

# Official Transcript of Proceedings

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Public Meeting

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UNITED STATES OF AMERICA  
NUCLEAR REGULATORY COMMISSION

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PUBLIC INFORMATION MEETING

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YUCCA MOUNTAIN REVIEW PLAN

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TUESDAY

MAY 21, 2002

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PAHRUMP, NEVADA

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The Public Meeting was called to order at  
the Convention Hall, Mountain View Casino and Bowling, 1750 Pahrump Valley  
Boulevard, Pahrump Nevada, at 6:42 p.m., by F.X. "Chip" Cameron, Facilitator,  
presiding.

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## P-R-O-C-E-E-D-I-N-G-S

(6:42 p.m.)

1  
2  
3 MR. CAMERON: If everybody could take their seat, we will get  
4 started with tonight's meeting. Good evening, everybody. My name is Chip Cameron,  
5 and I am the Special Counsel for Public Liaison at the Nuclear Regulatory  
6 Commission.

7 But it is my pleasure to serve as your facilitator tonight, and I would  
8 like to welcome all of you here to the NRC's public meeting on the draft revision to the  
9 Yucca Mountain Review Plan.

10 And I am going to try to assist all of you in having a productive  
11 meeting tonight, and I would just like to go over three items briefly before we get  
12 started with the substance of our discussions tonight.

13 And one is objectives for the meeting. Secondly, I would like to talk  
14 about format and ground rules, and lastly, I would like to just quickly go over the  
15 agenda with you so that you know what to expect tonight.

16 In terms of objectives, we want to try to make sure that we give you  
17 a clear understanding of the NRC's responsibilities for evaluating any potential license  
18 application that the Department of Energy submits for a high level waste repository at  
19 Yucca Mountain.

20 And specifically we want to tell you tonight about the Yucca  
21 Mountain review plan, and what the purpose of that NRC review plan is, and how that  
22 fits into the NRC's licensing responsibility.

23 So one goal we have tonight is to share that information with you,  
24 and to try to share it clearly. A second objective, and the most important objective, is  
25 to listen to your concerns and your comments about the issues related to this Yucca  
26 Mountain Review Plan.

27 The Yucca Mountain Review Plan is a document, and I know that  
28 people have varying opinions about Yucca Mountain, but we are here to talk about the  
29 Yucca Mountain Review Plan tonight, and there are copies over here, and we will  
30 make sure that you get one if you don't have one.

31 The ultimate goal of the NRC tonight is to take your comments, and  
32 to use them to help them finalize the Yucca Mountain Review Plan. We are taking  
33 written comments, and asking for written comments on this review plan, but we are  
34 here tonight to talk with you in person about it.

35 And you may find some information that you hear tonight either  
36 from the NRC or from someone else in the audience that may prompt you to want to  
37 prepare a written comment, or it may assist you in preparing a written comment.

38 But I do want to emphasize that any comments that you give  
39 tonight carry the same weight as a written comment. In terms of the format for  
40 tonight's meeting, we have a series of brief NRC presentations on various subjects,  
41 followed by a discussion with all of you after each of those presentations.

42 We are trying to balance the need to provide you with information  
43 about the NRC's licensing responsibilities, and about the Yucca Mountain Review  
44 Plan, and trying to balance that with being able to talk with you as much as possible,  
45 rather than just talking at you.

46 So we are going to try and see if we can maintain that balance, and  
47 in keeping with that, I would just ask the NRC staff if they could just try to be as  
48 concise as possible in their presentations, and we can develop more detailed  
49 information as we talk to people after those presentations.

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1 In terms of ground rules, they are fairly simple. If you have  
2 something to say or a question, or a comment, just signal me and I will bring you this  
3 talking stick out, and please state your name and affiliation, if appropriate.

4 We are taking a transcript here. Paul is our stenographer tonight,  
5 and that transcript of the meeting will be available to people, either a hard copy or it  
6 will be on the NRC website.

7 I would ask that only one person speak at a time so that we can not  
8 only get a clean transcript so that Paul will know who is talking, but more importantly  
9 so that we can give our full attention to whoever has the floor at the moment.

10 I want to make sure that everyone has a chance to talk tonight, and  
11 in keeping with that, I would just ask you to try to be brief in your remarks.

12 I realize that that is difficult sometimes with these complicated  
13 issues, but I would just ask you to try to be brief so that we can hear from everybody,  
14 and that we can get all this information out to you.

15 And I will be going out to people and giving people an opportunity  
16 who haven't spoken before, before I go back to someone who has raised a particular  
17 issue.

18 Not all of the comments that you bring up may fit squarely under  
19 the topic that we are discussing at the moment. So I am going to take those topics that  
20 don't fit into the topic, and I am going to put them up here, and put any comments or  
21 questions of that type in the parking lot, and we will come back to that before the  
22 evening is over and address those.

23 And another word about relevance. We know that there are lots  
24 of issues and concerns about Yucca Mountain, and various aspects of the NRC's  
25 responsibilities.

26 We are here tonight to tell you about the Yucca Mountain Review  
27 Plan because that is an important NRC document that we are requesting comment on.

28 And although we will try to provide you with information and listen  
29 to other issues, we really want to focus tonight's discussion on the Yucca Mountain  
30 Review Plan.

31 In terms of an agenda, I believe that everybody has a blue sheet  
32 of paper in their package of materials that has the agenda for tonight's meeting, and  
33 we are going to start off, and I will introduce everybody now.

34 We are going to start off hearing from Janet Schlueter, who is right  
35 over here. Janet is the Branch Chief of the High-Level Waste Branch at the NRC, and  
36 that is in our Office of Nuclear Materials Safety and Safeguards.

37 And Janet and her staff are the focal point for the NRC's technical  
38 evaluation of high level waste repository issues. And Janet is going to give you a sort  
39 of broad view of what the NRC's responsibilities are generally in regard to high level  
40 waste and tell you a little bit about who we are.

41 We are next going to go to Mr. Jeff Ciocco, who is right here, and  
42 Jeff is a geologist, and an environmental engineer, and he is going to lead us through  
43 how the NRC will go about evaluating the license application, and start talking about  
44 the role of the Yucca Mountain Review Plan and that evaluation.

45 He is a senior project manager for the Yucca Mount Review Plan,  
46 and he is in Janet's -- he is part of Janet's staff in the High Level Waste Branch.

47 Next we are going to go to Pat Mackin, who is right here, and Pat  
48 is a Systems Engineer. He works for an organization which we will tell you a little bit  
49 more about, called the Center for Nuclear Waste Regulatory Analyses.

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1                   And this is the Commission's primary research contractor to assist  
2 us in evaluating technical issues, and they are down in San Antonio, Texas, and they  
3 work pretty much exclusively for us on these issues.

4                   And Pat is going to talk about safety in operations. In other words,  
5 how does the NRC or how will the NRC assure that the safety of the public during  
6 construction of a repository, if indeed there is construction of a repository.

7                   And that depends on two things. One, a Department of Energy  
8 license application, but most importantly the NRC or the Department of Energy has to  
9 demonstrate that they meet the NRC regulations. Otherwise, a license for the  
10 repository will not be granted.

11                   But if a construction authorization is granted, Pat is going to tell  
12 how the NRC will assure safety in those terms. We are then going to switch to long  
13 term safety, and how will the NRC evaluate whether a proposed repository will be safe  
14 over the long run, and I am going to let Tim McCartin from the NRC staff, who is right  
15 here, explain what the long run is.

16                   And Tim works at the Division of Waste Management level. He is  
17 a special technical assistant on performance assessment. He has worked in  
18 performance assessment, high level waste issues, for over 20 years, and is a physicist  
19 by training.

20                   We know that security is an important issue and an important  
21 concern. We are going to go back to Jeff Ciocco to tell us a little bit about security  
22 concerns and considerations of a repository, in terms of the theft of material or a  
23 sabotage.

24                   And then we are going to finally go back to Pat Mackin from the  
25 Center to talk about an important issue, which is monitoring; and how will the NRC  
26 keep tabs on how the repository is performing, and issues like that.

27                   After each of these, we are going to go on to you to talk to you, and  
28 if anybody has any more formal statement that they want to make as comment that you  
29 don't want to submit in writing, or maybe you do later on, we will try to make room for  
30 that at the end of the meeting if you can't work that material into the sessions after  
31 each individual topic.

32                   And finally I just would thank all of you for being here. The NRC  
33 obviously has a very serious and important task in front of it, not only in terms of  
34 licensing a repository, but in finalizing this very important document, the Yucca  
35 Mountain Review Plan.

36                   And we thank you for helping us to prepare a good document here,  
37 and this is one public meeting, and we have been out in Nevada a lot, and it has been  
38 a real pleasure to get to know everybody out here.

39                   But one point is that I would just encourage everybody to meet the  
40 NRC staff, and get their E-mails and phone numbers, and if you have questions or  
41 comments, talk to them and call them up, and let's try to maintain some continuity in  
42 this relationship, because it is very valuable for the NRC.

43                   And with that, I am going to go to -- I am going to ask Janet  
44 Schlueter to give us an overview. Janet.

45                   MS. SCHLUETER: Thank you, Chip, and good evening, and thank  
46 you for coming out tonight. As Chip mentioned, I am the branch chief for the High  
47 Level Waste Branch of the NRC, and we are the focal point for all of the high level  
48 waste program issues.

49                   I hope you will see by the time that we are done with our

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1 presentation this evening that we are committed to ensure that the NRC as an  
2 independent agency conducts a thorough evaluation of any potential repository at  
3 Yucca Mountain.

4 And as Chip mentioned, to provide context for the presentations  
5 that will follow me, I will spend a few minutes just describing the NRC's role in this  
6 process.

7 Who is the NRC? We are an independent regulator. We are  
8 independent of the present administration and of the other branches of the  
9 government, and we have the responsibility for making an independent safety decision  
10 with regard to potential repositories.

11 We are also an experienced regulator. We have been around for  
12 25 years and we have licensed a variety of facilities, and they may range from medical  
13 facilities, to industrial, commercial, radiography, fuel cycle, and commercial nuclear  
14 power reactors.

15 Our sole mission is to protect the public health and safety, and the  
16 environment, as well as to ensure that those facilities are safe and secure.

17 The NRC is also charged with regulating any energy department  
18 facility for the permanent storage of spent nuclear waste. What exactly is our role at  
19 Yucca Mountain?

20 Well, by law, we have been required to set rules that protect the  
21 public and worker safety, as well as the environment. We have also set rules that are  
22 consistent with the final U.S. Environmental Protection Agency Standards that would  
23 apply to Yucca Mountain.

24 We also have been conducting public interactions during the  
25 prelicensing period with the Energy Department, and we will eventually potentially  
26 make our own independent decisions on construction and potential operation of the  
27 repositories.

28 As the regulator and the independent overseer, our job is to ensure  
29 that the Energy Department obeys the requirements that we have in place, and will do  
30 that through a comprehensive licensing inspection and enforcement program.

31 How will the NRC carry out its role? Well, first, we will review all  
32 information that we receive objectively, and make a thorough safety assessment  
33 based on the information that is presented to us by the Energy Department.

34 We will also make all of our decisions based on the facts in an  
35 open and transparent way, and we will continue to maintain a dialogue with the public  
36 and to make our decisions in a transparent process.

37 The Yucca Mountain Review Plan, or a draft licensing guide, is part  
38 of this process, and it is the tool that the staff will use to make the independent safety  
39 decision at potential sites.

40 How will we carry out this role exactly? We are charged with  
41 making our licensing decisions one step at a time based on the information that is  
42 available, and by that I mean that if the Energy Department submits a license  
43 application to us, the first action that would take place would be authorization for  
44 construction of the potential repository.

45 The next stage, yet several years on down the line from that, would  
46 be an operation amendment to allow the actual receipt of material and operation of the  
47 facility, followed by an amendment to the license for permanent closure of the facility.

48  
49 The NRC is the one who would decide whether or not to allow the

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1 Energy Department to even begin construction of the repository at Yucca Mountain.

2  
3 First, the Energy Department must submit a license application to  
4 us, and the law already requires that the NRC conduct its licensing review and  
5 decision within 3 years of having received the application from the energy department.

6  
7 Congress also requires that the NRC provide a full and fair public  
8 hearing as part of that process, and this hearing process would be consistent with that  
9 which we use for other licensed facilities.

10 But before the NRC would hold a hearing, several steps will and  
11 would have had to have occurred, some of which have already occurred. As you may  
12 be aware the Energy Department issued its final environmental impact statement in  
13 February of this year.

14 And in April the Energy Department recommended the placement  
15 to the President, and the President made his recommendations to the Congress in  
16 April, as well as the Governor of Nevada had submitted his notice of disapproval  
17 during April.

18 The next step as you are probably aware is with the Congress, and  
19 continues to rest with the Congress at this time. They have 90 consecutive legislative  
20 days in which to make that decision to make that decision, and if they make the  
21 decision to allow the site recommendation to take effect, then the Energy Department  
22 must then decide whether or not to submit a license application to the NRC.

23 At this point the Energy Department estimates that that license  
24 application would come to us in December of 2004. At that time, the NRC has  
25 approximately 90 days in which to make a decision as to whether or not the license  
26 application which has been submitted to us is acceptable for review or docketable as  
27 we refer to it.

28 If we decide that the license application is docketable for review,  
29 the NRC's licensing review process begins. This is when the three year clock would  
30 start for us.

31 There are three possible outcomes of the NRC's licensing process,  
32 which is consistent with the licensing process that we use at other facilities that we  
33 license.

34 The burden of proof is on the applicant, and in this case, the  
35 Energy Department. We could deny the application outright since in that case the  
36 applicant would not have demonstrated that the safety requirements applicable to the  
37 site would be met.

38 We could also grant the license with certain conditions applied to  
39 the license, where the Energy Department would need to take certain steps, additional  
40 steps, to ensure safety; or we could grant the license with no further conditions.

41 How would the NRC decide whether to accept the Energy  
42 Department's application for review? First, we would have to make a decision as to  
43 whether or not it contained all the required information as required by our rules.

44 And this is where the Yucca Mountain Review Plan comes in. This  
45 is the document that the NRC would use to make that decision. Also, is there is  
46 enough documentation to support the Energy Department Safety Plan on their license  
47 application, and also there are certain document access requirements; that the  
48 information be easily accessed by the public in an electronic form.

49 There would have to be a decision made as to whether or not the

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1 Energy Department had met that requirement. If yes, then our detailed technical  
2 review of the license application, or the three year clock, would start.

3 How would we address these safety issues? We would rely on our  
4 independent experts, both the engineers and scientists that Chip referred to at NRC  
5 headquarters, which is my branch, and also the independent scientists and engineers  
6 that we have at the Center for Nuclear Waste Regulatory Analysis in San Antonio,  
7 Texas.

8 And we actually have two representatives at the center here  
9 tonight, Pat Mackin, who has been introduced; and also Mike Smith, who is over at the  
10 table on the far side of the room.

11 We could also require that there be more information submitted  
12 from the Energy Department as needed if there were information gaps, and we do our  
13 own testing at the center in Texas, and we document our conclusions in a transparent  
14 way with regard to our safety findings.

15 Also, there is the decision that the NRC will need to make as to  
16 whether or not we would adopt the Energy Department's final environmental impact  
17 statement.

18 The law requires that the NRC adopt a final environment impact  
19 statement unless one of two conditions, and that is that the action to be taken as a  
20 result of the licensing process differs from that described in the final environmental  
21 impact statement, and that difference may significantly impact the environment.

22 The other condition is that there be significant and substantial new  
23 information or considerations that make the final environmental impact statement  
24 inadequate and would warrant additional information.

25 I would like to assure you that if the Energy Department submits  
26 a license application to the NRC, we will be ready to judge the safety of the potential  
27 repository. We do have protected standards, and regulations in place to protect you  
28 and the environment in which you live.

29 We are also continuing to hold public meeting with the Energy  
30 Department during this pre-licensing period, and through this process we have  
31 identified information back that the Energy Department will need to address and  
32 provide in the license application.

33 And in addition as we have been oriented here tonight, we have  
34 developed the draft Yucca Mountain Review Plan for this purpose, which is the guide  
35 that the NRC would use to conduct this license review as a safety decision, and we  
36 would solicit your comments on that document this evening.

37 And I think Chip had mentioned a variety of ways in which you can  
38 comment; the written comments by letter into the NRC, and we have a form over there  
39 on the table, and I believe it has probably been given to you in our packet, or you could  
40 actually leave your written comments here tonight.

41 As part of the process of being ready to potentially judge the safety  
42 of a repository, we did issue our proposed regulations that would apply to Yucca  
43 Mountain in February of 1999.

44 We received public comment at that time to extend the public  
45 comment period and we did so by a period of about 2 months. The EPA issued its  
46 final standards in June of 2001, and the NRC, upon careful review of those standards,  
47 also issued its conforming regulations last November.

48 In order to ensure that the citizens of this State had an opportunity  
49 to provide their comments, we have held six public meetings in Nevada on the

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1 proposed regulation

2 And overall we have received more than 1,000 comments during  
3 that time period, including many of those which we have heard at meetings just like the  
4 one that we are having here tonight.

5 After reflecting on those comments, we did make major changes  
6 to our final regulations, which I believe you will find do reflect and are consistent with  
7 your concerns.

8 For example, we did wait until the Environmental Protection Agency  
9 had issued their final standards, and we issued ours five months later, and made  
10 conforming changes to our proposed rules.

11 We also adopted the Environmental Protection Agency's limits for  
12 individual protection, and also their separate limits for the ground water.

13 In addition in response to your comments, we are also retaining our  
14 current formal hearing process for the potential Yucca Mountain site.

15 As you are probably aware of the recent recommendations by the  
16 President, and the Energy Department, and the Congress, the NRC has no role in this  
17 site decision. We have a very narrow role in this process, and it is not appropriate for  
18 us to take a position at this time as to whether the Yucca Mountain site should be  
19 developed further as a potential repository.

20 Our view will be shaped much later in the process as the  
21 independent regulator, the agency that would make the safety decision and determine  
22 whether or not the license should be issued to construct a potential repository at Yucca  
23 Mountain.

24 Meanwhile, we will continue to interact with the Energy Department  
25 before any license application is submitted as provided for under the law.

26 And as I mentioned earlier, these interactions with the Energy  
27 Department have identified information gaps, which then translate into our relate back  
28 to and links back to the nine key technical issue areas that the NRC has previously  
29 identified as being important to the program.

30 There is a handout on the table over there as well about the nine  
31 key technical issues, and the nine key technical issues -- this is a term that the NRC  
32 had originated to categorize the technical areas which we have used to guide our  
33 review of the Energy Department's site characterization efforts to date.

34 We have also used it to frame our regulations and to frame the  
35 draft Yucca Mountain Review Plan, which we will be discussing in more detail.

36 The key technical issues include such questions as would water  
37 move above and below a potential repository; how the waste heat affect when and  
38 how water reaches the waste; and how long will the containers last, and what happens  
39 to the waste when the containers are breached.

40 How will we judge that the Energy Department has enough  
41 information about a key technical issue. We have developed acceptance criteria  
42 which are based on issues significant to safety, and those are reflected in the Yucca  
43 Mountain review plan.

44 These criteria, and also their technical bases, have been  
45 documented in a series of publicly available reports that you will find on our website.  
46 And as I mentioned the draft licensing guide or the review plan does select these  
47 criteria in document.

48 And as Chip mentioned, this is one of the reasons or many reasons  
49 why this document represents a significant program milestone for our program, and

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1 it is an important one in which we come to you tonight to solicit your input on as we  
2 work to finalize it.

3 Our approach is consistent with that used in our other licensing  
4 program. The Yucca Mountain Review Plan is a licensing guide that the staff will use  
5 as our basis for the NRC staff review of the potential license application.

6 And it describes how we will decide if the application meets the  
7 applicable requirements. We did place a copy of our website or a copy of our Yucca  
8 Mountain Review Plan on the website in March, and the Federal Register Notice was  
9 issued on March 29th.

10 The document is open for a 90 day comment period, ending June  
11 27th, and we are conducting these public meetings here tonight in hopes of receiving  
12 your comments, as well as ones that we will receive in writing through the end of June.

13 And as was the case in the development of our regulations, we  
14 sincerely appreciate and welcome your comments on this document and to fine tune  
15 it, and to make it a better document, and more focused, and we have brought hard  
16 copies of the document here.

17 We also will soon have a CD-ROM version of the document, and  
18 if you wish to receive a copy of the document, the CD-ROM, I believe we have or we  
19 will have, if we don't already have one over there, a sign-up sheet for any individual  
20 that would like to receive a copy of the CD.

21 We brought the authors with us here tonight to describe the plan,  
22 and I hope that you will find that useful and informative, and we hope that you will take  
23 the time to provide comments on it.

24 And as we mentioned earlier, we do have our transcriber over  
25 there, who is documenting those comments so that we can not only hear them tonight,  
26 but also consider them as we go back to our offices and work on this document further.

27 As I mentioned, this process that we are using here tonight is  
28 similar to that which we used on the rule that would apply to potential licensing of a  
29 site.

30 I hope that you will see that we are ready to do our job as an  
31 independent regulator to judge a site for a potential repository, and as I mentioned we  
32 do have our standards and regs in place.

33 We have the review plan, and it is my job to see that the NRC staff  
34 fulfills its obligation to protect public health and safety by conducting a thorough and  
35 very critical review, and making a safety determination based on the information that  
36 the Energy Department would potentially supply to us, and guided by the use of the  
37 Yucca Mountain Review Plan.

38 And I am here today to hear your concerns, and I can assure you  
39 that we consider them significant, and we view our obligations to you with the utmost  
40 seriousness, but before we launch into more presentations, I would also be happy to  
41 answer any questions that you might have at this time.

42 MR. CAMERON: Okay. Thanks, Janet, and this piece was sort of  
43 a context to help you understand a little better some of the specifics that Jeff, and Pat,  
44 and Tim are going to get into on the plan. So let's see if there are some questions that  
45 might need to be answered.

46 Grant, if you would please state your name for the record.

47 MR. HEDLOW: I am Grant Hedlow, and I noticed in your process  
48 up there that you had one step missing that has already been done. As I understand  
49 it, you sent a letter to the DOE saying it looked like that they were far enough along

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1 that it was time for them to get ready to do an application, and that is what triggered  
2 Secretary Abrams to go to Congress and so forth.

3 And I didn't know whether that was considered important to you.  
4 It was certainly a surprise to me to find out after the fact that you had already done that  
5 without discussing it with anybody.

6 MS. SCHLUETER. Well, the NRC -- I am assuming that you are  
7 referring to the letter that we sent last fall, and I believe it was in November, to the  
8 Energy Department.

9 And we referred to that letter as our letter on sufficiency comments.  
10 We were fulfilling a statutory requirement that we provide comments to the Energy  
11 Department on two things.

12 And those are the degree to which the Energy Department has  
13 characterized the site and depth where the waste would be placed, and also their  
14 waste form proposal.

15 So we had a very narrow role in that process, and our comments  
16 were directed at whether or not the Energy Department had adequate information  
17 available to date, and based on the information that had been identified to date,  
18 whether or not we thought that it was conceivable that the Energy Department would  
19 be able to provide a license application with all the necessary information.

20 And so we had a very narrow role that did not relate to whether or  
21 not the site should be recommended to the President.

22 MR. CAMERON: And if people want a copy of those sufficiency  
23 comments, are they publicly available?

24 MS. SCHLUETER: Oh, yes. I think we have them on our website  
25 Yes, we do.

26 MR. CAMERON: Okay. Let's go to Sally. And Sally, give your  
27 name, please.

28 MS. DEVLIN: My name is Sally Devlin, and welcome, Janet. It is  
29 very nice to have you here, and welcome everybody. I am so delighted that you said  
30 something that has been a concern for many years, those that have participated for  
31 10 years.

32 And that is that you said that you got together with EPO, the NRC  
33 investigator in EPA, on the number of people that you are going to kill Yours was one  
34 in a million, and theirs was in 10,000.

35 I didn't know this, and I am delighted to hear it. I don't know who  
36 the 10,000 or the million are going to be, but I would like to see some documentation  
37 on this and when it happens, because you two have not spoken in hears.

38 When did this happen and where is the documentation?

39 MS. SCHLUETER: We have been working with the Environmental  
40 Protection Agency for some time to develop the standards that would apply to the  
41 Yucca Mountain site.

42 And you are probably aware that we had proposed in our rules a  
43 different all pathways limit to the Environmental Protection Agency had proposed. We  
44 believe that our all pathways approach was protected, and that the EPA had  
45 developed as separate ground water standard.

46 Our all pathways approach had also included consideration of the  
47 ground water pathways. The law required that the NRC issue final regulations which  
48 were not inconsistent with what the Environmental Protection Agency did.

49 So while we had put our proposed rule out first, the Energy

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1 Department or EPA then came along and issued their proposed rules. We each of  
2 course gained information during the public comment period that ensued with these  
3 rules, and then we waited to see how the Environmental Protection Agency would  
4 finalize their rule before we finalized ours.

5 And as I mentioned, we did adopt their standards in the end.

6 MR. CAMERON: Okay. Thank you. Kalynda.

7 MS. TILGES: Kalynda Tilges, Citizen Alert. I think it is interesting  
8 that the NRC went ahead and adopted the EPA regulations five months after they were  
9 put out there. These regulations, these EPA regulations, are in litigation right now, and  
10 they basically have been since before the ink was dry on the proposal.

11 So with that in mind, assuming that the EPA standards get thrown  
12 out completely and they have to go back to the drawing board -- and first of all, I find  
13 it interesting that you would adopt regulations that are in litigation.

14 And, secondly, if they are thrown out in a court of law, as well they  
15 should be, what will the NRC do then?

16 MS. SCHLUETER: Well, you're right, the EPA standards and our  
17 own regulations are currently under a court challenge. In the interim, both rules are  
18 considered final.

19 There are some standards that both agencies have in place and  
20 we are implementing until such time that the court changes that. If that were to occur,  
21 then obviously we may have to undertake a separate rule making to make some  
22 modifications, assuming some, to our rule to be consistent with that.

23 But in the interim they are the final rules that were promulgated  
24 through a public process.

25 MR. CAMERON: All right. Kalynda, does that answer your  
26 question about what will happen if the EPA rules go back to the drawing board?

27 MS. TILGES: Yes.

28 MR. CAMERON: Okay. Let me just point out that there is a --  
29 going back to Grant's question. There is a yellow glossary sheet over there that does  
30 explain more about the sufficiency comments of the NRC.

31 Let's take one more comment and then let's get into Jeff's  
32 presentation. Grant.

33 MR. HUDLOW: Grant Hudlow again. I noticed that the NWTRB  
34 identified 229 -- is it 293 now -- details, technical details that need to be addressed,  
35 and you have nine. I and the industry apply for regulators licenses all the time.

36 And, number one, if I threw out 280 details, and decided not to  
37 consider them, I would be criminally liable if anything happen. And, number two, the  
38 process for regulators is that no matter how many people you say you have here and  
39 there, you don't have enough to do all the work that the DOE has done, plus all the  
40 work that the various States, and independent people that are interested, and so forth.

41 And the only way that you can verify technical details is to do the  
42 work. So the NRC doesn't do the work. What they do is they trust the people that are  
43 applying for advices, and that is the process that we use.

44 We find an engineer that they trust, and then we send them to the  
45 NRC to get the license. I think the public needs to know that, that the NRC is not  
46 guaranteeing all this stuff. They are only trusting somebody.

47 Now, the trust for the DOE that has made a mess in everything that  
48 they have ever touched, including this process, it seems to me like you are way out of  
49 line.

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1 MR. CAMERON: And I think it probably is important to address the  
2 last statement particularly about focusing on what does the NRC do to review the DOE  
3 application.

4 And do you want to talk about how we do that, just opposed to  
5 Grant's assumption that we trust the DOE, and you might want to talk about how  
6 rigorous our process is, and not under staff review, but adjudication.

7 MS. SCHLUETER: That's true. We are an independent agency  
8 from the Energy Department as I stated. We are not part of them. The application  
9 process is identical to the one in the licensing process, and identical to the ones that  
10 we use in other licensing arenas at the NRC.

11 We will have a detailed technical review which will take us years  
12 to conduct. The very next time period there will also be the public hearings which will  
13 take place before judges appointed by the Commission to conduct the hearings.

14 They can be open, open to the public, and all the technical  
15 information which the Energy Department has placed into its license application, and  
16 we have reviewed, would be the subject of that hearing process.

17 What I was going to explain is that -- and going back to your  
18 original questions though, is that these nine key technical areas are the areas which  
19 the NRC has identified are important to us for understanding whether or not if operated  
20 as the Energy Department would propose, and describe on their application, would be  
21 safe.

22 And our regulations for protection of the environment and the  
23 people would be met. Now, I need to explain the nine versus the 293 though. The  
24 nine key technical issue areas are very large program areas.

25 There are areas like will volcanos occur, and will earthquakes  
26 occur, how will the water flow through the rock. What is the container life going to be,  
27 and the waste package. Will it degrade.

28 And there are handouts as I mentioned that might walk you through  
29 all those questions as well. Out of those nine major key technical program areas,  
30 there are many issues which have fallen out of those nine major areas.

31 When we speak of the 293, the 293 is a number which the NRC  
32 and the Department of Energy have identified. Those are 293 areas where there are  
33 information gaps, which through the public interaction that the NRC and the Energy  
34 Department have held to date, have been identified as areas that the Energy  
35 Department still needs to address, and would need to address in any license  
36 application.

37 Some of them require a smaller level of work than others, and  
38 some others require a larger level of work. So that is not a number that the Nuclear  
39 Waste Technical Review Board has thrown out there.

40 It is the number which the NRC and the Energy Department have  
41 both identified as areas that need to be addressed. And that is the basis for the staff's  
42 technical review.

43 MR. CAMERON: And that is a good introduction, I think, for Jeff,  
44 but we have a -- did you have just one brief question?

45 MS. TILGES: Yes. I noticed that this document has been available  
46 since March. Well, we won't even go into the issue about not being notified about his  
47 meeting, and many other people who have been on the list for a long time weren't  
48 notified about this or others.

49 But this is the first that I have heard about this document, and this

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1 is what I do for a living. Okay. So I obviously don't have 90 days to do this. Where  
2 and how do we get that extended, because this is not enough time for a document that  
3 I just heard of yesterday.

4 MS. SCHLUETER: The NRC does entertain requests for  
5 extensions of the comment period. We take those on a document by document, or  
6 rule by rule, basis.

7 We did place this on our website in late March. It is an awfully  
8 large document. I understand that it is very complex, and there is a lot of technical  
9 information in there, but we are hoping that we will receive comments by June 27th on  
10 the document.

11 MR. CAMERON: And I think that since this is a meeting for public  
12 comment on a document, that I think that we will register this as a comment, and the  
13 staff is going to have to consider that.

14 MR. LANDEN: I am Ralph Landen, and I would like to know if  
15 some of those, of the nine, if they don't fly, do you go back to the DOE and get them  
16 to say yea or nea, and then start over again? How does that work?

17 In other words, if you have most of your comments from the DOE,  
18 of those 293, most of them are from the DOE?

19 MS. SCHLUETER: No, no, those are information gaps that the  
20 NRC has identified, and the Energy Department has agreed are information gaps, and  
21 we did those at our public meetings that we have had with the Energy Department  
22 during this pre-licensing phase.

23 MR. LANDEN: Okay. Suppose the NRC does not agree with some  
24 of those?

25 MS. SCHLUETER: You mean the information that the Energy  
26 Department would submit?

27 MR. LANDEN: Yes. What happens next?

28 MS. SCHLUETER: Then we would ask for additional information.  
29 If we don't believe that the Energy Department has satisfied the information needs,  
30 then the Energy Department would need to submit the information as agreed to.

31 MR. LANDEN: So you are delaying the whole process some more  
32 then, right?

33 MS. SCHLUETER: It is up to the Energy Department to submit the  
34 needed information. The burden of proof is on the applicant.

35 MR. CAMERON: And, Ralph, I think that after you hear Jeff's  
36 presentation, it may become clearer what the role of the license review plan is there.  
37 But thank you very much.

38 And this is Jeff Ciocco, who is going to get into the substance of the  
39 Yucca Mountain Review Plan.

40 MR. CIOCCO: Good evening. My name is Jeff Ciocco and I am  
41 with the Nuclear Regulatory Commission. I am going to provide you with an  
42 introduction into the draft Yucca Mountain Review Plan, which would be the NRC's  
43 plan to assess the safety of the Yucca Mountain site.

44 And as Janet had mentioned, we will be accepting public  
45 comments through the end of June of this year. The agenda for my presentation this  
46 evening, I am going to cover the purpose of conducting this public meeting, and I am  
47 going to cover the purpose and scope of the Yucca Mountain Review Plan.

48 I am going to tell you what is covered in the review plan, and what  
49 isn't covered in the review plan. I will explain to you how the Yucca Mountain review

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1 plan is risk-informed and performance-based and what that means.

2 I will introduce you to the five main chapters in the review plan, and  
3 I will present to you the individual or the structure of each of the sections under the  
4 review plan. I will cover the various ways that you can comment, and which Chip and  
5 Janet already introduced to you.

6 And finally I will give you an introduction into the following  
7 presentations. The purpose of this public meeting is to describe the purpose and  
8 content of the NRC's draft Yucca Mountain Review Plan, and we seek your views on  
9 how well the document would assess the safety of the Yucca Mountain site.

10 Openness is one of NRC's five principles of good regulation, and  
11 nuclear regulation is our business, and we want you to understand the NRC's decision  
12 making tool, and that would be the Yucca Mountain review plan.

13 The purpose of the Yucca Mountain Review Plan is to provide  
14 instruction to the NRC staff on how we will conduct the safety assessment of the Yucca  
15 Mountain site.

16 The plan has to do with the quality of the reviews of the NRC  
17 staffing review, because it is tailored to the specific Yucca Mountain regulations in 10  
18 CFR Part 63. The plan ensures the quality of the reviews, because each section has  
19 a very consistent structure which I am going to explain to you in a few minutes.

20 And we do want to make the NRC's review strategy publicly  
21 available, and in the plan, Chapters 3 and 4, Chapter 3 is the general information, and  
22 Chapter 4 is the safety analysis report.

23 It provides guidance for what must be in the license application.  
24 I want to point out that the Yucca Mountain Review Plan is not a substitute for the  
25 regulations. However, it is our plan for the assessment of the safety of the site

26 In summary the plan lists the information for what must be  
27 contained in a license application, and provides specific review procedures for the  
28 NRC staff to assess the safety of the Yucca Mountain site.

29 What is the scope of the Yucca Mountain Review Plan. The NRC  
30 would use the Yucca Mountain Review Plan to assess the safety of the site through  
31 all phases of licensing, and as Janet described to you, there are three pages of  
32 licensing.

33 The first phase is the building permit, and that is the construction  
34 authorization, where we review the Yucca Mountain review plan. The second phase  
35 is the license to receive and possess high level waste.

36 This review would focus on DOE's demonstration of how they  
37 substantially complete a construction of the above ground and below ground facilities.

38 And the third phase of licensing is the amendment for program  
39 closure, which we would also use the Yucca Mountain review plan. Now, what is not  
40 included in the Yucca Mountain review plan. There are three specific areas. First, f  
41 the site recommendation process that Janet explained, that process is currently under  
42 way in Congress, and the Yucca Mountain review plan would be used further down the  
43 road if an elections application is submitted to the Nuclear Regulatory Commission

44 The environmental impact statement is not included in the scope  
45 of the Yucca Mountain Review Plan. The NRC has separate regulations and a  
46 separate process for adopting the Department of Energy Environmental Impact  
47 Statement that is practical.

48 So the environmental process is separate from the safety  
49 assessment process, which is the main scope of the Yucca Mountain Review Plan.

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1                   Transportation issues. Transportation issues are regulated by the  
2 Nuclear Regulatory Commission and several sister agencies of the U.S. Department  
3 of Transportation.

4                   This is separate from the purpose and scope of the Yucca  
5 Mountain Review Plan. We are assessing the safety at the site once waste is  
6 received, processed, handled, and ultimately disposed of at the site.

7                   So the transportation issues are a separate area and jointly  
8 regulated, and apart from the Yucca Mountain Review Plan.

9                   How is the Yucca Mountain review plan risk-informed and  
10 performance based. You may have heard these four words being used a lot by the  
11 NRC in writing its regulations and in conducting safety reviews.

12                   First, the Yucca Mountain Review Plan provides review guidance  
13 to the NRC staff which implements the site specific regulations. The regulations use  
14 the risk of health effects as a basis for its objective safety criteria.

15                   For example, those criteria that are in the regulations are the EPA  
16 standards for individual protection, ground water protection, and human intrusion.

17                   So we say that the NRC's regulations are risk-informed and  
18 performance-based. Next, the review plan applies these safety criteria as a basis for  
19 its compliance with the regulations. That is why we say a review plan is performance  
20 based. It has as performance objectives the EPA standards. And finally, we say a  
21 review plan is risk-informed because it focuses on areas that are most important to  
22 safety.

23                   For example, the staff may focus its review on the flow of water  
24 through the mountain and dripping on to the tunnel on to a waste basket, or the staff  
25 may focus its review on the corrosion of the waste packages on the ground.

26                   What are the main chapters of the review plan? Well, there are  
27 five main chapters of the review plan. The first chapter is the introductions.

28                   It provides an overview of the NRC's licensing review philosophy  
29 and it has statements in there that the NRC did not select the sites or the designs, and  
30 the NRC's reviews are comprehensive and focus on issues most important to safety.

31                   And the NRC will defend its licensing decision, while the applicant,  
32 the U.S. Department of Energy, must defend its safety case, and its life and death  
33 occasions.

34                   Chapter 1 also talks about the general review licensing procedures,  
35 and how the review plan is risk-informed and performance based for each section.

36                   Chapter 2 is the acceptance review. It is really the first screening  
37 of the license application using acceptance checklists based on the regulations. It  
38 determines the completeness of information of the engineering design and the site  
39 characteristics.

40                   It determines if sufficient information is available to conduct a  
41 detailed safety review of the site, the results of the acceptance review, and that we  
42 would accept the license application for a detailed chemical review, and that we would  
43 accept the license application for a detailed technical review with a request for  
44 additional information.

45                   Or we would deny the license application because there is not  
46 sufficient information to conduct a review, and in that case, we will list specifically  
47 corrective actions if the Department of Energy would like to resubmit its application.

48                   Chapter 3 is the general information, and its purpose is two-fold.  
49 First, it needs to provide an overview of the engineering design concept, and secondly

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1 in Chapter 3, general information as to give the DOE the opportunity to demonstrate  
2 the influence of the site characteristics on the engineering design and the performance  
3 of the site.

4 Additionally in Chapter 3, which I am going to present to you a little  
5 bit later, it provides details of the physical protection plan and the material control and  
6 accounting plan, the two main safety features of the site.

7 And finally in Chapter 4 is the safety evaluation chapter. This is the  
8 main body of the review plan, and there are five sections in there; the safety evaluation  
9 of safety analysis report required.

10 And it would assess the safety during the operations, which also  
11 is called the peak-loaded period, and it would assess the long term safety of the site,  
12 also known as post-closure, and it provides an evaluation of the research and  
13 development program.

14 It resolves safety questions, and it would assess the performance  
15 confirmation program, and it has a section called administrative and programmatic  
16 requirements, which includes the quality assurance program.

17 And finally at the very end, in Chapter 5, is a glossary, and there  
18 is about 300 terms defined that are in the Yucca Mountain Review Plan. Next is the  
19 structure of each individual review section in the plan.

20 Each section is structured similarly to allow for a uniform review.  
21 Let me explain. Each section has an area of review, and the review method, the  
22 acceptance criteria, and the evaluation of findings, and the references.

23 The areas of review defines the scope of each section to prepare  
24 the reviewer. The review methods are the step-by-step procedures the NRC would  
25 review to access whether compliance with the regulations are met.

26 And next is the acceptance criteria. It defines acceptable  
27 compliance demonstration with the regulations, and then we have the evaluation of  
28 findings.

29 It documents inclusions of the staff evaluation of all of the  
30 information. It would include a description of what has been reviewed, a basis for the  
31 staff's conclusion, and then finally a conclusion statement.

32 How to comment on the Yucca Mount Review Plan Both Chip and  
33 Janet covered this. We have forms over on the table, and you can speak verbally  
34 today, and you can submit a form at the meeting, or sent it electronically.

35 We have a website, and you can submit it in writing to Mike  
36 Lesserback at the NRC, and the comment period ends on June 27th. And in  
37 conclusion the NRC seeks your views on how we would assess the safety of the site.

38  
39 And we have four following presentations that we are going to  
40 discuss the safety review. We are going to cover the safety during the operations, and  
41 also known as the pre-closure period, and that would be really be Section 4.1 of the  
42 review plan.

43 We are going to talk to you about the long term safety of the site,  
44 and that is defined in Section 4 2, which is post-closure. I am going to present to you  
45 how we would assess security from theft and sabotage, and finally we are going to talk  
46 to you about the adequacy of monitoring in the Yucca Mountain Review Plan.

47 MR. CAMERON: Okay. Thanks, Jeff. And one thing that I should  
48 have explained earlier when I went through the agenda is that Jeff has given us sort  
49 of a broad overview of this Yucca Mountain Review Plan and purpose.

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1 And each of the succeeding or following speakers are going to talk  
2 about the substance in various portions of the review plan. Is that correct?

3 MR. CIOCCO: Yes.

4 MR. CAMERON: Let's see if there are any questions about this  
5 sort of overall presentation.

6 (Question off microphone.)

7 MR. CAMERON: There is a handout over here, too, and I will just  
8 give you this, Jerry, for now. But it is in there.

9 MR. CIOCCO: It is also on like page 3 of the actual review plan.

10  
11 MR. CAMERON: And keep in mind that people can request -- you  
12 can request a copy of a CD-ROM of the review plan?

13 MR. CIOCCO: That's correct.

14 MR. CAMERON: There are hard copies available tonight?

15 MR. CIOCCO: Yes, we brought several copies.

16 MR. CAMERON: Okay. All right. So let's go to Sally.

17 MS. DEVLIN: I have a quick question. We have many questions  
18 on this, but on the GAO report written by Wayne Weingold, they say you are already  
19 four years behind, and that nothing could be done until 2014 plus, and that the  
20 scientific experiments won't be done properly and so on.

21 My question has nothing to do with that at all, because I have  
22 grown up the last 10 years and matured with Yucca Mountain. And the thing that  
23 bothers me the most is the continuity of help, and I use the term help because every  
24 time we have a meeting we have new directors and new people, and so on.

25 And of course I am 72, and I will be 86 or more by the time that this  
26 is ready to open, if it ever opens. And according to R&D Magazine, you are going to  
27 lose 40 to 60 percent of your staff, and the five people who are going to make this  
28 decision, the final decision, are the NRC people.

29 And of course they don't serve consecutively, and so they have got  
30 10 to 14 years ahead of them. And who is going to know the first information -- you  
31 know, first and last out, et cetera -- and inventory of information.

32 Now, since I have been doing this, and I would say in '95 when they  
33 changed boards at the end of the GRB, we have seen completely different people and  
34 so on, but the same thing is being done. It is all model.

35 You talk about San Antonio, and nothing is done on-site, and I am  
36 not going to go into details. But I am very concerned regarding personnel,  
37 personalities, compliance, and so on. And I don't think that this is ever discussed.

38 I know your criteria, but the public doesn't. You need a Masters  
39 Degree, and this, that, and the next thing. Where are you going to get these people  
40 for not only the scientific project, but you have so few inspectors who have done those  
41 numbers on your 37,000 sites.

42 So if your inspectors only see a site every 2-1/2 years, which I  
43 brought to your attention, where is your personnel going to come from? Where are all  
44 these competent people? This is a question that is never asked, and should be  
45 answered.

46 MR. CIOCCO: That is a good question. I think I will let Janet talk  
47 to you a little bit about personnel.

48 MR. CAMERON: Very good.

49 MR. CIOCCO: But first I would like to make a point. I have a sign

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1 up there that the purpose of the review plan is to ensure the quality and uniformity of  
2 that review.

3 And one of the purposes is to document specifically what needs to  
4 be reviewed, irregardless of what personnel is on-site at the NRC or in San Antonio

5 So there was a group of several experts throughout these  
6 individual sections, and dozens of people, tens of people, who wrote this review plan  
7 And its purpose is really to ensure the quality and uniformity of reviews, no matter who  
8 is there.

9 MR. CAMERON: So what you are saying is that one of the ways  
10 to deal with the inevitable changing of people to preserve an institutional memory, this  
11 Yucca Mountain Review Plan actually tries to deal with that particular issue is what I  
12 hear you saying?

13 MR. CIOCCO: Yes.

14 MR. CAMERON: Okay. Janet, do you want to say anything more?

15 MS. SCHLUETER: Well, yes. I think that Jeff has made a good  
16 point. That is the entire purpose of doing the extensive documentation that we do in  
17 any of our program areas, is to ensure the traceability of the process, public safety  
18 reviews, and documenting the criteria that we use to complete those reviews.

19 And you are right. With any organization there would be some  
20 turnover of individuals. I am new to my section, but I am not new to the NRC. I have  
21 been with the NRC for about 13 years.

22 There is also individuals here in the room that have been in the  
23 high level waste program for a long term, maybe longer than Tim, and Janet, and  
24 others who would like to recognize.

25 But we do have a large cadre of individuals that have been in the  
26 high level waste program for a long time, and the center has been under contract with  
27 us for about 15 years, I believe.

28 You are probably referring to figures that we all see about the  
29 Federal Government at large, having a large percentage of individuals that are near,  
30 or will becoming near retirement age.

31 It's true that we are not unique in that way, although I will say that  
32 our attrubution rate, the rate at which individuals are leaving the agency, is much less  
33 than other Federal Agencies, and I think that is in part because we are a highly  
34 technical and specialized agency, and when people come to work there, they generally  
35 stay there for a long time.

36 And there are a lot of people there committed to continuing in this  
37 program to assure that we do do a good job

38 MR. CAMERON: Thank you, Janet. Let's have one more question.  
39 Do we have one over here? So Grant, can you give us your question?

40 MR. HUDLOW: I am Grant Hudlow again. I am following on with  
41 what Sally had to say, but there is one more detail I think that she didn't mention.

42 The continuity in most regulatory situations, all of them that the  
43 NRC has dealt with so far, is that the people they are regulating have a profit motive.

44  
45 And in the case of the power plants, the profit motive is a million  
46 dollars a day for each of those reactors. That forces them to try to get the best people  
47 that they possibly can, as opposed to about two-thirds of the engineers and scientists  
48 work for the government, or for government NMOs.

49 And they are not of the same caliber of people that have somebody

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1 with a profit motive on their back. It's not even close. To expand just a little bit more  
2 on that, only four percent of the high school graduates in this country are capable of  
3 learning what engineers and scientists know.

4 So when you are holding a hearing like this, you are talking that  
5 most of the people don't have a clue what you are talking about, and you are trying to  
6 -- and as we all do, trying to put technical matters in terms that the public can feel  
7 comfortable with.

8 And in addition to that four percent, two-thirds of these scientists  
9 and engineers work for the government are the NMOs and so there is even fewer  
10 people that can understand the details of what you are talking about here.

11 You have a different situation than you have never even dreamed  
12 of before, and where you have DOE people that are doing this kind of work, and they  
13 are not capable of handing this kind of a project.

14 MR. HUDLOW: Is there some -- I would like to hear what Janet  
15 has to say as to that.

16 MR. CAMERON: Okay. I don't think we can go anywhere with that,  
17 except that it is a statement of opinion, I think. Well, Janet, is there a germ of an idea  
18 there that you think you can respond to?

19 I know that the NRC staff -- I cannot speak for DOE, but I know that  
20 you can say about the qualities of our staff.

21 MS. SCHLUETER: Certainly. I wouldn't dare try to speak about  
22 any other agency. Based on my experience, I would disagree with the statement that  
23 the private sector -- that due to the cost and profit incentives is able to secure, and  
24 attract, and retain more educated and more highly qualified engineers.

25 I have worked in the private industry, and I have worked for the  
26 government now for 13 years, and it is incumbent upon the NRC being such a highly  
27 technical scientific-based agency to attract and retain highly qualified individuals.

28 And we have many individuals that not only have graduate and  
29 post-graduate degrees, but have established themselves in the scientific communities  
30 either before coming to the NRC or since being at the NRC.

31 And you do that by conducting research and also issuing articles  
32 in peer review journals, and other mechanisms that professional societies allow  
33 individuals to obtain continuing education.

34 And to demonstrate that their skills are at the necessary levels.  
35 And I am confident that the staff that we have, both at headquarters and also at the  
36 center in Texas, is certainly of the highest caliber.

37 We have to, because our job is to make an independent safety  
38 decision about that.

39 MR. CAMERON: Good. Thank you, and thank you for asking that  
40 question, Grant. Kalynda.

41 MS. TILGES: Kalynda Tilges, Citizen Alert again. I am going back  
42 to Slide Number 12 on Janet's presentation, about the NRC must adopt a final EIS  
43 unless, and there is a couple of points.

44 My question is that at this point there has been no record of  
45 decision, no rod on the final EIS. Therefore, according to the rules, I guess it is not  
46 considered a legal document.

47 So I am kind of unclear as to why you would accept or adopt  
48 something that doesn't have a record of decision on it, and I have another question  
49 after that.

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1 MR. CAMERON: Do you want to address that, Mitzi. Mitzi Young  
2 is from our Office of General Counsel.

3 MS. YOUNG. Good evening everyone. Thank you for coming.  
4 Your question was about the NRC's adoption of the EIS. Right now we are required  
5 by the Nuclear Waste Policy Act to adopt the document, and that decision by the NRC  
6 would not come until the time that we noticed the application, which the current  
7 estimate is December of 2004.

8 So the DOE's application should be submitted, which means that  
9 we probably would not notice it until March of 2005. In the interim it is not clear what  
10 is going to happen with the status of the regular decision, whether a court will find that  
11 it is inadequate and should be thrown out, or whether someone will determine whether  
12 it is adequate and that the progress can continue.

13 But in terms of the NRC regulations, our record of decision is that  
14 which grows out of our hearing process, and any decisions that a judge makes with  
15 respect to the environmental issues raised in the proceedings.

16 So hopefully that is responsive to the question you asked.

17 MR. CAMERON: I think that there also is litigation on that very  
18 issue that is ongoing. Let's get that next question and then let's go to Barbara Durham,  
19 and then we will come back to you.

20 MS DURHAM: According to Section 114-G, Subsection (b) or  
21 whatever, of the Nuclear Waste Policy Act, under submission of license, the  
22 Department of Energy has to submit a license within 90 days of adoption of the site,  
23 which could mean Senate passage.

24 So while you are talking 2004, and the recent GAO report in  
25 December of -- well, on December 21st, talks about the same amount of time.  
26 So I fail to see how the Department of Energy could follow the Nuclear Waste Policy  
27 Act in 90 days if you are all going to wait until 2004.

28 MR. CAMERON: Now, I guess the only thing that could be said  
29 about that is, yes, I think it is correct that the Act requires the Department to file that  
30 application 90 days after Congressional approval, and that is DOE's responsibility, and  
31 that is within their bailiwick, and I don't think the NRC can say anything about that.

32 MR. CIOCCO: That is a date from the U.S. Department of Energy,  
33 and that is not a Nuclear Regulatory Commission date. That is the date that the DOE  
34 has set and it is a recommendation, and they say publicly that they expect to submit  
35 a license application --

36 (Discussion off mike, inaudible.)

37 MR. CAMERON: Let's go to Mitzi. Do you want to say something  
38 about that?

39 MS. YOUNG: The 2004 date is based on DOE's estimates of when  
40 they would have enough information to submit an application. So it is only what we  
41 have been told. It is not some date that the NRC set from that standpoint.

42 You mentioned earlier -- I think it was you -- 293 issues or  
43 questions. It was Sally, yes. That in part had to do with DOE's decision to supply  
44 information on some of those questions, those agreements, the 293 agreements.

45 It is not really 293 issues, but it is 293 questions, and that turn into  
46 agreements that the NRC would provide information on. The schedules for submitting  
47 some of that information, whether it be a document or conducting the analysis,  
48 involves a period running all the way through part of 2004.

49 So there is some information that DOE right now anticipates they

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1 will not have available until later.

2 MR. CAMERON: Okay. Thank you.

3 MS. TILGES: So I still don't have my question answered. If DOE  
4 waits beyond the 90 days, even though it is clearly against the Nuclear Waste Policy  
5 Act --

6 MR. CAMERON: Even though it is against the Nuclear Waste  
7 Policy Act, it doesn't mean that it is the Commission's obligation to enforce that  
8 particular provision, okay?

9 That doesn't mean that someone can't litigate to enforce that  
10 provision, but I don't think -- and I am wearing my facilitator's hat, and I am taking it off  
11 a little bit here, but I don't think that the NRC would say that because the DOE did not  
12 file the license application within 90 days that we could not review the license  
13 application.

14 But I am going to put my facilitator hat back on and go to Mal  
15 Murphy, who I think can enlighten us more on that.

16 MR. MURPHY: I am Mal Murphy, and I am the regulatory licensing  
17 advisor for NCONE. The problem with that analysis, Kalynda, is that unfortunately  
18 from your point of view, and from the point of view of others who share your views,  
19 Federal officials are required by law to presume that their brother agency directors in  
20 other Federal departments are complying with the law.

21 So that the Chairman of the Nuclear Regulatory Commission is  
22 required by law to presume that when the Secretary of Energy sends him an  
23 application that the Secretary of Energy is doing so legally.

24 The Nuclear Regulatory Commission has no legal authority to look  
25 behind the statutory authority of the Secretary of Energy. The NRC is simply  
26 precluded by Federal law from doing that as a general rule.

27 And so only the Courts have the power to determine whether or not  
28 the Secretary of Energy is acting legally in that respect. And also unfortunately in the  
29 history of the United States no court has ever precluded a Federal Agency, or a State  
30 Agency for that matter, from carrying forward a program because he has missed a  
31 deadline in that program.

32 What the courts do is order the agency to submit the application,  
33 and so the best that anyone can do probably by challenging DOE for missing the 90  
34 day deadline was to get a court to order DOE to accelerate the filing of its license  
35 application.

36 And which we don't think is necessarily the safest and most -- or  
37 from a public policy point of view, we don't think forcing an agency to submit an  
38 application based on insufficient information is necessarily the best public policy result.

39 MR. CAMERON: Thank you, Mal. Barbara.

40 MS. DURHAM: I don't really have a question. I just want to read  
41 a letter or statement from the Timbisha Shoshone Tribe. My name is Barbara  
42 Durham, and I am the Staff Administrator for the Timbisha Tribe of Death Valley.

43 This is addressed to the Nuclear Regulatory Commission. "The  
44 Timbisha Shoshone Tribe submits the following preliminary comments on the draft  
45 Yucca Mountain Review Plan. Since the Tribe does not receive funds for technical  
46 analysis and monitoring like the State of Nevada and affected counties, it is difficult to  
47 prepare specific comments on the Review Plan at this time."

48 "However, comments can be made on the license application  
49 process which the NRC must follow. According to the Nuclear Waste Policy Act, the

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1 NRC must adopt to the extent practicable, the final environmental impact statement  
2 prepared by the United States Department of Energy."

3 "The Timbisha Shoshone Tribe submitted comments on the draft  
4 EIS and the supplemental draft EIS to the DOE. None of the comments were  
5 adequately addressed in the final EIS. DOE's final EIS is inadequate and does not  
6 meet the minimum standards of the National Environmental Policy Act."

7 "The NRC cannot legally move forward with a licensing review  
8 based upon an inadequate Environmental Impact State. Later comments to the NRC  
9 will specify the problems with the final EIS."

10 "The Timbisha Shoshone Tribe will be directly affected if the Yucca  
11 Mountain Nuclear Waste Site is built. The Tribe's Death Valley Junction trust land is  
12 only 30 miles from Yucca Mountain, and directly in the path of future radioactive  
13 groundwater contamination."

14 "The Timbisha Village's drinking water will also be affected by  
15 Yucca Mountain if the nuclear waste dump is built. It is just a matter of time."

16 "Also, one of the proposed railroad corridors for transporting  
17 nuclear waste to Yucca Mountain is planned to go right through the Tribe's Scotty's  
18 Junction parcel. It can be easily seen that the future of Timbisha Shoshone Tribe will  
19 be severely threatened if the Yucca Mountain project is allowed to continue."

20 "Yucca Mountain is still in Western Shoshone territory. While the  
21 Timbisha Shoshone Tribe is now planning for sustainable, ecologically sound,  
22 economic development on its trust lands, the United States Government is planning  
23 to poison the nearby land for thousands and thousands of years."

24 "This alternative provides no future for anyone. Decisions should  
25 be based on protecting the land, and this is what needs to be done when considering  
26 licensing approval."

27 And I have sat here, and I heard and listened to people talk, and  
28 hit on different subjects within this letter here, and I am representing the Timbisha  
29 Tribe, and we are opposed to Yucca Mountain, and we can only support and alert  
30 anyone else who wants to fight this. Thank you.

31 MR. CAMERON: Okay. Thanks, Barbara, and if you would like,  
32 we would attach that letter to the transcript. Let's take one more question and then we  
33 have to go to Pat Mackin. Yes.

34 MS. ROSE. Merlynn Rose, and I am a volunteer working to stop  
35 Yucca Mountain, and I do want to say that I moved up to Pahrump in order to shut this  
36 mountain down, and I had absolutely no idea of this meeting was being held. Isn't that  
37 funny?

38 I have one question. Is the NRC requiring DOE to show title of the  
39 land in order to approve the license, or is that included with this?

40 DR. KOTRA: Yes.

41 MR. CAMERON: This is Janet Kotra. Janet is a senior scientist  
42 out of the High Level Waste Branch. Janet, do you want to address that question.

43 DR. KOTRA: Yes. That provision was proposed in February of '99,  
44 and it is retained in the final regulations that were published last November. It requires  
45 that the Department make a demonstration of clear and unincumbered title to the land,  
46 as well as other rights and easements necessary in order to demonstrate compliance  
47 with the standards.

48 MR. CAMERON: Thank you, Janet. And thank you, Jeff, and we  
49 are now going to go to Pat Mackin, who is going to talk about one portion of the Yucca

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1 Mountain review plan, and it is going to be the pre-closure.

2 MR. MACKIN: Safety during operations.

3 MR. CAMERON: Safety during operations. Okay. Pat, go ahead.

4 MR. MACKIN: Good evening. My name is Pat Mackin, and as was  
5 mentioned earlier, I work for the Center for Nuclear Waste Regulatory Analysis in San  
6 Antonio, Texas.

7 And to clarify what Chip and Janet have already said, my  
8 organization was established for the specific purpose of helping the NRC do an  
9 independent safety assessment of any repository proposed for Yucca Mountain.

10 And we have worked with the staff to do a significant amount of  
11 independent technical work in those areas.

12 The NRC regulations basically address two major time periods in  
13 the life of a repository; the period during construction and operations, and the period  
14 after closure.

15 I am going to talk about the period from its construction through the  
16 end of operation, and  
17 how the NRC will do an independent assessment of DOE's license application for that  
18 period of time. I want to comment before I start that many of the operations that would  
19 go on at a repository go on at a number of other facilities around the country and  
20 around the world already, handling spent nuclear fuel, and packaging spent nuclear  
21 fuel, and protecting people from radiation exposures.

22 And this is being done in a number of areas around the country and  
23 around the world, and the Yucca Mountain review plan incorporates what has been  
24 learned from those programs.

25 There are a number of aspects of safety during operations that  
26 DOE must present in its license application, and that the NRC, in-turn, will confirm  
27 through its independent assessment.

28 The first of these is what is called the pre-closure safety analysis.  
29 This is what examines whether the repository could be constructed and operated to  
30 meet the health and safety standards.

31 The secondary area would be who would operate such a  
32 repository, and would they be properly trained. A third area would be how would such  
33 a repository be operated. Would it be operated safely.

34 The next area is whether the waste could be retrieved from the  
35 repository before it is closed, and whether that could be done safely, and finally it is a  
36 long term look to the future that if a repository is licensed and operated, then some day  
37 it would be closed.

38 And the DOE must present in its license application its plans for  
39 that closure and dismantlement of surface facilities. First, I want to talk about the pre-  
40 closure safety analysis, and what it is.

41 A pre-closure safety analysis uses techniques that are accepted  
42 by a wide variety of industries to examine the safety of complex facilities. It asks three  
43 questions basically; what could go wrong; how likely it is that those things could go  
44 wrong; and what the consequences or the results are.

45 And for a repository the results would be radiation exposures. The  
46 techniques for a pre-closure safety analysis are used by the chemical industry for  
47 plants, by the petroleum industry, and by the NRC for other facilities that it regulates.

48 And the NRC staff has been trained in these techniques. What  
49 does it do? It does a number of things. First of all, a pre-closure safety analysis looks

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1 at what are the hazards with the facility.

2 For a repository, that would include such things as a vehicle taking  
3 a canister down into the repository and having the brakes fail, fires, explosions, both  
4 man-made and natural that have to be examined

5 Then the pre-closure safety analysis looks at how likely it is that  
6 these events could occur. The next step of a pre-closure safety analysis is to address  
7 what the consequences of these things that could go wrong are, and for a repository,  
8 we are essentially talking about radiation doses to the public or to the workers

9 Next, by identifying what can go wrong, and showing what the  
10 results could be, the Department of Energy will have to identify those systems,  
11 machines, components, processes, that have to be operated to protect people, the  
12 public and the workers.

13 Those items are called items important for safety, and so the pre-  
14 closure safety analysis will have to identify items important to safety. And the next  
15 aspect will be to compare the results, the consequences, to the safety standards.

16 The safety -- the consequences must be less than the safety  
17 standards, or a repository would not be licensed. And finally the pre-closure safety  
18 analysis provides for a detailed review of the design of those items that are important  
19 for safety.

20 The next thing that I want to talk about is who would operate such  
21 a repository. There are a number of things that DOE must present in its license  
22 application that the NRC will assess.

23 The first is the organization that DOE would use to operate a  
24 repository. What is the chain of command, and who had which responsibilities, and  
25 how was authority delegated. The next thing that the DOE must demonstrate is that  
26 I mentioned just a few seconds ago that there are items important for safety.

27 DOE must demonstrate that somebody is responsible for all of  
28 those items important for safety, and that the responsibilities of those individuals are  
29 well-defined, and that the qualifications of those individuals are set out in the license  
30 application.

31 Next there is the issue of selecting, training, and qualifying  
32 personnel. I mentioned earlier that nuclear facilities are all over the country and  
33 around the world, and in those facilities a lot has been learned about how people need  
34 to be trained and qualified to operate nuclear systems

35 And what has been learned from that has been put into the Yucca  
36 Mountain Review Plan as the criteria for which the NRC will assess DOE's plans for  
37 training and qualifying its personnel.

38 Finally, any worker at any nuclear facility has to be trained in the  
39 hazards and the handling of radioactive materials. The NRC will assess DOE's  
40 program to ensure that the workers and the public are safe in that regard

41 Now, when we talk about who would operate a repository, let's talk  
42 about how the Yucca Mountain Review Plan would be used to assess how the  
43 repository would be operated.

44 There are several aspects of that. If a repository is licensed, and  
45 components start to be built and installed at the site, they must all be tested to make  
46 sure that they operate properly before any waste, any radioactive waste, is received  
47 at the site.

48 That is one aspect of how a repository would be operated. The  
49 next one goes beyond that to say once I have these systems, these components,

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1 these machines in place, how do I make sure that they continue to operate properly.

2  
3 It is just like your car. You have to do periodic maintenance. The  
4 DOE must demonstrate that it has a program for periodic testing of these equipments  
5 that are important for safety, and the program has to specify what the limits are, what  
6 is acceptable, and what the qualifications are for the people that do the testing, and  
7 say what they would do if they find something wrong.

8 Everything that is important to safety at any nuclear facility in the  
9 country has to be done using a formal procedure. The Department of Energy must  
10 demonstrate that it will develop adequate procedures for the activities at a repository.

11  
12 And the NRC will evaluate that, and the procedures must include  
13 such things as what kind of qualifications are required to do something, and what are  
14 the steps, and what tools are required, and what kind of calibrations are required, and  
15 what do you do if you find something wrong.

16 All these things DOE must demonstrate and NRC would accept.  
17 Next, if there are things that can go wrong at a repository, there must be plans for  
18 dealing with them. Emergency plans. Emergency plans are standard at any nuclear  
19 facility, and there would have to be one for Yucca Mountain.

20 There are people on the NRC staff whose job it is to assess  
21 emergency plans at facilities, and their requirements have been incorporated in the  
22 Yucca Mountain Review Plan.

23 A question arises as to whether the area around Yucca Mountain  
24 could be used for anything else other than this boat load of waste that the repository  
25 is licensed for.

26 That is up to DOE to present, but there is two basic things that DOE  
27 must show if it proposes anything in this area. One is that the waste would be  
28 protected from being disturbed, and the second is that the people would be protected.

29  
30 Lastly, building a facility like the repository would be a complex  
31 operation. DOE would have to demonstrate that its schedules for construction are safe  
32 and appropriate for the various activities that have to go on, and the NRC would do its  
33 own assessment of that.

34 Regulations require that DOE keep open an option to retrieve the  
35 waste from a repository up until the time that it closes. They have to demonstrate a  
36 plan for doing that.

37 The Yucca Mountain Review Plan evaluates the processes that  
38 they would use and it also evaluates how they would protect public health and safety  
39 during those processes, and ensures that there is an independent review of those  
40 plans.

41 The last thing, or the last component of the safety during operations  
42 that I want to talk about is the ultimate closure of the repository. The DOE is required  
43 now to look into the future and see what it can do in the design of a repository that  
44 would facilitate the eventual dismantlement of a surface facility and decontamination.

45 The NRC will review those plans and ensure that they can be done  
46 in a way that minimizes radiation exposures to workers and the public. In summary,  
47 I have described a number of things that would be required for DOE to demonstrate  
48 that it is operating a repository safely up until the top of permanent closure.

49 The Yucca Mountain Review Plan examines each of these areas,

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1 and provides criteria for what would make them acceptable, and in the process brings  
2 into play what has been learned from other similar facilities that are currently in  
3 operation. I would be glad to take your questions.

4 MR. CAMERON: Okay. Thank you very much, Pat I think we  
5 have gotten into some of the substance of the review plan, and I would ask you to  
6 confine your questions to Pat's presentation.

7 MR. LANDEN: I am wondering about something. Yucca Mountain  
8 is part of the Nevada Test Site; is that true?

9 MR. MACKIN: There are other facilities that it is a part of, but part  
10 of the land comes from the Nevada Test Site.

11 MR. LANDEN. Okay. So the area is secure there right now, and  
12 the Air Force, I assume is guarding the area; or do you have civilian security  
13 personnel?

14 MR. MACKIN: Security at the site will be discussed by Jeff Ciocco  
15 a little later, but it is DOE's responsibility to provide adequate security for the  
16 repository, and their plan for that security is evaluated using the Yucca Mountain  
17 Review Plan.

18 MR. CAMERON It's Ralph, right?

19 MR. LANDEN: Yes. And I was wondering about something else.  
20 When you are talking about closure, it is supposed to be 30 years minimum before it  
21 gets closed, right, and then it could be up to 300.

22 And 77,000 metric tons is going to take 30 years to put in there as  
23 I understand; is that true?

24 MR. MACKIN: The actual schedules have not been proposed by  
25 DOE

26 MR. LANDEN: Okay. Thank you.

27 MR. CAMERON: And Ralph, we will come back and address your  
28 security question when we get to that. Anybody on this before we -- well, Sally wants  
29 to add something, but I want to make sure that no one else has anything else to add.

30  
31 But I really do want to try to keep us on this particular track in this  
32 presentation.

33 MS. BEAMON: Sylvia Beamon. I donate my money against the  
34 nuclear repository being on the test site, and I have begged and pleaded with whoever  
35 it was that needed to be talked to about this scenario.

36 And what I am getting out of this is that I have not been on top of  
37 things, and I apologize for my kids' sakes that I have not been on top of it, and thank  
38 goodness there are a few in the room who actually are working to do everything they  
39 can to not get this.

40 My question is that you are opening or having big shoulders here  
41 that -- well, you are like a licensing board that is going to regulate all these things. But  
42 you are not just giving me an insurance policy here. I mean, you are risking our lives.

43 So if you make one mistake -- and it is like the Board of Land  
44 Surveyors here, or the Board of Contractors. You go there and you complain and you  
45 complain. I am not going to live through it to complain.

46 So I can't even comprehend or conceive that we are doing this to  
47 the environment. I am just appalled, and I mean, right now, I am nearly breaking tears.  
48 This is just unbelievable.

49 MR. CAMERON You are right. It is a very, very serious

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1 proposition that the NRC has been tasked with by Congress. Sally, a question for Pat?  
2 MS. DEVLIN: Thank you so much, Pat, for talking about the  
3 subject of safety in operations, and I of course attend all the NWTRB meetings, and  
4 it was wonderful to see all the people being trained to drive the trucks to bring the  
5 material to Yucca Mountain.

6 Of course, they won't be around and able to drive trucks by the time  
7 that this gets done, if it ever gets done, and so I thought that was a wonderful waste  
8 of money. But that is besides the point.

9 You mentioned the chemicals industry. I did a report on transport  
10 and chemical accidents for 10 years, from 19 -- I think it was 1987 through 1996. At  
11 chemical plants in that 10 years, and that is 3,650 days, they had over 150,000  
12 accidents at the plants.

13 And in transports, they had over 250,000 on our roads. So I  
14 thought that was a good number to work from, and you were saying that the chemical  
15 plants are so safe. Anything but. We have had how many a day. I don't have enough  
16 fingers to figure that out, but you can.

17 The other thing that we are talking about is that under the law  
18 Yucca Mountain must remain open for a hundred years, and many times I have heard  
19 300 years.

20 And it was unfortunate that you were not with us on September  
21 11th, which was a dreadful day at the Nuclear Waste Technical Review Board,  
22 because this came up.

23 And my dear friend, Avon Luke, who is running the licensing for  
24 DOE, and I would be sitting on top of not one, but two, Yucca Mountains, because they  
25 have enough waste for two, for a hundred to 300 years playing gin rummy, because  
26 there is no funding for stewardship.

27 So it is a terrible proposition, and I think the other thing that you  
28 should bring up to the public is that any kind of accidents, and I am talking about with  
29 workers at the site if it is approved and so on, how much money is in Price-Anderson?

30 When I started it was \$10 million, and the last report I saw, it was  
31 \$8.6 billion. So we are talking money, and we are talking Presidential edicts, and  
32 Clinton said you can't do anything, and the value of the land is over a hundred-million,  
33 and of course nobody listens to these things.

34 And it is very difficult for me to sit here and say that you are going  
35 to have well-trained and qualified personnel when by the time that this happens these  
36 people will have retired, and I say that to you, Janet.

37 If you have been with this group for 13 years, and another 7 years,  
38 and so that is 20 years, and when are you going to retire? Everybody that I know who  
39 works for the government retires after 20 to 25 years.

40 So you will be gone, and this bothers me, and I am just saying  
41 when he is talking about the training, it is a useless training. It is a useless spending  
42 of money when these people aren't going to be there.

43 And probably if everything was done robotically, and this, and that,  
44 and the next thing, well, you could fix the robots.

45 MR. MACKIN: I would just say one thing. People at facilities of all  
46 kinds, including nuclear facilities, come to work, and they work their careers, and they  
47 go to other jobs, and they retire, and new people come in.

48 And the training programs that are established for any affected  
49 facility recognize that, and they always make sure that the new people are being

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1 trained at the jobs as the older people are moving on to different jobs or leaving the  
2 organization.

3 The training is met to be a continuous thing over the life of a facility  
4 such as a repository. It is not just today or next week.

5 MR. CAMERON: Okay. Thank you, Pat. We are going to go o  
6 Kalynda for a couple of questions for you, Pat Kalynda

7 MS. TILGES: Actually, three, and they do all pertain to your  
8 presentation. You were talking about plans for a cleanup, and permanent closure.  
9 DOE's flexible design doesn't really talk about permanent closure.

10 In fact, in a face to face meeting a couple of years ago with Ivan  
11 Itkin from Arkron (phonetic), he told us that they would never close Yucca Mountain  
12 because one day there are going to need to go back in there and get that waste for  
13 energy needs.

14 Of course, two weeks later, he did a presentation to Congress  
15 saying that it was absolutely permanent deep geologic disposal, and again two weeks  
16 later he did a presentation to the Technical Review Board saying that it had to be a  
17 flexible design because they found different things all the time.

18 MR. MACKIN: What would be required in the license application  
19 to construct and operate a repository would be the design features and the plans that  
20 DOE would have for dismantling and decontaminating the surface.

21 So it is required, and they have to have it, and the NRC would  
22 evaluate it to make sure that it can be done safely. That's all I can say. That has to  
23 be in the license application. The regulation requires it.

24 MS. TILGES: Okay. My second question is -- and this came up  
25 during slide number -- oh, boy, my eyes are getting bad even with the glasses  
26 -- 36, talking about identifies possible hazards, events, and sequences of events

27 I assume that the NRC is aware that -- well, the technical review  
28 board, the last one that was held in Pahrump, was practically closed down to the anger  
29 of Chairman Cohen at the Department of Energy, who once again probability weighing  
30 its figures without remarking that the figures had been probability weighted or by what  
31 factor, even though they have been told time and time again that they could not do  
32 that.

33 And this deals with the IGNIS event, and what they did is that they  
34 calculated the doses, the mean doses of a IGNIS volcanic event, and they presented  
35 it up on the board like that is what the figures were, and they looked really low, and  
36 that was because they were probability weighted.

37 So I hope that the NRC is aware that the Department of Energy has  
38 a very bad habit of doing this and not letting anyone know that they are probability  
39 weighted. They are fudging their figures.

40 MR. CAMERON: I think -- and I don't want to preempt you, but I  
41 believe that Tim will be going into that issue during this, and so let's go into that then.  
42 And let's go on to what your third question is.

43 MS. TILGES: My third question deals with or talks about training  
44 and qualification of personnel at the DOE to deal with this. I wondered what you are  
45 going to consider qualifications, because at this point -- well, are you going to require  
46 that these people be licensed?

47 At this point, DOE engineers are not required to be licensed like  
48 anyone in the civilian world would be. Therefore, there is no one to fall back on,  
49 except for this large self-regulating agency.

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1 MR. MACKIN: Well, I would have to say that there are accepted  
2 as standard ways of training people and qualifying them at nuclear facilities. And that  
3 experience is what is written into the Yucca Mountain Review Plan.

4 It means basically that no system, or component, or machine that  
5 is important to safety, can be operated by anyone except the person who is formally  
6 qualified to operate that piece of equipment.

7 MS. TILGES: And so in this review plan do you have the criteria  
8 as to what would be qualified, and whether they have to be licensed, and just is it laid  
9 out just so anybody can understand it, or only -

10 MR. MACKIN: Well, I would have to answer your question with two  
11 statements. First of all, where there is an existing NRC guidance that tells what is  
12 acceptable, rather than reinvent the wheel, we reference that. Well, what is the  
13 second part of your question? I forgot.

14 MR. CAMERON: Well, her question is are there standards that  
15 everybody does, training standards, and whether they are referenced or developed  
16 anew, are they there for people to see?

17 MR. MACKIN: Yes, but you asked another question, too.

18 MS. TILGES: Are they understandable to everybody?

19 MR. MACKIN: Oh, the reason that I wanted to respond to that is  
20 I believe they are, but not all parts of the Yucca Mountain Review Plan are  
21 understandable by everyone. It is a very complex document that looks at really  
22 complex issues.

23 It is meant for use to a large extent by the scientists and engineers  
24 that have expertise in this area. So I wouldn't say that everybody can understand all  
25 the words in the Yucca Mountain Review Plan. It is complex. Is that fair to say?

26 MR. CAMERON: Well, part of our job is to try to make it as clear  
27 as possible. Okay. Let's go to Tim McCartin. Grant, I'm sorry, but we are going to  
28 have to move on. Thank you very much, Pat. Tim, Long Term Safety.

29 And, Tim, if you could, you heard Kalynda's question about IGNIS,  
30 and if you could try to pick up on that.

31 MR. MCCARTIN: I am Tim McCartin with the Nuclear Regulatory  
32 Commission, and tonight I will address long term safety, and that is the person of time  
33 after waste is in place in a potential repository, and long term safety really is what  
34 refers to the behavior or the future behavior of the Yucca Mountain repository, and  
35 would be within the safety requirements set by both the Environmental Protection  
36 Agency and the Nuclear Regulatory Commission.

37 Tonight as I go through my talk, I really want to address three  
38 particular areas. One will be describing the safety requirements for the long term  
39 safety.

40 Next, to describe the requirements for how DOE is required to  
41 evaluate the safety of a potential repository at Yucca Mountain, and third, how the  
42 NRC would review the safety evaluation of the Department of Energy.

43 First, in terms of the requirements for long term safety. There are  
44 really four requirements that I am going to talk about. The first three were set by the  
45 Environmental Protection Agency.

46 One, a safety standard for individual protection. As Janet alluded  
47 to earlier this evening, a separate requirement for the protection of ground water; and  
48 thirdly, a standard to judge the safety of the repository if there was an unintentional  
49 drilling through the repository, and what we refer to as a human intrusion standard.

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A fourth requirement is a requirement for multiple barriers. The repository is required to have safety features that are both natural and engineered. That is what we mean by a multiple barrier requirement, and I will discuss that in just a little bit further.

In terms of multiple barriers, when I talk about a engineered barrier, I am referring to a safety function that is provided by something that is man-made. Examples of that would be the waste package and the drip shield.

For people that may not be as familiar, a waste package is relatively easily described by the words, and the drip shield is sort of a metal tent if you will over the waste package that is designed to prevent drifts from falling on to the waste package, and hence the name, drip shield.

It is shielding the waste package from drips hitting it directly. In terms of the safety features of the site, this is referring to the geology of the site. There are a couple of things to point out.

The waste is surrounded by the rocks of Yucca Mountain. These rock layers really preclude any humans from coming into direct contact with the waste.

Additionally, any potential releases from the waste packages would have to travel through these same rocks many thousands of feet before there could be any potential contact with human beings.

Now, the question is that those are the safety requirements, and the next question would be how would we expect the Department of Energy, how would we require the Department of Energy to evaluate safety.

And we are expecting the Department to conduct a thorough and systematic analysis. The Environmental Protection Agency Standards, as well as the NRC's regulations, refer to a performance assessment as this type of systematic analysis

And that as Pat described in his talk, it answers similar questions that he would say would be asked during the preclosure phase, the operational phase. Basically, what could go wrong, and how likely is it, and what are the consequences.

And I would like to describe this performance assessment, this systematic analysis, in a little more detail according to these three questions.

First, what could go wrong. Once again, following that, we want a systematic and thorough analysis, and the regulations, as well as the review plan, have required DOE to look at what can go wrong in three categories, features, events, and processes

Features are things that I could see and measure; a fault, a large crack in the rock, and how wide is the fault, and how long is the fault, are things that I could measure, and these are features of the site.

Events are things that happen at a specific instant of time. For example, the volcano that was brought up earlier, and earthquakes, and particular instances of time for a short duration.

A third category is processes. Processes, in contrast to events that happen in a very short duration of time, processes are things that might happen gradually over very long time periods.

The potential for the dripping of water into the repository, the corrosion of the waste package, are processes that occur over very long time periods very gradually.

These three types of things -- features, events, and processes -- are categories that we require the department to look at all three of those categories,

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1 and identify what might go wrong.

2 How do these features, events, and processes that might go wrong  
3 affect the performance of the barriers, the safety features of the repository.

4 Having identified what can go wrong, the next question is how likely  
5 is it. In looking at how likely something is to occur, one looks at the frequency. How  
6 often does it occur.

7 Also, in addition to the frequency, the size or how big something  
8 is. For example, earthquakes. Very small earthquakes might occur very frequently,  
9 and larger earthquakes occur less frequently.

10 And lastly the location. You might think of drifting into the  
11 repository. Well, is it going to drip on all of the waste packages? Is it going to drip on  
12 particular locations? So in terms of how likely things are to occur, you need to look at  
13 frequency, how big, and the location.

14 Having done that, one gets to the final and the third question, what  
15 are the consequences, and this gets to Kalynda's question that I will address.

16 And there are a couple of things that the Department is required  
17 to look at. Certainly the safety during normal conditions. Normal conditions are the  
18 conditions when the safety functions of the repository are behaving as expected.

19 But they are also required to look at safety during what we call  
20 disruptive events, and these features, events and processes that could have a  
21 negative effect on the safety features of the repository.

22 These include large increases of rainfall, and a volcano erupting,  
23 and certainly enough to disrupt and effect the functioning of the barriers. In looking at  
24 those consequences, we are expecting both in normal conditions, as well as disruptive  
25 conditions.

26 All of this -- this performance assessment gives me a backdrop for  
27 looking at how will the NRC review that safety evaluation. Initially, you will see in the  
28 review plan that we are looking at the multiple barriers.

29 The purpose of the barriers, the safety functions of the barriers,  
30 allows the NRC staff to look at what is the Department of Energy relying on with  
31 respect to the site and its engineering to keep the repository safe.

32 That gives us a forward look in terms of what are the safety  
33 conditions, and we would then look at the features, and events, and processes. How  
34 has DOE looked, and what have they put into the things of what could go wrong.

35 We will look at that additionally. Likewise, how likely is it and what  
36 are the consequences. You will see in the review plan under consequences -- and this  
37 is where I would like to address Kalynda's question about probability waiting.

38 Both the EPA standard and the NRC regulations require the  
39 Department of Energy to weigh the consequences by the probability. Additionally, the  
40 National Academy of Sciences, when they gave their recommendations for Yucca  
41 Mountain standards, they suggested a risk standard.

42 Risk is typically done by the consequences multiplied by the  
43 probability, and so that is consistent with the regulation. What you will see in the  
44 review plan is consistent with what the TRB was saying to the Department.

45 We want to understand how you got that final calculation, and so  
46 we would expect to see your probabilities. We would expect to see your  
47 consequences separately.

48 And you will see in the review plan that the Department of Energy --  
49 we want to see how that final curve was arrived at. So we certainly are aware of that,

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1 and agree that we need that information.

2 We are not expecting any final number where we can't determine,  
3 well, gee, what were the consequences, and what was the probability. We will go into  
4 that and you will see that in the review plan.

5 Along the lines of features, events, and processes, likelihoods and  
6 consequences, we are estimating the future behavior of a future repository at Yucca  
7 Mountain. Clearly, we will be doing this with scientific models.

8 Once again, Grant Ludlow brought up a very good point. If the  
9 NRC was just sitting here waiting for the Department of Energy to deliver an  
10 application at our door step, we would not be ready to review that application. I could  
11 not agree more. Have we been sitting there? Absolutely not. I was hired in 1981 to  
12 the Commission to help develop within the Office of Research the performance  
13 assessment tools for evaluating geological disposal.

14 And so for those 20 years what has the NRC been doing?  
15 Developing those tools and improving those tools. I would estimate if I had -- well,  
16 using my memory, which I won't guarantee, but somewhere around '88 or '89, we  
17 published our first performance assessment for Yucca Mountain.

18 We have published 2 or 3 since then, and continue to publish our  
19 results based on our computer model, and what we tried to look at what we think can  
20 go wrong, and what we think is the likelihood of these things, and what are the  
21 consequences.

22 And, yes, we have been evaluating this. This gives us our  
23 independent look at Yucca Mountain. We aren't modeling it necessarily the same way  
24 as the Department of Energy. We are independent.

25 Along those lines, just a hair too quick, but along those lines in the  
26 performance assessment, the Department of Energy has to provide scientific  
27 information to support that modeling of the future behavior of the site.

28 We have also looked at the same scientific information, and clearly  
29 in a project this complex, there are going to be differences of opinion, in terms of the  
30 scientific information and what it supports and what it doesn't support.

31 Our regulations specifically require DOE needs to analyze some  
32 of those differences in the scientific information, and what in the regulations are termed  
33 alternative models

34 These are things where they are required to look at that scientific  
35 information. Some of the agreements that were brought up earlier, those are related  
36 to differences in scientific opinion of what is important. That has to be analyzed

37 That's really is a picture of how we intend or what things we will  
38 look at, in terms of the review. There is scientific information. If you look at this  
39 section of the review plan, 4 2, you will see 14 primary areas with many, many pages  
40 of the information in the science with respect to the modeling of the Yucca Mountain  
41 site, be it the heat, be it moving water, corrosion of the waste package, et cetera.

42 But you will see questions with that scientific information and how  
43 we would probe the DOE support. I would like to give you just a very brief example of  
44 some of the things that if you go into detail in the review plan you will see.

45 Just with respect to the review of dripping water, what are the kinds  
46 of things that you might see in the review plan. There is questions of the reviewing of  
47 the present day testing of measurement that DOE currently is conducting tests at the  
48 site, and measuring the water there.

49 We would look at what they are measuring, and what they are

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1 testing. There are also future climate changes, and how is DOE estimating future  
2 climate changes.

3 And in that context, what has been going on. There is also the  
4 waste that generates heat. This heat will have an effect on both the water and the  
5 rock. You will see sections of the review plan that talk to how DOE is evaluating the  
6 effect of that heat.

7 Long term changes in the drifts or the tunnels. If you are looking  
8 at dripping water, currently if one went into the tunnel at Yucca Mountain, it is a  
9 relatively smooth surface, nice and cylinderful.

10 With time that is going to change. Will rocks fall from the roof, and  
11 now it is now a smooth surface, and is now an irregular surface, and that could affect  
12 dripping.

13 Those are the kinds of things that you will see in the review plan  
14 that we want to make sure that DOE has done a thorough and systematic analysis of  
15 the types of things that could occur.

16 And in closing, long term safety, I think, relies on the site and man-  
17 made barriers, and a thorough performance assessment that is supported by sound  
18 scientific information.

19 And hopefully you are going to appreciate that the NRC is going to  
20 be looking at all three of those aspects for long term safety. Thank you.

21 MR. CAMERON: Good. Thank you very much, Tim, and speaking  
22 of continuity, tim has really been there since the beginning on the development of  
23 these performance assessments for the repository, and has really done some really  
24 great work for us.

25 MR. MCCARTIN: And one thing for Sally. I have to work until 30  
26 years at the NRC, and so I don't get out in 25. Thank you.

27 MR. CAMERON: Now who told you then you could leave after 30?

28 MR. MCCARTIN: Well, I will be eligible.

29 MR. CAMERON: All right. Ralph.

30 MR. LANDEN: I noticed one missing element there, a possible  
31 terrorist problem. Have you addressed that?

32 MR. MCCARTIN: Jeff, are you going to get into that?

33 MR. CIOCCO: Well, it depends on the basis of his comments.

34 MR. CAMERON: So do you have something to say in terms of  
35 performance assessment and terrorists?

36 MR. MCCARTIN: Well, in terms of the performance assessment,  
37 it is not looking at an intentional breach of the repository. Once it is closed, the  
38 repository is sealed up below 300 or so liters of rock.

39 There are also requirements that continue for safeguards, in terms  
40 of watching the site and making sure that there isn't any attempt to get into the  
41 repository. But once it is completely sealed up, there really isn't any access.

42 But there would be surveillance to make sure that no one is trying  
43 to get into the repository.

44 MR. LANDEN: What about during?

45 MR. MCCARTIN: During operations?

46 MR. LANDEN: Yes.

47 MR. MCCARTIN: That is a different aspect, and this was just after  
48 it is sealed up, and Jeff will talk about the operational phrase.

49 MR. CAMERON: We will get to that for you when Jeff comes up.

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1 Questions for Tim about long term performance? Sally.

2 MS. DEVLIN: Tim and I are old friends. I have watched him turn  
3 white, just like I did. But I did want to ask you something, and that is the man-made  
4 barriers, and the performance assessment and so on.

5 Of course, we thoroughly disagree on that because I don't think  
6 there is any way that you could study this, and number one, the size of Yucca  
7 Mountain is 25 square miles, and of course it is out on the test range.

8 All the hanky-panky that DOE has done with Piute Mesa so the  
9 public can't go there and do studies again, I thoroughly object to, and now the test  
10 range is all Federal. So the public doesn't know.

11 But again we don't know what is going in the mountain. How are  
12 you going to test, and I don't hear it. We know that there is 70,000 metric tons of the  
13 fuel rods, but we don't know what DoD, the Department of Defense, is putting in, and  
14 that stuff is all classified.

15 How in the world can you test 7,000 metric tons in any way, shape  
16 or form when you don't know what it is, and I thoroughly object to this because this is  
17 hiding from the public, and I told you about spent nuclear fuel from Idaho. That is less  
18 than a metric ton.

19 Now, if there are two Yucca Mountains, then it is going to be 14,000  
20 metric tons. How do you possibly prepare long term safety on something that is  
21 classified, and that the public knows nothing about?

22 And we have discussed this before, and I still have gotten no  
23 answers. This is a hundred mile long mine. What does a hundred mile mine look like?  
24 Nobody knows, and nobody understands.

25 These superficial barriers that we have seen all these years, it is  
26 the same old stuff. There is no canisters, and there is no plants. There is no this, and  
27 there is no that.

28 And it really bothers me because you are talking "Blue Sky" as we  
29 said in the brokerage business. And that is what it is and it bothers me terribly.

30 We are asking bona fide questions, and we are getting the same  
31 round around from you that we get from DOE. Now answer something about this  
32 classified waste if you can. Let me hear something positive.

33 MR. CAMERON: Well, Tim, can you address the general question,  
34 too, and not just the classified waste. But how do you factor in the amount of waste  
35 into this?

36 MR. MCCARTIN: Well, certainly the Department has to describe  
37 to the NRC the type of waste they will be disposing of. Classified information is  
38 available to the NRC. There is nothing that can be withheld from the NRC.

39 That is not to say that there are not certain requirements for certain  
40 information that will not be made publicly available. I don't know exactly the rules, in  
41 terms of what information will be classified, but be aware that for the NRC's review, the  
42 information we need, we get.

43 MR. CAMERON: Okay. Thank you.

44 MR. MCCARTIN: Now, the other aspect of that is that I would have  
45 to say that one of the things -- and I know that Grant brought up also about the  
46 trucking, and NRC trucks only go so far. I think you should ask any of our licensees.

47  
48 There is an office of inspection and enforcement at NRC for just  
49 that reason. We inspect and enforce. So as waste is brought to the site, there will be

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1 an estimate of what they are going to get, but they will have to account for it as it  
2 arrives at the site.

3 We will be there to inspect, et cetera. So there are other  
4 procedures for knowing what goes in to the mountain.

5 MR. CAMERON: Okay. Thank you. Sally, we are going to go over  
6 here for a question or comment.

7 MS. ROSE: Tim, at this point, you keep saying, we, we, we. At this  
8 point, are you going to live here with me? I live 23 miles from the location. You keep  
9 saying we, we, we, and that the NRC is here to basically protect the citizens.

10 And they are going to regulate, and they are going to get their  
11 performance and everything, but you are trying to sell me something that I can't  
12 swallow.

13 I mean, I am going to take my PTA button off and I am going to get  
14 a gun and stand in front of the trucks. I can't even comprehend that. You can't tell me  
15 that 70,000 metric tons -- I mean, is there somewhere else in the United States or the  
16 World that has that much storage somewhere? Is there?

17 MR. MCCARTIN: Not currently.

18 MS. ROSE: Okay. So we don't even know what this heat thing is  
19 going to do or can do, and I am 23 miles, and at that point this stuff could be coming  
20 down my highway with my kids and my bus, and me on the road, and this is what I am  
21 supposed to swallow.

22 Were you guys the ones that were regulating the test site in the  
23 '50s?

24 MR. MCCARTIN: No.

25 MS. ROSE: Okay. So we have a new rule.

26 MR. MCCARTIN: One thing. You are right that 70,000 metric tons  
27 is not stored anywhere currently. A couple of things. DOE is required to monitor and  
28 test during this entire operational phase and collect information to confirm that things  
29 are performing as expected.

30 MS. ROSE: But whose standard and what is expected? You are  
31 setting the standards?

32 MR. MCCARTIN: They will have described the safety functions of  
33 the barriers, and we would be looking at the performance to ensure that it would still  
34 perform as expected.

35 MS. ROSE: So DOE is setting the standards and you are  
36 regulating the standards?

37 MR. MCCARTIN: No, what I am saying is that the standards are  
38 the dose limits specified by the EPA in a multiple barrier requirement specified by the  
39 NRC. In terms of the current approach, DOE is given flexibility for how they would  
40 meet those standards.

41 MS. ROSE: Well, we are still living in the '50s here. Yeah, isn't  
42 that bloom beautiful. We have Congress, and we have got Republicans who are  
43 basically saying, hey, Nevada should step up to the plate and live their nuclear -- you  
44 know, their stance in the United States, they are known for this.

45 I have never heard of such a thing, and for me to swallow this -- I  
46 mean, you guys have left no State -- or someone has left no States without this stuff  
47 not there. I mean, what's left, Wyoming? I don't even know if they have one.

48 Show me which States doesn't have this stuff in it and that's where  
49 I guess I'm going. I can't even believe that I am this close to this. We have had family

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1 members die from the test site and stuff like this. This I cannot swallow I cannot

2 MR. CAMERON: All right Tim. I don't know if there is anything  
3 more that you can say to describe how we will evaluate Based on our standards, but  
4 how we will evaluate this long term performance that should give any more assurance.

5 MR. MCCARTIN Well, there is that performance confirmation  
6 period during which DOE, like I said, is prepared to test, and the NRC would be  
7 inspecting to see if anything would suggest the repository would not be safe.

8 That's why the retrievability aspect to the design is there, and that  
9 if at any time during this period it appears that Yucca Mountain would not be safe, the  
10 waste would be retrieved.

11 MS. ROSE: So actually the NRC is going to set up their home  
12 base here in Pahrump?

13 MR. MCCARTIN: We do now have a small office.

14 MS. ROSE: No, I have seen the small office I am saying if they  
15 are actually going to regulate it, then you come as close as you can be, and the main  
16 office needs to be here. So that we, we, we, we, we, then we are going down with we  
17 then.

18 MR. MCCARTIN: I can't say how many people would actually  
19 located in this area, but there would be what we call on-site inspectors that live in the  
20 community.

21 MR. CAMERON: One final point with Grant, and then we are going  
22 to go on to security, okay? Grant.

23 MR. HUDLOW: Grant Ludlow again. I don't hear anything about  
24 microbic invasion, corrosion, and so forth. We have had some nightmare inflicted on  
25 us up at Hadford, where the bacteria ate the ceraconium off of the fuel belts while it  
26 was in a pond, and we lately have found bacteria that can take a thousand rads or 50  
27 rads to kill a person outright, for example.

28 And in my experience with bacteria and other microbes, you typical y  
29 have 150 of them that you have to deal with on any given problem, and they do things  
30 that are different, depending on the conditions that come along

31 So the only way we have done any meaningful bacteria studies is  
32 to actually set the physical system up, and bury things and watch it. As far as I know,  
33 there are no computer programs that can even begin to deal with something like that.

34  
35 So I am not hearing that you have that program set up, or you have  
36 anybody that is capable of handling something like that.

37 MR. CAMERON: Tim, can you respond to that?

38 MR. MCCARTIN: Well, I can go into a lot of detail into the  
39 particulars, but certainly microbial degradation of the waste package would be one of  
40 those processes that the department would have to consider and decide how it might  
41 affect the performance of the waste package.

42 Also, that performance confirmation program, if it were determined  
43 that microbial degradation of the waste package was a very important process, we  
44 would expect during that performance confirmation period that the Department would  
45 set up tests to try to evaluate whether and to what extent that process would occur.

46 MR. CAMERON: Okay. Thank you very much, Tim. And there  
47 were a couple of questions already about security, and let's go to Jeff Ciocco who is  
48 going to talk about security from theft or sabotage.

49 And then we have one final presentation on monitoring, which ties

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1 in with some of the performance confirmation that we have heard about. Jeff.

2 MR. CIOCCO: Okay. Thank you. And we will see if we answer  
3 the question in the parking lot on security as I go through my presentation, but I think  
4 I do cover it though.

5 I am Jeff Ciocco, and I am going to talk about security from theft  
6 and sabotage. This is the physical protection program and the material control and  
7 accounting program for the Yucca Mountain site.

8 These are two very important programs that the DOE must  
9 describe in detail to the NRC to provide us with a high level of confidence that the site  
10 will be protected from radiological sabotage, and will prevent theft or diversion of spent  
11 nuclear fuel and high level waste.

12 The first program is the physical protection program. It would  
13 provide for the safety and security of the operations area. DOE must establish and  
14 maintain a physical protection program to assure that the waste operation are not  
15 harmful to our national defense and security, and that it would not pose an  
16 unreasonable risk to public health and safety.

17 The physical protection system must have certain capabilities. It  
18 must be able to store waste in a protected area, and that is an area enclosed by  
19 physical barriers with active controls. It must only allow authorized access into the  
20 protected area. It must be able to detect and assess unauthorized activities in the  
21 protected area.

22 The system must be capable to provide timely communications to  
23 the response team, and that the DOE must be able to manage the security  
24 organization effectively.

25 The main elements of the physical protection program include a  
26 security organization to manage, control, and implement effectively the physical  
27 protection systems. It must contain physical barriers to channel people, vehicles, and  
28 materials into the protected area.

29 Another element is that the system must have entry controls to  
30 verify and identify persons, vehicles, and materials entering into the protected area.

31  
32 There are certain reporting requirements of safeguards events to  
33 the NRC, and finally they must have response plans with predetermined and structured  
34 responses to certain events. The Nuclear Regulatory Commission has ordered a top  
35 to bottom review of all physical protection requirements since the September 11th  
36 terrorist attacks.

37 Once all the data is examined and decisions are made, we will  
38 decide if any changes are needed to the physical protection program requirements in  
39 our regulations for Yucca Mountain, and that will be followed through in the Yucca  
40 Mountain Review Plan.

41 The next very important program in Chapter 3 of the Yucca  
42 Mountain Review Plan is the material control and accounting program. The material  
43 control and accounting program would be designed to protect against, to detect, and  
44 to respond to any theft or diversion of spent nuclear fuel or high level waste.

45 The main elements of the program include material balance which  
46 must count for nuclear materials that the DOE would be authorized to possess by the  
47 NRC.

48 There must be physical inventories made at regular intervals to  
49 actually measure the quantity of nuclear materials on site. A record must be kept to

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1 document the receipt, inventory, location, disposal, and transfer of nuclear materials  
2 And finally there must be controls for the material transfers  
3 whenever weight is received and moved on site. In conclusion, DOE must submit for  
4 approval well-documented and written plans for the physical protection and for the  
5 material control and accounting for the Yucca Mountain site

6 And with that, that concludes my presentation, and I would be  
7 happy to entertain any questions that you have.

8 MR. CAMERON: Okay. What chapters are those basically? This  
9 is in the review plan isn't it?

10 MR. CIOCCO: It is in the regulations under Part 73.51, and it is  
11 also in the Yucca Mountain Review Plan. It is Section 3.3 of the Physical Protection  
12 Program, and Section 3 4 is the Material Control and Accounting Program.

13 MR. CAMERON: Okay So this is specifically in the plan?

14 MR. CIOCCO: Right.

15 MR. CAMERON: Okay. Let's go to Ralph.

16 MR. LANDEN: I am wondering about something Let's say you  
17 have about 15 metric tons in there, and there is a big problem. There was terrorist  
18 activity, and you have got to get people out of there, and you have got to find the  
19 terrorists.

20 Number One, what are you going to do with the nuclear fuel that  
21 made be dislocated from its location where it is supposed to be How are people going  
22 to be protected, because the heat builds up as you store all this stuff.

23 People are going to be radiated with radioactive material. Is there  
24 going to be a hospital nearby, et cetera, et cetera. I mean, all these things should be  
25 considered as safety and security issues

26 You can't just move 50 metric tons and put it somewhere else.  
27 Where are you going to put it?

28 MR. CIOCCO: Well, all these things are considered whenever the  
29 NRC's experts publish its regulations, and in what the experts' call design basis  
30 threats.

31 And that is what really establishes the capabilities of the system to  
32 store the waste in a protected area, to have isolation zones, to have physical barriers,  
33 intrusion detection systems, locks. You know, control locking systems.

34 So everything should be in place, and the goal is to protect this  
35 exact kind of event from happening. And the NRC is doing a top to bottom review to  
36 make sure that those regulations are in line with events that have happened since  
37 September 11th.

38 MR. CAMERON. And are there contingency plans such as Ralph  
39 was referring to about if something did happen?

40 MR. CIOCCO There are specific contingency plans that the  
41 Department of Energy must apply to the NRC in these events, with predetermined  
42 responses to these types of events, exactly.

43 MR. CAMERON: Okay. Kalynda

44 MS. TILGES: Kalynda Tilges, Citizen Alert. Without looking and  
45 having a chance to look at that, Yucca Mountain is just actually a couple of seconds  
46 off of the flight paths from the Nellis Test Range, and bombs have been known to go  
47 astray.

48 Has that been taken into consideration in the safety standards?

49 MR. CIOCCO. I think that is really more an element of the -- well,

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1 with Pat Mackin, but in the pre-closure safety analysis, they looked at the initiating  
2 events, and if it happens at the site during operations.

3 MR. CAMERON: Pat, do you want to speak on the record for us  
4 here?

5 MR. MACKIN: Pat Mackin from the Center for Nuclear Waste  
6 Regulatory Analysis. Those kinds of things are part of the examination of what could  
7 happen at a repository.

8 And DOE will have to demonstrate that the repository can be safely  
9 operated considering the possibility of aircraft crashes, bomb crashes, and their  
10 results, yes.

11 If that were not in DOE's safety analysis that would not be  
12 acceptable. They will have to consider that.

13 MR. CAMERON: Thank you very much, Pat. I see a familiar face  
14 on here. All right. Grant.

15 MR. HUDLOW: Grant Hudlow again. We are talking about trying  
16 to keep track of or protect something that in this country we have demonstrated that  
17 we can't possibly protect if somebody wants it.

18 We have right now 2-1/2 million crimes every year that are  
19 prevented by a homeowner or a businessman with a gun in his hand. The police are  
20 totally overwhelmed from the effect of primarily drugs and bad schools, and on, and  
21 on, and on.

22 And 9/11 should have been caught as we find out because those  
23 were foreigners doing things that raised a lot of red flags. If Americans for some  
24 reason or another got angry enough to do that, we would have absolutely no chance  
25 at doing anything about it.

26 Just, for example, I don't know whether you have read the New  
27 Yorker on the Uni Bomber. If you read that, it will send chills up and down your spine.  
28 Everybody that went to college was trained just like he was.

29 For some reason or another, he got out of control and quit paying  
30 attention to building our nation like the rest of us are interested in, and building a  
31 community and so forth, and went crazy.

32 All of this stuff -- I mean, we have had things right here in Nye  
33 County. We have a small repository up near Beatty. They checked everything that  
34 came in, and they finally had to quit that because the people that were checking things  
35 stole stuff and took it home.

36 They killed a County Commissioner because he had a big pile of  
37 stuff around. Then when they found out that all of this material was radioactive and  
38 it was illegal to have, they took it out and threw it in the desert. So we had to go out  
39 there and find it and gather it up.

40 The test site does not allow anybody to check anything on the way  
41 in because they don't want that to happen. The test site, when they bury something  
42 and throw it in a hole, or a mine-shaft or whatever, their records are such that if you  
43 want to go retrieve it, which we are now interested in retrieving all that stuff, you have  
44 to go back to the oldtimers and their memory, to remember where they put it.

45 This is not an industry that you are dealing with. This is a zoo.

46 MR. CAMERON: Okay. Thank you for that comment, Grant.

47 MS. DEVLIN: I know that none of you were old enough to  
48 remember the '92 (sic) low ground testing, and the tests were stopped when six  
49 Belgians walked up to the test site where they were doing the underground testing,

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and this was in 1992 before they stopped it.

And they just walked on to the site and of course it stopped the explosion, but where they came from and how they got on the test site, and so on, who knows.

There are all kinds of things in the ground that are probably never looked at -- and let's put it this way -- anywhere in this 1,270 square mile area it is enormous.

So that many times many people have gotten over the fence, or whatever you want to call it. It is a very easy to get through fence. And then these so called protection things in this enormous area don't function

I think the worst case scenario, and I say it again is with DOE at the test site is that they are unaccountable for anything that goes into the test site.

They have never had measuring of equipment. We get paid as the affected counties, and we are going to get \$145,000 this year, and Ismarelda will get \$145,000. This is for every cubic foot that is put at the test site, we get 50 cents.

So that is a million-eight a year. Now, what you are saying is that we get paid for this stuff at the test site that is mostly low level or mixed waves, but we would get no funding whatsoever under the Nuclear Regulatory Act for anything that goes in, that 70,000 metric tons or the 7,000 DoD stuff

So it really bothers me because there is no accountability at the test site, and as Grant said, from 1952 to 1982 at the EPA farm, where they had 25 posting cows and every time they get a shot, they took them out. And they came back and killed them at the laboratories and so on, and then experimented

Well, where were they buried, and I cannot find out, and I have taken it to the Department of Justice, and of course they had to bury all the manure. Now where did that go?

So this gives you an idea of why we don't have very much confidence in DOE or the NRC, or any of you agencies, because you are unaccountable.

MR. CIOCCO: Well, I can't really comment on DOE's security system. They have their own design basis, but what I can tell you is that we have pre-regulation for the physical protection program, and for the material control and accounting program.

And DOE is required to submit well written plans, and they must be approved by the NRC, and once they are implemented, they will be inspected by the NRC to ensure that they are effective. So that is our plan.

MR. CAMERON: Let me get back to that. I think the implication of what you are saying pretty clearly is that aside from what DOE does in its self-regulating, we are overseeing this and looking at it.

MR. CIOCCO: Right.

MR. CAMERON: And this gentleman over here has not had a chance to say anything, and let's go to him. And then there is a couple of other things to clear up, but we really need to get our last presenter on so we can try to get everybody out of here at a reasonable time. Yes, sir, can you tell us your name, please?

MR. WRENN: I am a recently retired professor Ed Wrenn, physicist and radiobiologist. I have a question about how much radioactivity is actually going to go into the hole. Would you envision that the DOE will propose to have a measuring system so that each shipment that goes through a portal somewhere will

1 be evaluated with radioprotection estimates that you can tell you the gamma emitters  
2 in the system, as opposed to relying on a piece of paper that says this has 7/10s of a  
3 megaTcurie.

4 MR. CIOCCO: That is a requirement, the screening of materials  
5 that comes on-site, and that is required.

6 MR. WRENN: So it will be measured prior to placement?

7 MR. CIOCCO: We check the packages that arrive on site.

8 MR. CAMERON: Thank you, Professor Wrenn. One thing that I  
9 want to clear up on a question out here is that the Yucca Mountain Review Plan, what  
10 is the relationship of the Yucca Mountain Review Plan to transportation?

11 I think that perhaps Janet said something at the very beginning of  
12 that. Could you just clarify that?

13 MR. CIOCCO: Sure. The scope of the transportation issues is not  
14 excluded in the Yucca Mountain Review Plan. The Yucca Mountain Review Plan  
15 assesses the safety of the operations and of the disposal and the long term safety of  
16 the site.

17 It assesses that once material is received on-site, transportation  
18 issues are jointly regulated by the NRC under separate regulations, and under several  
19 agencies of the Department of Transportation. So, no, it is not included in the Yucca  
20 Mountain Review Plan.

21 MR. CAMERON: Which doesn't mean that it isn't regulated.

22 MR. CIOCCO: It is certainly regulated by the NRC.

23 MR. CAMERON: Let me do a couple of introductions. Chet  
24 Poslusny is our transportation expert. We are not going to have time to go into  
25 transportation tonight since it is outside the scope of the review plan.

26 But please talk to Chet about those issues, and he can give a little  
27 capsule for you and where to get further information. Kalynda, did you want to say  
28 some more about that?

29 MS. TILGES: Well, what you just said just raised some issues,  
30 because in one of the most recent of the many different DOE plans so far, they are  
31 talking about fuel blending, which means right on the surface of the facility that they  
32 will be unpacking castes and repacking them  
33 casts, and repacking them, and all of that. So who has regulation over the safety of  
34 that? That is sort of a gray area.

35 MR. CIOCCO: I don't think it is a gray area. That is the Nuclear  
36 Regulatory Commission. That is in the pre-closure safety analysis.

37 MR. CAMERON: And that is what Pat Mackin was talking about  
38 earlier.

39 MR. CIOCCO: Absolutely, and the site regulations of the NRC's.

40 MR. CAMERON: Let me introduce Bob Latta. We were talking  
41 about our on-site representatives. Bob is one of them, and he is here. And Vivian is  
42 also with our on-site reps office, and she is right there. But that is our presence now.

43 Grant, I am going to have to defer, okay, because -- well, let me  
44 see -- well, did you have something that you wanted to ask about this?

45 MS. ROSE: Yes. I have asked for a master plan for our Town of  
46 Pahrump at this point, and I don't think we have one. I know we don't. I can't find one,  
47 if there is a master plan.

48 So our tires are falling off our fire trucks and I think they are sharing  
49 the Haz Mat suits. So do I have to actually put one in my child's back pack? I mean,

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1 I don't understand. If an accident happens -- my husband and all my family is in  
2 emergency services.

3 So they are going to be the first ones who are going to be on the  
4 site. It is not going to be the NRC. So what plan do we have for emergency services  
5 or Haz Mat in regard to these issues?

6 MR. CAMERON: I would -- I guess, although we can't get into it  
7 here, and I don't know if anybody represents the county wants to talk about what their  
8 preparation is.

9 But I think as far as I understand it that the emergency responders  
10 are local government-based, Chet? Let me just get him on here. This is Chet  
11 Poslusny.

12 MR. POSLUSNY: Initially the local and then the State responders  
13 The Federal Government, and DOE, has a piece of that, too And DOE is supposed  
14 to provide funding to establish capabilities throughout the country, both at the State  
15 level and at the Native-American tribes. That money is coming and it is not here yet  
16 clearly.

17 MR. CAMERON: And talk with Chet if you need further information.  
18 Grant.

19 MR. HUDLOW: I just wanted to add to what the professor said  
20 over there; 7/10s of a megacurie in English is the fallout from several Hiroshima  
21 bombs in each one of those fuel rods.

22 MR. CAMERON: All right. And I don't want to start a debate with  
23 the professor. You guys can do that after the meeting. I think we are going to go to  
24 monitoring, and that is our last presentation. We will see if there are any questions  
25 and then we will close. Pat.

26 MR. MACKIN: Thank you. Pat Mackin again to preclude the  
27 presentations tonight. Earlier, I talked about how the NRC would do an independent  
28 assessment of safety during construction and operations.

29 Tim McCartin talked about the same thing for the period after  
30 closure Well, that is not enough There must be a way -- DOE must present plans  
31 for how it will on a continuing basis give competence that the repository would continue  
32 to be built and operated safely. And we put that under the phrase of monitoring

33 And I am going to discuss three aspects of monitoring that DOE  
34 must include in its license application, and that we address in the Yucca Mountain  
35 Review Plan.

36 But first what Tim McCartin talked about already, which is the  
37 performance confirmation program The performance confirmation program is how  
38 you measure what is going on both with the geologic, the earth systems, and with the  
39 man-made system.

40 Second, is what you would do about any unexpected questions that  
41 arose during the repository construction or operation. And, third, is how are we going  
42 to be convinced that the information that DOE is using to construct and operate the site  
43 is reliable.

44 All three of these work together to help give a picture of whether  
45 the repository would be safely operated I am going to expand a little bit on what Tim  
46 McCartin said about performance confirmation.

47 First, what it is It is the test, the measurements, the experiments,  
48 that DOE is required by regulations from now until the repository is closed to show that  
49 it is functioning the way DOE said it would in its safety analysis

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1 We do it for a couple of reasons. One is that Tim McCartin  
2 mentioned that DOE has to demonstrate through a performance assessment a  
3 systematic assessment that the repository would be safe for the long term.

4 During the period of operations DOE will continue to gather  
5 information under its performance confirmation program that will be fed into a  
6 performance assessment that would be done before a repository would be closed to  
7 show that it would still with all that had been learned during operations, it would still  
8 operate safely for the long term.

9 And finally I discussed earlier that DOE must preserve the  
10 capability to retrieve the waste if something goes wrong. Well, the way that you might  
11 know that something went wrong is through the performance confirmation program.

12 Okay. It covers almost everything that goes on or would go on in  
13 a repository. It looks at the geology, and the earth's systems. It measures how they  
14 are performing.

15 It also tests design of components, such as if a repository were to  
16 be closed, shafts, the bore holes, would all have to be sealed in a way that would keep  
17 water from getting into the waste packages.

18 The regulations require DOE to establish a program to test this kind  
19 of thing. And finally the waste packages themselves, obviously a key component of  
20 any repository, and have to be specifically examined under the performance  
21 confirmation program.

22 And finally DOE must have established procedures for informing  
23 the involved parties of the results of this performance confirmation program. And they  
24 are examined through the Yucca Mountain Review Plan.

25 This topic of safety questions is kind of a difficult one to explain.  
26 The NRC won't grant the DOE a license to construct and operate a repository unless  
27 it is safe.

28 But the regulations not only for this program, but for other NRC  
29 programs, recognize that things might happen unexpectedly, and something could  
30 come up that was not expected.

31 It is only reasonable to plan for that, and so what does DOE have  
32 to do if any such questions arise, and there aren't any right now, and there could not  
33 be any at the time of licensing. They would have to arise after the fact.

34 But the first thing that DOE would have to be able to do is to  
35 describe and identify these things, and to describe and identify them in a way that  
36 scientists, and engineers, and experts that don't work for DOE can understand it.

37 Next, DOE would have to provide a program for resolving the  
38 questions. Again, that program would have to be understood, and evaluated, and  
39 acceptable to experts outside of DOE.

40 There has got to be a schedule for resolving any such questions  
41 that doesn't interfere with what might already be going on at the repository, or else  
42 what is already going on would have to stop.

43 Next, it is possible that some question would arise that would make  
44 it so that the way things were being done at a repository would have to be changed  
45 until the question was answered.

46 And lastly and most importantly, is a decision that if any such  
47 questions arise whether it is safe to continue what is going on at a repository. DOE  
48 would have to demonstrate that, and the NRC would independently have to confirm  
49 it.

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1 The final piece of what we are calling monitoring is how do you  
2 verify that the information is reliable and accurate, a quality assurance program. It has  
3 got three main things that the NRC will be looking at.

4 One is that it has to cover everything that is important to safety.  
5 Secondly, it has got to look at all the aspects. For example, if a geologist was going  
6 to take a measurement, we would have to be convinced that he would use the  
7 appropriate measuring device.

8 That it was calibrated, and that he used the procedure that was  
9 right for what he was doing, and that he himself was qualified. That any calculations  
10 that he did were accurate, and all these things would have to be documented in a way  
11 that they can be examined

12 And lastly those people who have responsibilities for this quality  
13 assurance program have to be free to make the calls on whether things are being  
14 done right or not without fear of losing their jobs.

15 And these are aspects of a quality assurance program that rounds  
16 out this question of how you monitor what is going on in a repository. And in  
17 conclusion these three aspects of continuous repository operations need to be  
18 sufficient to show that a repository could continue to be constructed and operated  
19 properly if it were licensed.

20 That ends my presentation and I would be glad to take your  
21 questions.

22 MR. CAMERON: Performance confirmation issues

23 MS. DEVLIN What you haven't said, and not one word, any of  
24 you, is about money, and this really disgusts me, because we are the taxpayers paying  
25 for this.

26 And it bothers me because I keep talking about the canisters, and  
27 half-a-million a piece, and this and that, and the next thing, and they haven't improved,  
28 and bugs are going to eat them up.

29 And I am saying the same thing about this. You are talking about  
30 digging a hundred mile long tunnel, and you are talking about 3,800 workers, and no  
31 hospital, and no this, and no that No Price Anderson. We don't know where  
32 everything is.

33 And you are talking as I said Blue Sky, and I wanted the public to  
34 know this How much is this going to cost for all this stuff. The original number that  
35 I got from the Congressional Report in '94 was \$25 billion for the first repository.

36 I am not talking about canisters. It is just for the first repository, and  
37 \$35 billion for the second repository Now, why isn't the NRC and DOE and so on  
38 talking about these things? You are going to have weigh this stuff and where is all this  
39 money coming from?

40 MR. CAMERON. Okay. Sally, there has been enough detail on  
41 this. Let me see if there is any performance confirmation questions. Any questions  
42 on performance confirmation? Did you want to add something on the cost issue,  
43 Janet?

44 DR. KOTRA: I just wanted to correct a mis-impression that the  
45 taxpayers are paying for this. The consumers of nuclear generated electricity are  
46 paying for the cost of this program. This is a matter of public record, and the law that  
47 rate payers and facilities have to collect a certain fraction of every kilowatt that is  
48 generated by nuclear utilities. And this money goes into the nuclear waste fund.

49 And a portion of that nuclear waste fund goes to pay for the

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1 salaries of all the nuclear regulatory commission staff that are present here tonight.

2 So this is certainly -- I live in a State where roughly 30 percent of  
3 the energy comes from nuclear generated power, and my power bill is higher to pay  
4 for this program.

5 MR. CAMERON: Thank you for clarifying that, Janet. Yes, Ma'am?

6 MS. HARDINA: Donna Hardina. Is there somebody continually on-  
7 site to monitor the program, and what goes on at Yucca Mountain or will happen as far  
8 as how it is operated and run, and all that, from your agency?

9 MR. MACKIN: Yes. The answer to that is yes. Mr. Bob Latta is  
10 currently one of two full-time on-site representatives, and that program will continue  
11 through the lifetime of the repository.

12 And as I think Tim mentioned earlier, I don't know how many  
13 people will eventually from the NRC be full time on-site representatives. But there will  
14 be as part of the normal --

15 MS. HARDINA: On site at all times?

16 MR. MACKIN: Yes.

17 MS. HARDINA: Thank you. You have answered my question.

18 MR. CAMERON: All right. Mal Murphy.

19 MR. MURPHY: I don't want to shock too many people in the room  
20 by agreeing with Sally Devlin, but she did make a point which is an excellent one, I  
21 think. Sally, NICONE has done a very comprehensive study of what we call the total  
22 system lifecycle costs.

23 And a report on the TSLCC I think is posted on the NICONE  
24 website. I think NICONE.com. And we concluded some time ago that the nuclear  
25 waste plan, which incidentally is supplemented by taxpayer money, Janet, to account  
26 for the Defense waste that goes into the repository.

27 And so all the taxpayers in this room are helping to pay for this  
28 repository. But the Nuclear Waste Fund is insufficient in NICONE's judgment to pay  
29 for the total system costs of the repository.

30 And it has always been a concern of NICONE in the conduct of our  
31 oversight program that one of the things to get to the point that I am supposed to talk  
32 about, Chip, one of the areas where the government might cut corners when the  
33 Nuclear Waste Fund starts to become insufficient is a performance confirmation  
34 program after the repository is constructed and begins to operate.

35 And that is a concern of my colleagues, and it will probably  
36 continue to be a concern of ours through the NRC licensing process. But it is an  
37 excellent point, and it is one that we all should keep in mind, but on the other hand,  
38 there is no ready answer to that problem.

39 I mean, Congress has since 1789, has adopted programs that  
40 require long term continuous funding, and somehow the country has managed to find  
41 a way to do that.

42 And they are asking us to extend our faith in that area again in this  
43 instance. But it is a concern of ours, and it is a concern that NICONE will continue to  
44 watch and assert our interests very closely.

45 MR. CAMERON: Thank you, Mal, for tying those points together.

46 Kalynda.

47 MS. TILGES: And there is also the fact that the taxpayers do pay  
48 for the military portion of the waste that is going in there. And also the upgrades that  
49 have to be done to all the infrastructure for transporting, none of that is coming out of

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the waste fund as far as I know, because the casts are too heavy, and above the legal weight limit to be carried on the roads.

And the crane structure is going to have to be rebuilt, too, and my question -- and these are just piggyback questions to what Mal had to say, and what Sally said.

But the performance confirmation program. I would like to know what your plan is if something goes wrong, and DOE, shall we say -- and I know that this is really hard to conceive of, but that DOE may not tell the truth, and something goes wrong, and a bunch of people die. What happens? Do they get a slap?

MR. MACKIN. It may be appropriate that Janet Schlueter answer this, but that's why the NRC has the authority to stop operations at the repository

MR. CAMERON. And the NRC --

MS. TILGES: Is that before or after people die?

MR. MACKIN: Well, obviously people would want that to be discovered and taken care of before someone got hurt. And that is certainly the NRC's intent.

MR. CAMERON: Does anybody want to say anything from the NRC about the enforcement issue? DOE is subject to the NRC's enforcement jurisdiction for violations of any of the regulations concerning a repository. Kalynda, do you have one more question?

MS. TILGES: Yes

MR. CAMERON: And then I think we are going to wrap up here tonight.

MS. TILGES: Just going a little deeper and trying to clarify a question that you had asked. When you say that you will have someone on-site at all times, does that mean that there will be an NRC monitor at Yucca Mountain for 24 hours a day, 7 days a week, awake to keep an eye on all of this?

MR. CAMERON: You want the person awake?

(Laughter)

MR. CAMERON: Bob, I don't know how that would work. I don't know if we have a plan yet for how that is going to work, but maybe you could say something about it.

MR. LATTA: My name is Bob Latta, the on-site representative for the Yucca Mountain project. That is a good question, and I thought I was going to have a non-speaking part tonight.

But at any rate, there are provisions for monitoring the activities on a continuous basis for 24 hours a day, 7 days a week. I don't know if that is practical

Typically, construction activities don't go on 24 hours a day, 7 days a week. Nuclear power plants are typically day shift, and with limited night time activities, and we are there to cover it. I am one person and I can't be everywhere doing everything.

But our purpose is to focus on those systems, structures, and activities that are risk-significant. And I can assure you that is where we will be with our resources. I hope that I answered your question.

MS. TILGES: Yes, you did.

MR. CAMERON: Thank you very much. Tim, did you want to add something to that?

MR. MCCARTIN: Yes. Tim McCartin, NRC Staff. Just one

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1 additional thing. Currently as you know, testing is going on at the site, and in addition  
2 to the on-site representatives, scientists both at the NRC and at the Center, if there is  
3 a test going on that appears to be very important, DOE notifies us, and we send  
4 scientists there in that particular discipline to look at the tests, et cetera.

5 And so even today there is -- well, we supplement the on-site  
6 representative with other scientists to observe what is going on at Yucca Mountain.

7 MR. CAMERON: Okay. Thank you very much.

8 MS. TILGES: I think we are on two different planes on that. What  
9 I am asking or I believe what you asked was that -- well, we are not talking about  
10 construction. We are talking about if and when waste goes in that mountain. Is that  
11 what you meant?

12 When waste goes in that mountain will there be one on-site  
13 representative keeping an eye on them and it 24 hours a day, seven days a week,  
14 because terrorists don't take breaks and neither does nuclear waste.

15 MR. CAMERON: I think that Bob's comments are probably  
16 applicable to that, although the plan hasn't been sent. There is going to be an NRC  
17 presence now, and there might be more of an NRC presence during construction.

18 And more of an NRC presence during loading of the repository.

19 MR. LATTA: Bob Latta again. That is a good question, and the  
20 closest parallel that I can draw is from commercial nuclear power during hot outs at a  
21 plant, and there is 24 hour coverage, and during the initial core load there is 24 hour  
22 coverage, and during initial operations there is 24 hour coverage until the NRC builds  
23 confidence in the capabilities of the utilities to perform their functions.

24 So, yes, that is factored into the process. And once again it is  
25 driven by risk significant activities, and building confidence in the ability of the  
26 organization to carry out its functions.

27 MS. TILGES: Considering that this is the first kind of this type of  
28 experiment in the world, you don't know what may or may not crop up?

29 MR. CAMERON: We are not getting this on the record.

30 MR. LATTA: Please restate your question for the record and I'll see  
31 if I can answer it.

32 MS. TILGES: It was not that clear a question. Kalynda Tilges,  
33 Citizen Alert. It was a statement in response to what you just said, Bob, is that until  
34 you have confidence.

35 Well, the thing is that if this is a first of its kind experiment in the  
36 world, in the universe as far as we know, and you don't know what you can expect and  
37 what you can't, so not having someone to monitor this 24/7 from the time it starts until  
38 probably the time that hell freezes over as far as we are concerned, is irresponsible.

39 MR. CAMERON: All right. Bob, did you want to add anything else?

40 MR. LATTA: Bob Latta again, NRC on-site rep. You are right to  
41 the extent that we would not know about the geological repository before, but we have  
42 extensive experience in handling spent nuclear fuel, and putting that into waste  
43 canisters, and transportation, and waste handling buildings are at every operating  
44 reactor site.

45 Waste handling buildings do exactly what I am talking about. They  
46 store fuel, and they transport it, and they put it in canisters. So to that extent, we have  
47 experience. I'm sorry, but I hope that I am answering your question.

48 MS. TILGES: You have.

49 MR. CAMERON: All right. Let's go to this woman for a final

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1 comment and then we have to close up for tonight. Yes, Ma'am?

2 MS. HARDINA: Donna Hardina. Now do you ever make  
3 unexpected on-site inspections over a period of time that these places are in operation  
4 before they close, or during their operation when they are open?

5 MR. LATTA: Bob Latta, NRC. Yes. Oversight inspections is a part  
6 of our inspection program at operating reactor sites, and hopefully I suspect that it will  
7 be for the Yucca Mountain project.

8 It is just a practice or a part of our oversight of reactor sites and the  
9 Yucca Mountain project.

10 MR. CAMERON: Okay. Thank you. And if you want to explore  
11 that further with Bob, let's do that after the meeting. I just want to thank all of you for  
12 your patience, and your attention tonight, and your concern, and your comments.

13 And I want to thank the NRC staff and center for an excellent  
14 overview of a complex area. And we do have an NRC public meeting feedback form.  
15 It is on the table. This helps us to do a better job with these meetings, and if you could  
16 give us your comments on that, we would appreciate it.

17 If you want to make any comments tonight on the review plan, we  
18 have a yellow sheet back there, and with that, Janet, do you want to say anything?  
19 Any final words?

20 MS. SCHLUETER: I will be real brief. Just that I hope that you  
21 found it informative, and we appreciate your time, and the time that you have taken to  
22 come out tonight, and appreciate any comments that you would be willing to give us.  
23 Thank you.

24 MR. CAMERON. Okay. We are adjourned. I want to thank all of  
25 you.

26 (Whereupon, the meeting was concluded at 9:45 p.m )  
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