESLIE: Other questions?

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couple of points.

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Of course we see that after the top off 2 3 contributions, is this chart basically saying that the 4 contributions that are made are really only related to 5 growth? They are not above and beyond growth. In other words, what we have seen is that --6 7 MR. KRAUSE: No. Cash contributions that they make, they are not related to the asset growth or 8 the growth of the underlying assets. 9

MS. SIMMONS: Okay.

11 MR. KRAUSE: It is the actual cash contributions that go into the fund from the company -12 13

MS. SIMMONS: Right.

-- or the company's customers 15 MR. KRAUSE: in most cases, that they are collecting from customers 16 and that they contribute to the funds. 17

MS. 18 SIMMONS: And then you also made point 19 another and Ι just wanted to have your 20 perspective on it.

21 You know, we talked a little bit, well we 22 talked a lot about risks. When you consolidate 60 owners down to 28, wouldn't you agree or perhaps you 23 24 wouldn't agree, but what would your perspective be on 25 some consolidation of risk when they shrink the number

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60 of the pool of merchant-owned facilities? Just are 1 there any impacts there that you have seen that might 2 3 be --MR. KRAUSE: Well you have two issues; one 4 5 of which there is still a lot of single-owned plants out there; that is, one entity owns one. And that has 6 7 risk in and of itself. And conversely, they have the other side 8 Some folks own a lot of plants. 9 of that equation. And so there is, they have a risk of owning too much, 10 11 if you will. I don't have an answer as to what the 12 right number is but there is risks on both sides of 13 14the issue. No question about it. One thing I would like to, that I meant to 15 point out relative to the NDT assets that I didn't say 16 but I would like to make sure I make a point of, 17 investor-owned utilities are subject to tax. 18 The 19 numbers in the table are gross of that. And at the low point of the assets, it is highly likely that the 20 21 cost and market were pretty close to each other. So 22 the liquidation of those assets being at the very low point of this five-year study, the liquidation at that 23 24 point in time probably didn't have biq tax consequences but as the market continues to grow here, 25 **NEAL R. GROSS** COURT REPORTERS AND TRANSCRIBERS 1323 RHODE ISLAND AVE., N.W.

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that ratio will change.

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And so the number that they report to the 2 3 NRC, which is gross, is not a true representation of 4 the assets they have available to spend. And I would 5 urge the NRC to give some serious consideration to ask them to give you the net of tax number that if they 6 7 looked at this portfolio today, what it's a value Because I think that is a more true 8 would be. 9 representation of the dollars that they have available 10 to spend.

11 MR. KELLER: Peter Keller, BNY Mellon. Just two points; one, the point you just made David 12 about taxes, which I think is important. 13

14 But Leslie to your point earlier, I think the concern we all have is for years, you know, first 15 license extensions the 16 round of hope was the additional life gave you the chance to accumulate 17 assets. But I think you know, we would have to have 18 19 that every year.

20 Two, at the NDT conference, the concern is 21 we have had too many years where costs have exceeded 22 the escalation of asset accumulation. So it is not at all clear to me that license extensions do anything 23 24 for us. In fact, if cost trends continue the way they are, we get deeper in the hole. 25

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1	MR. LESLIE: Other questions? Comments?
2	On the webinar? Okay. Anyone on the phone have
3	questions? One last chance for the people here.
4	All right, David, we appreciate that.
5	MR. KRAUSE: Thank you very much.
6	MR. LESLIE: And Jon, could you come up?
7	MR. BRUSVEN: Is it good morning or good
8	afternoon at this point? It is still good morning. I
9	am Jon Brusven with the NDT Fund Study Group. We are
10	typically more of a facilitator of NDT knowledge than
11	a repository. But given my background as a
12	professional investor and a corporate finance advisor,
13	I guess I was solicited to provide some insights into
14	asset class return expectations.
15	Obviously stock markets and other
16	financial markets have not performed well in the last
17	decade, which has been a big setback for dedicated
18	funds, not only NDTs but pension funds and other
19	dedicated funds as well.
20	Well one thing that I think you would be
21	forgiven if you thought that the returns in the
22	financial markets, whether they be stock returns or
23	other things are random because they are not. In
24	fact, back in the late 80s is when it started. So
25	there was a lot of academic research done by the
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University of Chicago and other places sort of 1 discussing the fact that there are actually ways to 2 3 better understand the trajectory of investment returns 4 than just saying well the long-term average is, well, 5 it is now down to ten percent but probably up until about five years ago, everybody assumed that stocks 6 7 were 11 percent. After what has happened in the last ten years, it is now ten percent. But at any rate, 8 there are better ways to estimate investment returns 9 than simply taking a hundred year average and saying 10 11 that is what we are going to get.

So there continue to be strong reasons to 12 believe that there will be substandard, I am not 13 14saying negative but substandard, returns in many asset classes that are invested in by NDTs. That is not to 15 say that beyond this I don't even think the new normal 16 is kind of a buzz word or a buzz phrase that goes 17 around. And I don't think this is a new normal. This 18 is something that I have been talking about since 19 probably about 2003. So this is not a new normal. 20

And just one final comment. People are frequently saying well the equity premium is very, very high right now. There are a number of other premiums in the financial markets that are very, very high right now. It probably has very little to do

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with those asset classes and a lot to do with what Treasuries are and other sovereign bonds are doing right now.

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Everybody has seen the Ibbotson graphs and 4 5 so over the long-term, basically you get what you Small stocks expect. More risk provides more return. 6 7 have done better than large stocks, which has done better than government bonds, which have done better 8 Treasury bills, which fortunately have done 9 than better than inflation. 10

11 You got to the next slide and you can see 12 that international has historically provided low extra 13 return. Next slide.

And I think this kind of falls into some 14 of the things that David and Kathy were saying earlier 15 is that it may be time to start thinking a little more 16 broadly than just large-cap U.S. equity. Maybe a 17 little international and, you know, some municipal 18 bonds in terms of the asset classes to invest 19 in because there are other areas that provided additional 20 21 return or better risk return-type results.

So, obviously, you know, you see the REITS over this period of time have done better than stocks, although you could also see that since 2000, there is a lot of new capital put into there and so a lot of

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that run came just before the crash.

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And then in that same period of time, commodities have done particularly well, although I think there would have to be a lot of inflation to justify the run up in commodities in the last ten years.

So if you go to the next slide, this is 7 the problem. Everything in that long-term chart got 8 turned on its head. Bonds outperformed -- Actually 9 10 small stocks did particularly well but in 1999 nobody 11 wanted to a small stock. I work for a group, a 12 research group that is now part of Credit Suisse and they were having a problem in that period of time 13 14where Microsoft had an estimated cost of capital of 0.01 or something like that and small stocks had these 15 outrageous under-valuations and they just said well we 16 are going to have to separate out how we look at these 17 And actually it created, it was a symptom. 18 things. Small stocks were undervalued and large stocks were 19 overvalued. And well, I will get to it a little bit 20 21 later but it is a symptom of the times where everybody 22 just said well the world has changed and in fact the world hadn't changed. It re-converged in a different 23 24 direction but it did provide some interesting information, which I will get to later. 25

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So, this is updated only to 2009. 1 Ibbotson don't have their 2010 until probably about 2 3 two to three weeks from now. But it basically tells 4 the same story. Now over the long period of time, 5 small stocks have done better than large stocks, have done better than government bonds, have done better 6 7 than Treasury bills. Is this the best estimate for what returns are going to be in the future? 8 like I said, 9 Ι think, you would be 10 forgiven if you thought returns were random and start 11 to understand that the best estimate of the future is 12 not necessarily the long-term averages. You have to start to look at the fact that returns aren't random. 13 14 This is just purely the difference between large stock and small stock performance. And you can see that 15 there is nothing random about this chart. 16 Now you will get a stretch of three or 17 four years where one outperforms the other and then it 18 19 just reverses. It is not random at all. They are 20 signals. 21 You go to the next slide, which is asset In this 22 class winners and losers going back to 1995. particular case, you will see large-cap stocks had a 23

four-year run. Then bonds had a three-year run,
actually with small stocks kind of stuck in there.

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And then international had a run. There is nothing random about that.

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3 So, on a long return basis to kind of 4 understand what, and this is, you know, I think this 5 slide I have had since, like I said, since probably 2003, you know, what drove returns during the '80s and 6 7 the '90s. And a lot of people had assumptions that a while stocks, you know, in '95 or something like that, 8 well I have gotten a 15 percent return off my stocks. 9 10 So why shouldn't I assume that I am going to have a 11 15 percent return going forward? And that got built 12 into a lot of expectations.

But you know, an average dividend yield 13 14 during that 20-year period of three and a half percent, roughly, profit growth of six and a half 15 16 percent, roughly. And you know, P/E increase of five and a half percent, for a total of 15.7 percent return 17 in that 20 years. That is compared to, like I said, a 18 19 long-term return of 11 percent. So that is 20 significant out performance.

You know, at this point, the dividend yield for the S&P 500 is under two percent. The finance companies will be reinstating dividends and there is some noise in there but let's say it is two and a half percent or something like that. Profit

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growth five to seven percent.

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But P/Es increase when interest rates are 2 3 going down and inflation is going down. You know, 4 unless you are predicting the double dip that 5 everybody was concerned about last summer, that we are just going to go right over the cliff again, inflation 6 7 is not going down. Interest rates are not going down. So you will not get a P/E increase. 8 In fact, you will get a P/E decrease but we will just say zero at 9 10 this point. So I think just kind of on that surface level, you can just say okay, you know, seven and a 11 12 half percent.

But the other question is at what level. 13 14Okay, we can do the same analysis of S&P 500 is at 1500 or the S&P 500 is at 750. You know, it obviously 15 isn't going to have the same outcome. So we go to the 16 next slide and you know, actually this was a very 17 popular statistic that was thrown around during the 18 depths of fourth quarter 2008 and the first quarter of 19 They said you know, the market hasn't gone down 20 2009. 21 far enough yet because the Shiller 10-Year P/E is 22 still only average. And so this is just a diagram of the Shiller 10-Year P/E, which basically just averages 23 24 ten years' of earnings and to just kind of smooth out some of the rough spots and just say, okay, if there 25

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the same rate as the aggregate economy grows over time. What is the stock market placing for a value on this?

5 You know, so the 100-year mean is 16 times The 100-year median is about 14 and a half 6 earnings. 7 times. And during the worst days of the financial crisis in 2009, the market only got down to about 8 average. And so people said well we haven't gone down 9 Well the mistake here is you have to 10 far enough. 11 understand that actually this is a terrible predictor 12 of where that market is going in the next year or the next two years but it does tell you over the next ten 13 14years what your return is likely to be.

And in fact in a low interest rate and in a low inflation environment, this should be high. So it is not mis-priced at all. The problem is you are going to be swimming upstream against higher inflation and higher interest rates.

And so you know, the level is basically we are at fair value and we are going to be swimming upstream against some trends that are probably not favorable to high rates of return in the financial markets.

So, fair enough. So now we have talked

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about large-cap domestic U.S. equities. And I am a former equity analyst, so that is where I started. I could have started in bonds but I am not necessarily a bond guy.

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So you know, we don't know that historically you have gotten excess return out of small-cap stocks. So is that where we need to put a lot of our money so that kind of gets additional return and make up some of our problems?

10 Well normally, as you would expect, it is 11 higher return and higher risk. Small-cap stocks have 12 higher risk. They are less likely -- You know, one investor decides to get out of a small-cap stock and 13 14it can change the price by 10 or 15 percent. I mean, it is just -- There is just higher risk. 15 And so normally the discount rate that you would apply to a 16 small-cap stock would be expected to be higher than 17 the discount rate that you could apply to the large-18 cap stock because it has greater liquidity than the 19 20 large-cap stock.

And most of the time, that is the case. You can see this discount rate that has applied and my source is my former employer, Credit Suisse. But that through the 2000 era, particularly starting about 2004 or 2005, that discount rate has been actually lower or

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at least closer to the large-cap discount rate than normal. So what that basically says is that small-cap stocks are kind of overpriced right now. So you are not going to get -- you could run in there saying oh well over time I will get a lot more return. You have got to be careful of your starting point.

7 So maybe foreign markets. This graph is basically just, I can explain it in more detail if 8 somebody really wants to know. 9 But above the green 10 line is basically saying it is expensive relative to 11 the cash generation of the aggregate stock market and 12 below the line is inexpensive. And you know there really aren't any outliers here. You are not really 13 14going to say okay, I am going to get, you know, a check of a lot more return if I put my money in UK 15 I actually got this chart from a former 16 stocks. colleague of mine who is a hedge fund manager for the 17 emerging markets. And he says he is actually having 18 difficulty finding anything worth buying in emerging 19 markets at this point. And China being kind of the --20 21 is really about the only outlier on here. It is 22 fairly expensive.

I guess the sole thing here might be, you know, just too much hype for China and too much fear the European markets.

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1	So now let's turn to bonds. You know, I
2	probably put the cart before the horse but as I said,
3	I am a former equity analyst. So but basically as you
4	would expect, more risk, more return. You know, high
5	yield corporate has, over time, has provided better
6	than regular corporate bonds, which have been more
7	than government bonds and more than municipal bonds.
8	And so obviously I don't I am not certain whether
9	this is a tax-adjusted return for municipal bonds or
10	not. I don't know how Ibbotson breaks that out
11	exactly but basically it is as you would expect.
12	So now looking at this chart on the wall
13	happens to go back to December of '87. But the long-
14	term trend through the '80s and the '90s and even the
15	200s has been a downward trend in rates. And it is
16	just how much lower can you go. Rates are going up.
17	You know, the other comments that I have
18	is actually spreads in many areas are fairly
19	attractive, particularly munis which this is sort of
20	happy for this crowd. But you know, spreads are
21	actually pretty good but I think once again you are
22	actually looking at, not as good as they were a year
23	or ago or two years ago but I think it is more of a
24	commentary on where the sovereign bonds are as opposed
25	to any particular commentary on the valuation for

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high-yield bonds.

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side, here is your 2 The next dilemma. bond shop in Newport 3 There is а small Beach, 4 California that says duration is basically fairly 5 priced. And so you are making the assumption there that there is no huge uptake in longer rates because 6 7 inflation will stay subdued but there is, obviously, more risk if you go out longer in the period. You are 8 basically making an article of faith that you are not 9 taking a lot of interest rate risk if inflation does 10 11 happen to heat up or the U.S. loses their AAA status 12 or something else.

But what do you do? There is no yield on 13 14the short end of the curve if you want to wait it out. And so it is fine if you say well I am going to wait 15 it out and just earn half a percent of my money in the 16 meantime but what if it takes two years or three years 17 for short rates to come up. Now, I don't personally 18 believe that but the whole time you are waiting there, 19 you are diluting your long-term returns by earning 20 nothing in the short-term. 21

So, 17, so what do we do about that? And this is just one possible example. You know, David and Kathy alluded to this to some degree. I mean, private equity is one example. There is not a lot of

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private equity in NDTs. We could have a robust 1 argument whether there should be. But this should be 2 3 a particularly interesting time to be getting into 4 something like that. Unfortunately, when everybody 5 goes piling in is when the returns are actually low. When you want to get in is, the funny thing is when 6 7 the least risk -- you have the least risk when the risk feels the highest. And so the risk feels the 8 highest right now in private equity because 9 the 10 returns have been cruddy. I will use that as a proxy 11 for what I was going to say. So, as I said, one 12 example.

So just to kind of wrap it up, most of the 13 14major asset classes that NDTs are invested in right now I think, I would say fortunately, I think some of 15 distortions right now in the municipal bond market, 16 actually, provide a little hope. But in terms of 17 equities and some of the other potential asset 18 classes, they are just sub-par. If you are assuming 19 well because we had terrible returns in the 2000s, 20 21 that we are going to get 50 percent better than 22 average or double average, I think you are going to be disappointed. 23

Where you could possibly be wrong is if emerging markets somehow spur a lot of earnings growth

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in developed economies, companies that could actually create the additional value.

3 But an incremental return might be able to be found in alternative investments. I am not a big 4 5 hedge fund guy but, you know, certain flavors of private equity, certainly right now some safe spread 6 7 approaches, which is basically okay I can go to say Brazil and it is still pretty safe but I get 400 basis 8 points more for pretty safe credit. You know, maybe 9 that is not a bad bet. 10

11 But I think you just need to think a 12 little more creatively. There is a whole generation of investors which would be me as well, since I 13 14 started in the mid-80s, that sort of believe that you just, you have your bonds for kind of a savings 15 account, your equities give you your growth, and then 16 you go to sleep at night with your 60-40 or 50-50 or 17 30-70 and sleep well. I think that is, I think at 18 least in the short-term that is the world has changed 19 And it is actually going to take probably 20 there. another crisis to get back to where people say, oh, 21 there is a lot of additional return available in some 22 of these are just plain vanilla areas. 23

You know and yes it is higher risk to be in some of these areas but there is a risk to being

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76 too conservative as well. You know, insurance is 1 expensive and so I think you have to be very, very 2 I mean, if you really didn't want 3 careful about that. 4 any risk, you know, the NRC should just say you have 5 to reserve 200 percent of your projected liability and put it all in Treasury bills and you still wouldn't 6 7 have zero risk but what would happen is that would probably get to be sort of intolerably expensive to 8 the rate payers. So risk actually does provide some 9 additional benefits to a lot of the stakeholders. 10 11 So I guess we won't get to some of my other scribbling but I think I pretty much have gotten 12 my thoughts out. So, any questions? 13 Thank you, 14 MR. LESLIE: Jon. Any questions in the audience here? 15 Okay, just one second. No problem. Just raise your hand. 16 You know you mentioned that 17 MS. SIMMONS: kind of, I think Dave mentioned this too, that there 18 is typically the asset class, at least for NDTs is the 19 60-40 split. Is that, you know, through this crisis, 20 21 you have said that is probably what is going to be 22 moving forward, it is just sort of how that is tinkered with. Is that a little bit --23 24 MR. BRUSVEN: I imagine. I mean, I think if the equity premium is high, you probably should be 25 **NEAL R. GROSS**

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1	more tilted towards equities. Am I confident that				
2	that is likely to happen? I mean, the 60-40 split is				
3	almost sacrosanct in the, it is even just the				
4	consultant community, it is just pretty much in the				
5	institutional community.				
6	So, I mean yes, it should be more dynamic.				
7	I am not highly confident it will be more dynamic.				
8	MR. LESLIE: Other questions from the				
9	audience? Okay, coming up front.				
10	MS. BALLENGER: This is a really easy				
11	question.				
12	MR. BRUSVEN: Those are the worst.				
13	MS. BALLENGER: I missed it in the				
14	beginning if you said something, what is the India				
15	Fund Study Group? What do you do?				
16	MR. BRUSVEN: Oh, I think that is actually				
17	a typo. It is the NDT Fund Study Group, Nuclear				
18	Decommissioning Trusts.				
19	MS. BALLENGER: And what do you do?				
20	MR. BRUSVEN: I am the Associate Director.				
21	MS. BALLENGER: What does				
22	MR. LESLIE: What does the Let me see				
23	if I can rephrase it. What does your organization				
24	actually do?				
25	MR. BRUSVEN: We have an annual				
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1	conference, it is kind of our main event, in which the			
2	fund sponsors are sort of the hosts. And so what we			
3	do is it is kind of a mutual education among a variety			
4	of stakeholders in the NDT interest area.			
5	I am kind of a ring leader, basically. As			
6	I said, I am more of a facilitator than a repository.			
7	MR. LESLIE: Other questions here? Any			
8	questions on the phone? And there are no questions on			
9	the webinar? Okay. One last chance for questions.			
10	Okay.			
11	Well, I want to thank all of the speakers			
12	and Jon, you, too.			
13	(Applause.)			
14	MR. LESLIE: A couple of things. We			
15	actually finished a few minutes early but more			
16	importantly, they were very interesting discussions			
17	and I am not a financial analyst but this was pitched			
18	right at the right level. So for those that aren't			
19	experts here, it was a good job by all of the			
20	presenters.			
21	Some logistics before we leave. You will			
22	need to be escorted down to the first floor by NRC			
23	folks and we will have the escorts			
24	MS. SIMMONS: Yes, there are three of us			
25	here.			
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1	MR. LESLIE: And each of us can have five.			
2	Another logistical issue we will start			
3	promptly at 1:30 in the other building. Your option			
4	are you can have You can retain your visitor ta			
5	and eat in the cafeteria or in the NUREG Café but			
6	6 you try to leave the building, you will have to tu			
7	in your badge and then recheck in. And so there might			
8	be tastier options outside the building, just keep in			
9	mind that you will still have to check back in when			
10	you come back.			
11	And I guess with that Anneliese?			
12	MS. SIMMONS: I think you were much more			
13	militant about keeping us on time.			
14	MR. LESLIE: Hold on a second.			
15	MS. SIMMONS: Oh, sorry. The other group,			
16	I think is running a little bit behind. So if people			
17	are interested in catching any of those, you can, you			
18	know, once we drop you at the cafeteria you can walk			
19	down there but I think they are running behind. So we			
20	are still planning to start, though, and they don't			
21	get any extra time.			
22	MR. LESLIE: Yes, Brian and I had realized			
23	that, you know, I didn't want to cut off the questions			
24	here, which I figured we could go almost 20 minutes			
25	beyond 12:00 and still people would get an hour. At a			
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1	minimum you guys were going to get an hour.	You guys
2	get more now.	
3	All right. Thank you very much.	
4	(Whereupon, at 11:57 a.m., the foregoing	breakout
5	session was adjourned.)	
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